Turning Brownfields Into Jobfields

A Handbook for Practitioners, Professionals, and Citizens on Making Brownfields Development Work
--With Detailed Recommendations on Financing, Insurance, Partnerships, and Community Involvement

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INTRODUCTION

The U.S. Environmental Protection Agency (EPA) defines brownfields as "abandoned, idled, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination."[1] The redevelopment of these properties is gaining attention in policy and political circles as a promising strategy for revitalizing America's urban centers, and promoting job creation and economic activity. In addition, many observers and policy leaders tout brownfields redevelopment as a strategy for curbing suburban sprawl, protecting open space, and cleaning up the environment. For a number of reasons, well supported, well-planned projects have the potential to fulfill these environmental and economic promises—to turn brownfields into jobfields.

This report incorporates the experiences and insights of professionals and consultants working on brownfields projects in cities across America. It describes the barriers to redevelopment, and how they can be overcome. It describes in detail the financing challenges and options available to those seeking to develop brownfields, and outlines the advantages and disadvantages of environmental insurance products in the brownfields development process. It describes how brownfields redevelopment can create jobs and revitalize communities. This report is a resource for supporters, funders, managers, policy leaders, and other stakeholders seeking a comprehensive guide to the real-world implementation of brownfields projects.

The General Accounting Office (GAO) estimates that there are over 425,000 brownfields across the nation, posing a threat to public health and the environment, contributing to neighborhood blight, and draining local tax revenues.[2] Brownfields are widespread; cities and rural communities of all sizes and industrial histories have contaminated properties that pose redevelopment challenges. In many of these cases, brownfields offer a powerful opportunity for economic development and job creation. Across the country, stakeholders such as federal agencies, state and local governments, non-profit and community based organizations, and the private sector have embarked on brownfields projects and initiatives. As a result, brownfields redevelopment activities have increased in the past few years, with a whole range of projects now taking place.

Brownfields redevelopment can be divided into three categories. The first category includes well-located sites that are lightly contaminated and can be redeveloped through private market transactions without public subsidies or other forms of external intervention. Second, there are sites that are well located but have moderate to high levels of contamination, or other characteristics such as aging infrastructure or liability issues, and require public subsidy or other types of external intervention to attract the private sector. The third category includes sites so severely contaminated or poorly located that a great deal of public support and expenditure will be required to clean and redevelop the property.

This report focuses on sites in the second and third category: those sites that have redevelopment potential, but require various levels of outside assistance in order to be successfully redeveloped.

Brownfields properties are a diverse group. Some brownfields sites are owned by local, state, or federal governments. Others are in private hands. Still others are orphan sites. Each site has its own industrial history and quality of infrastructure. Site size can vary, from a half-acre former dry cleaner, to a 900-acre industrial park. So, too, do contamination levels differ, from severe contamination to none at all. What remains constant is the perception that sites are contaminated, and, because of that contamination, will be more difficult to redevelop.

The perception that brownfields sites are highly contaminated is the first in an array of barriers that discourage redevelopment. In general, brownfields sites cost more to clean up and redevelop than suburban sites or open space. Property owners, developers, and lenders fear the liability risk commonly associated with contaminated sites. Under current federal law, liability at contaminated sites (from Superfund level sites to the most lightly contaminated brownfields) is joint, several and retroactive; that is, everyone in the chain of title can be held liable for contamination and the cost of its cleanup. Although steps have been taken on both a state and federal level to allay these fears, liability remains a significant barrier to brownfields redevelopment in many states, and perceived liability is a consistent barrier.

Negotiating the maze of brownfields financing options can be an arduous task, for a number of reasons. First, there is no central location at which to access information or applications for federal brownfields funding. Funding options are scattered throughout the federal government among EPA, the Department of Housing and Urban Development (HUD), Department of Transpiration (DOT), Economic Development Administration (EDA), Small Business Administration (SBA) and others, and brownfields projects often necessitate utilizing a number of sources. Some federal departments have brownfields specific funding (ex. HUD's Brownfields Economic Development Initiative, or BEDI, grants) while others have simply imbedded brownfields in their already existing development programs. Second, there is no central location at which to access information regarding state funding options. Each state has developed a unique brownfields program that provides different types and amounts of support. Third, private financial institutions have yet to fully participate in brownfields redevelopment and continue to restrict lending on contaminated—or potentially contaminated—property. Finally, a hodgepodge of tax credits and incentives exist on the federal, state, and local level that can be used for brownfields redevelopment, all with different eligibility requirements and restrictions. Projects frequently utilize financing from multiple sources, and property owners, project managers, community based organizations, and developers have their work cut out for them when it comes to coordinating brownfields funding.

Cost concerns and liability issues are not the only barriers that face development projects. Many brownfields sites support aging and obsolete infrastructure unsuitable to modern manufacturing techniques. Frequently, brownfields parcels are too small to support cost effective redevelopment, and difficulties associated with land assembly prevent interested parties from forming larger, more viable properties. Real estate factors such as site location, access to transportation routes, incidence of crime, physical decay in the area and the availability of a qualified workforce also serve to deter (or attract) redevelopment.

However, despite these formidable barriers, brownfields activity has increased substantially, and has gained prominence on the national political agenda. There are many reasons to be optimistic about brownfields redevelopment.

Some people may wonder what makes brownfields redevelopment so important that potentially large sums of money should be spent to clean up contaminated properties. It's good for the environment, certainly, but how else will it help the communities and cities in which these sites are located?

Successful brownfields development can address a number of critical urban and regional problems. Some benefits are environmental. Brownfields redevelopment protects open space and farmland, and helps combat suburban sprawl. Cleaning up contaminated sites removes hazardous chemical materials from the environment, reducing air, water, and soil pollution. Remediating brownfields also removes potential health threats from a neighborhood, and helps communities address problems of incompatible land uses in residential areas. The urban environment is improved when brownfields sites are redeveloped.

Brownfields are also an issue of social justice and environmental equity. Many brownfields sites are located in low income or minority neighborhoods. Polluting industries and businesses were frequently allowed to locate in these areas, despite the potential health and safety threat posed to local residents. Lacking the financial resources or political clout, poor, often minority residents were often forced to live next door to facilities that would not have been allowed to locate in other, more affluent areas. Low-income and minority communities historically bear the brunt of environmental pollution and unsafe living conditions. The time is long past for contaminated sites in these communities to be cleaned up properly and redeveloped into non-polluting, appropriate end uses.

Progress is being made toward this goal in San Diego's Barrio Logan neighborhood, a predominantly Hispanic, low-income residential community in San Diego. Barrio Logan is also San Diego's third largest hazardous waste generating community. More than twenty-three million pounds, nearly a fifth of the county's hazardous waste, is generated by the industries on Barrio Logan each year.[3] In the early 1970s, the city changed the residential zoning of Barrio Logan to accommodate industrial development in the neighborhood. Chemical manufacturing and metal plating facilities moved into the area, but residents did not move out.

With the help of two community based organizations and assistance from the city of San Diego, residents of Barrio Logan began working to move these dangerous industries out of the neighborhood, clean up the contaminants left behind, and redevelop the properties into more compatible uses, such as housing. "Concerns about contamination are what is driving the process," explains Skip Berend of the City of San Diego. "This project is all about incompatible land use."

Brownfields redevelopment provides communities—especially low income or minority communities—a unique opportunity to participate in and take ownership of neighborhood development. They recognize and envision what brownfields redevelopment offers to their community: new jobs, new housing, new commercial or retail space, new open space and public

amenities. In communities throughout the country, local residents have taken ownership of the process in order to ensure that any redevelopment activity is in line with their vision, their plan for their neighborhood. They are empowered to stand up for their own interests and form partnerships with local government and commercial redevelopers in order to realize their goals. From Trenton, NJ to San Diego, CA, brownfields redevelopment is no longer just cleaning up a contaminated parcel of land and building something: it is a process of community development, growth and empowerment that revitalizes neighborhoods and creates vibrant, livable communities.[4]

In Chattanooga, Tennessee, the cleanup and redevelopment of the city's waterfront has ignited a citywide commitment to sustainable development. In the process of going from one of the country's most polluted cities in the 1970s, to one of its most livable today, the city created a program called Vision 2000. Vision 2000 was "an open invitation to the entire community to set new goals for Chattanooga's future."[5] In 1984 and again in 1993, a series of public meeting were held at which hundreds of residents generated ideas and goals for their community. They produced a "Community Portfolio" that has guided redevelopment and revitalization efforts ever since. According to the Chattanooga Chamber of Commerce, Vision 2000 was one of the first and most comprehensive community-wide goal setting processes in the country.

Cleaning and redeveloping brownfields properties benefit urban communities in the nation's cities in particular. Long in a period of decline, many American cities are experiencing a renaissance. Redevelopment of contaminated properties has been part of that renaissance. Brownfields sites provide business and industry with the opportunity to locate near customers, potential employees and transportation routes. Improved urban infrastructure and amenities help cities maintain residents and attract new ones. Local municipal governments benefit when brownfields parcels return to the tax ledger. Most importantly, brownfields redevelopment creates jobs, and attracts additional economic activity. The potential for projects to generate hundreds of jobs is one of the most compelling arguments in support of brownfields. The fact that many of those jobs will be created in low income areas (urban and rural) traditionally left behind by economic growth and development makes the case for brownfields redevelopment that much more persuasive. Brownfields redevelopment helps ensure that no one is left behind in today's economic expansion.

Job creation takes place at three points during the redevelopment process. As outlined by Paula Doogan in her report "Working on Brownfields," jobs are created during the assessment and remediation stage, the new construction stage and the reuse stage.[6] As discussed above, many brownfields sites are located in low income communities, areas most likely to be suffering from unemployment and the lack of economic opportunity. Therefore, brownfields redevelopment doesn't just create jobs, it creates jobs where they are needed most. It creates a variety of permanent and temporary jobs that require both higher and lower skilled workers, depending on the stage of redevelopment and end use. It creates opportunities for low skilled workers, for inner city youth, for dislocated workers, and for others. Workforce development is a key issue for almost all cities and communities, regardless of their ultimate vision for brownfields sites. States Doogan, "No brownfields cleanup project exists in a vacuum. All are part of economic development and environmental cleanup undertakings that aim to bring renewed economic

activity, improved living conditions, and healthier fiscal situations—in short, JOBS—to their communities."

The Quarry Retail Project in Minneapolis, Minnesota, redeveloped a highly contaminated forty-two acre former limestone quarry into the site of a national supermarket chain and other big box retailers in an attractive urban, pedestrian friendly setting. Besides removing a significant and severe environmental hazard from the neighborhood and bringing in much needed retail services, the project has created over 2000 jobs. Before redevelopment, businesses at the site employed 234 people. Now, the site employs 2000 people. To ensure that a significant percentage of these employment opportunities went to local residents, the City of Minneapolis set employment goals for the project. The city Affirmative Action Director reviews hiring, and can suspend spending on the project if it does not meet the hiring requirements. The project committed to twenty percent minority hiring, and achieved a level of twenty-five percent. The project has met all the city's hiring goals. Several retailers provide job training, and the city makes funds available for training, as well.

Brownfields have garnered a broad range of support from a diverse group of stakeholders. These include federal agencies, state and local governments, community-based organizations, and a scattering of private financial institutions. EPA has shown national leadership in encouraging brownfields redevelopment, and launched a sizable effort designed to "prevent, assess, safely clean up and sustainably reuse" brownfields. EPA is addressing development on several fronts, including financing, liability, and education. Across the country, even the mass media have portrayed brownfields redevelopment as a positive effort.

EPA now offers grant and loan opportunities to cities, states, and tribes that are redeveloping a brownfields site or working to set up a brownfields program. EPA continues to work to clarify its guidance on liability and cleanup issues. EPA has instituted a new program to link brownfields to job training and workforce development. And EPA is working with states to develop Voluntary Cleanup Programs (VCPs) to facilitate brownfields redevelopment and encourage the private sector to get involved. The majority of states have now developed VCPs or other brownfields programs to address issues of clean up standards, liability and financing. By providing financing, building state partnerships, and clarifying liability, EPA has made a significant commitment to brownfields redevelopment.

To encourage additional federal participation and support, the Clinton Administration and EPA have coordinated an inter-agency working group to promote brownfields redevelopment. As described by EPA, the National Partnership Action Agenda is intended to:

> improve communities by building partnerships between public and private organizations to link environmental protection with economic development and community revitalization. The Brownfields National Partnership seeks to protect public health and the environment, clean up contaminated properties, build economic viability, and create job opportunities. It includes more than 100 commitments from more than twenty-five organizations including more than fifteen Federal agencies. These commitments represent a $300 million investment in brownfields communities by the Federal government and an additional $165 million in loan guarantees. The resulting action will help cleanup and

> redevelopment at up to 5,000 properties, leveraging from $5 billion up to $28 billion in private investment, supporting 196,000 jobs, protecting up to 34,000 acres of "greenfields" and improving the quality of life for as many as eighteen million Americans living near brownfields. [7]

Although these forecasts may be overly optimistic, they do show a significant commitment to brownfields by the federal government. Participating federal agencies include HUD, EDA, DOT, General Services Administration (GSA), the National Oceanic and Atmosphere Administration (NOOA), the Department of Health and Human Services (HHS), the Department of Labor (DOL) and the Department of Energy (DOE). Some agencies, such as HUD, maintain grant programs that are specifically targeted for brownfields. Others agencies, such as DOT, provide money for brownfields as part of their normal grant and loan programs. Some agencies offer technical assistance and training, while others are working to clarify liability issues or develop state brownfields programs.

In addition to state and federal government initiatives, a great deal of activity is taking place at the local level and in the private sector. Community-based organizations have taken a lead role in the redevelopment of brownfields sites in a number of cities, including Pittsburgh, San Diego and Birmingham. Community Development Corporations (CDCs) wear many hats, serving as project managers, financial intermediaries, developers, and community organizers. They often take on projects the private sector avoids, and fill gaps left by local government and federal initiatives. CDCs draw attention to contaminated sites and overlooked neighborhoods. They contribute planning and organizing expertise to the redevelopment process.

Most importantly, CDCs strive to ensure that redevelopment is driven by the needs and desires of the local community by creating an inclusive, community-based process. CDCs facilitate the direct participation of local residents in the decision making process, and serve as a liaison between the local community, local government officials, and private industry. CDCs help empower their constituents and members to take ownership of the brownfields process. Community support and participation are a hallmark of brownfields projects with CDC leadership or participation. The successful completion of many brownfields projects can be attributed in large part to support and participation of the local community.

Still, CDCs face financial and technical limitations in their capacity to facilitate brownfields redevelopment. A number of non-profit and for-profit organizations have emerged in the past few years as intermediaries that provide financing, remediation, and technical services to brownfields stakeholders. Non-profit organizations such as The Phoenix Land Recycling Company, the Development Fund, and the California Center for Land Recycling work to provide the bridge of financial and technical support many projects require. Brownfields intermediaries are providing critical support to redevelopment efforts throughout the country.

To a lesser degree, banks and insurance companies are developing and offering a number of policies and financing options to developers and buyers of brownfields sites. But participation by the private financial sector lags behind what is needed if brownfields redevelopment as envisioned by many leaders and policymakers is to be fully realized.

The private sector has not embraced brownfields redevelopment for a very simple reason. Brownfields projects are not easy. The redevelopment of contaminated properties is a complex, sometimes time-consuming, often frustrating experience. There is no getting around the fact that it is simply easier—and in the short run, at least, cheaper—to develop uncontaminated properties. Even for brownfields advocates, some projects are disappointing. Some projects fail to live up to all their economic and community-building expectations. Brownfields redevelopment will not single-handedly save cities and revitalize poor communities.

But brownfields redevelopment is important. It is important to the low income communities that must live with contaminated property in their neighborhoods, threatening their health and safety and contributing to neighborhood blight and deterioration. It is important to community based organizations who work to empower local residents and create vibrant, economically healthy communities. It is important to urban and rural municipalities struggling to increase tax revenues, retain and attract residents and businesses, create jobs and economic opportunities, and clean up the environment. Brownfields is important to suburban communities trying to limit sprawl and protect open space and farmland. It is important to any person concerned with the environment, public health, land use, economic growth and development, job creation, and community development.

This report is based on extensive research, phone and in-person interviews with over 200 brownfields stakeholders and policy experts, ten case studies of successful brownfields redevelopment projects throughout the country, and site visits to three of those projects.[8] The first chapter identifies and discusses the principal obstacles to productive brownfields development. In the second chapter, we highlight and explain those factors that are critical to success. Through interviews with numerous brownfields stakeholders, research, case studies and site visits, we analyze the effects of a range of factors on the outcomes of redevelopment projects. Examples from the case studies are used to support the discussion of barriers and factors of success.

The third chapter offers an in-depth discussion of financing options available to brownfields investors. This chapter examines both public and private funding initiatives, and discusses how much of this funding has been applied to brownfields, and what the potential is of targeted more funds to brownfields redevelopment in the future. This section also contains a discussion of financial intermediaries and the role they play in brownfields redevelopment. Each subsection concludes with a recommendation on how the funding mechanism can be expanded or improved.

The fourth chapter addresses the issue of insurance in the brownfields development process. This chapter discusses the type of insurance products, their advantages and disadvantages, and their availability to the brownfields stakeholder.

The report concludes with a set of recommendations that will facilitate the redevelopment of brownfields sites. These recommendations include changes to the regulatory structure governing brownfields redevelopment, increased availability of insurance and financing options, support for brownfields intermediaries, and creation of a national brownfields development corporation.

ONE: WHAT STOPS BROWNFIELDS REDEVELOPMENT

BROWNFIELDS AT WORK: SITE STUDIES AND LESSONS

For decades, steel was the primary industry in Pittsburgh. The steel mills of Pittsburgh dominated the city's riverfront and employed thousands of people from the surrounding neighborhoods and communities. But the eventual decline of the U.S. steel industry forced the closings of mills throughout the city and the country, leaving behind defunct facilities and moribund, potentially contaminated properties. In 1986, LTV Steel Company of Pittsburgh joined the exodus and closed its South Side Steel Mill.

The LTV Steel South Side Works site is a 130 acre parcel of land with approximately one mile of frontage on the south side of the Monongahela River. The site is centrally located within the city of Pittsburgh and close to most of the city's major employment and residential areas. The surrounding residential community is known as the Southside, an attractive, somewhat worn, predominantly blue collar neighborhood. The residents are active advocates of their community.

There is a decades long history of activism in the Southside, and the neighborhood supports several community-based organizations, including the Southside Local Development Corporation (SSLDC). In 1985, SSLDC organized a community meeting to discuss concerns in the neighborhood. From this effort the South Side Steering Committee was formed to develop long-range strategies for neighborhood redevelopment. The community decided that a separate planning body should be formed. The Southside Planning Forum (SSPF) was created, consisting of representatives from the Southside Community Council, Southside Business Alliance, SSLDC, Friends of the Southside Branch Library and other community representatives. Serving as the umbrella organization for all the Southside neighborhood groups, the Planning Forum meets monthly and operates by consensus.

When LTV Steel closed its doors the community took a proactive approach to redeveloping the site. LTV Steel itself went to SSLDC to seek advice regarding what to do with their site. In 1991, several community meetings were held to solicit opinions and input, and over 100 residents took part. Their first action was to develop a set of recommendations regarding redevelopment and end uses of the site. With the help of SSLDC and with funding from LTV Steel, the community developed a set of ten recommendations. Their intent was to guide the redevelopment process and ensure that the needs of the area residents were fully considered. The ten recommendations, as outlined in *A Community-Base-Planning Evaluation: LTV Steel's South Side Mill Site* (now incorporated in the South Side Neighborhood Master Plan), are:

1.) Planning for the site should be consistent with the South Side Neighborhood Plan;
2.) The property should be zoned as a Special Planned District to promote flexible development while also assuming maximum public review;
3.) Development should not overburden local streets or available public services;
4.) There should be a high level of public participation;
5.) Planning for and development of the LTV site should respond more to long term objectives than to short term opportunities;
6.) Mixed use development is encouraged to provide flexibility, respond to market opportunities, assure expeditious development, and entail variety in keeping with the existing community;

7.) Development of the property should be directed to markets that complement rather than duplicate those existing in the community;
8.) Development of site should be master planned, paying attention to the out parcels to the south of East Carson St. so that development is to scale and character with its surroundings;
9.) The riverfront should be treated as an amenity for public access;
10.) Interim uses are strongly discouraged.

The Planning Forum adopted these recommendations and they served an important role in guiding the redevelopment process. Throughout the city, other communities engaged in redevelopment efforts have adopted these recommendations.

The local community knew what it wanted for the site, but it also knew that there would be some daunting obstacles to overcome. First and foremost, who would pay for the cleanup and redevelopment of the site? The city of Pittsburgh has an extensive redevelopment agenda, and nobody knew how much money and resources the city would commit to the LTV site. Second, there were infrastructure and real estate problems. Part of the site is located in a 100 year flood plain, and any redevelopment in this area would require careful planning. Also, the foundation of the former steel mill remained buried on site, and would have to be removed or built over. Third, local residents were concerned about increased traffic and congestion that would result from redevelopment. In addition, problems existed with the state of the bridges in the local area that span the Monongahela, compromising access to the area and contributing to traffic congestion. Finally, the city began to develop its own plan for the site, plans that clashed harshly with the communities redevelopment vision. In 1992, the Urban Redevelopment Authority (URA), the primary development agency of the city, entered into an agreement with HFS Hospitality to bring riverboat casino gambling to the area. This plan was contingent upon state legislative action legalizing gambling.

An immediate and vociferous outcry arose from local residents. In 1993, the mayor and URA presented the idea of casino gambling to the community in a public meeting attended by over 300 city residents. Local residents denounced the plan. In the face of community opposition, and the uncertain future of legalized gambling in the state of Pennsylvania, the city's Urban Redevelopment Authority (URA) turned to the Southside community for development alternatives. "The political reality is that the community has to be involved," stated Roberta Stackawitz of the Southside Community Council. "The community wanted to be involved and they stood up and said so."

To coordinate planning, the LTV Steering Committee was formed. Members include three community representatives, the Planning Forum chairperson and SSLDC's executive director. The Steering Committee's job is to serve as a liaison between the city and the community. A major community education process takes place over the next two years. In addition, Sasaki & Associates are contracted to develop a Master Plan for the South Side community.

City planners, SSLDC and the developer, met every two weeks to work on strategy and planning. In addition, the Southside Planning Forum entered into an agreement with URA regarding reuse of the site. To ensure community participation in the process, the agreement specified:

1.) A planning process that included conceptual plans, socio-economic assessment, traffic analysis, market analysis, a master plan, selection of the highest and best development program, a preliminary land development plan, request for qualified developers, developer election, and a final land development plan for each district;

2.) A planning team that included representatives from the community, URA, City Planning, and other appropriate individuals, public or private. The planning team would have a role in selecting and monitoring consultants and developers, preparing the preliminary and final land development plans and negotiating and preparation of Disposition Agreements with URA;

3.) A public participation process that included the following: participating in the planning team, dissemination of information to Planning Forum members, community meetings, education sessions, community consensus on the master plan, acknowledgement of the Neighborhood Plan, participation of the planning team at Forum meetings when needed, and adequate financial and technical assistance to the Forum to participate in the process.

In 1996, the South Side Works Master Plan was adopted by the Southside Planning Forum. The plan outlines a phase mixed-use development that will occur over a number of years. The site will feature more than 300 new housing units, 250,000 square feet for retail, 180,000 square feet for flex/distribution and entertainment and 1.6 million square feet for offices and research and development.[9] The development will provide a high quality pedestrian environmental with brick sidewalks, crosswalks, parks and trail improvements along the Monogahela riverfront. Riverboat casino gambling, not surprisingly, is not part of the Master Plan.

After the city acquired site in 1994, URA prepared to assess the area. To facilitate the process, the site was divided into parcels based on location and potential contamination (URA did not have a clear idea of what level of contamination existed at the site). The Pennsylvania Department of Environmental Protection (DEP) agreed to allow approval on a parcel by parcel basis. In addition, DEP negotiated a buyer/seller agreement between the URA and the buyer of the first remediated parcel, allowing redevelopment to begin on the site.

In Pennsylvania, Act II regulates the cleanup of brownfields sites, and establishes a range of cleanup criteria based on end use (in Pennsylvania, brownfields redevelopment is regulated under three separate acts that together constitute the Land Recycling Program: Act 2 is the Land Recycling and Environmental Remediation Standards Act; Act 3, the Economic Development Agency, Fiduciary and Lender Environmental Liability Protection Act; and Act 4, the Industrial Sites Environmental Assessment Act).[10] DEP worked closely with the city in order to ensure that cleanup was in accordance with state requirements. Fortunately, the site was not found to be heavily contaminated. The primary contaminants included tar tanks, PCBs, and heavy metals, and specific remediation techniques were employed according to the contaminant and anticipated end use. Because residential units are planned for part of the site, these areas had to meet statewide health standards for cleanup. In addition, PCB "hot spots" were excavated. Pathway elimination was used to attain a site-specific standard for an area of former tar tanks at the upstream end of the property. The cleanup plans developed by URA and DEP were supported by

the Planning Forum and the Steering Committee. A No Further Action letter was issued by DEP for the site.

Financing a project of this size generally requires access funds from a variety of sources. URA obtained funds for assessment and remediation primarily from the city capital budget. The city also received a grant from the state Industrial Site Reuse Program to finance cleanup activities at the site. In 1997, URA spent approximately $1 million to remove sub surface foundations from certain areas of the site.

Funds for redevelopment will be raised as portions of the site are sold to developers, who will then finance their own redevelopment operations. In early 1999, URA's Tax Increment Financing (TIF) proposal was approved, and URA predicts that they will collect up to $25 million of real estate taxes over the next twenty years from proposed development.[11] Overall, URA expects to spend $9 million on road improvements, $18 million for bridge repair, $4.8 million on public utilities, and $6.2 million on parks. URA expects to spend $15 million at the site, raising $25 million from TIF, and acquiring additional funds from state and private sources.

Local communities and CDCs also need financial assistance if they are to fully participate in the redevelopment process. LTV Steel provided approximately $10,000 to fund early efforts by SSLDC and the local community to develop policy and planning recommendations for the site. URA provided SSLDC with a $35,000 grant to manage the master planning process.

Why did this project get off the ground, despite the barriers to redevelopment and the challenge of financing a project of this size and scope? First, and perhaps most importantly, the project has the support and participation of the local community. The Southside area has a history of active neighborhood groups, and the local community had been looking at redevelopment options for the LTV site long before the city became involved. These groups-SSLDC, the Southside Planning Forum, and others-had the foresight to do some strategic assessment of their own and begin the master planning process. Many elements of their work were incorporated wholesale in the final Master Plan, and they were active participants of the entire planning process. Now that dirt is actually being moved on the site, the local community continues to be involved. The early success of this site has lead the city to consider funding organizations like the SSLDC in other Pittsburgh neighborhoods

Second, the Urban Redevelopment Agency played a critical role. URA coordinated the city's efforts to acquire and redevelop the site. By buying, assessing and remediating the property, URA stepped in where the private market failed. It is doubtful that a private entity would have bought and developed the site otherwise. In addition, URA was open to the high level of community involvement in the Southside. "The community was an asset to this project," stated Marc Knezevich of the URA.

Both the participation of the local community and the work of URA were important elements of success. But it was the strong partnership among URA, the local community and the developer that really made the project work. Once the original developer was convinced of the need to consider the needs of the local community, they were willing to work with both the community

and URA to come up with a Master Plan that satisfied all stakeholders. All the involved parties were willing to work together to achieve consensus.

Two redevelopment projects at the site have been completed to date, including a distribution center and pharmacy space for the University of Pittsburgh Medical Center Purchasing Department. Conflict has arisen over the design of the new distribution center, with some local residents feeling that it does not fit into the landscape. In addition, there is some argument over the type of residential units planned for the site, with some in the community believing the units should be for-sale, as opposed to rental, units. But meetings with URA and the local community continue, in order to maintain dialog over these issues. URA is commencing with road and bridge repair, and additional redevelopment deals are being negotiated.

As of June 1999, developers are breaking ground on three additional projects, with all public approvals completed. SSLDC held a town meeting at the end of May 1999 to review the progress of redevelopment. "The neighborhood is quite pleased with the progress," reported Carey Brennan, Executive Director of SSLDC. A few problems have arisen at the site. For instance, one of the developers ran into a title problem with the purchase of their portion of the site. Apparently the railroad, in this case CSX, has easements up to fifty feet on either side of the existing track in case they need to expand. This has eaten into the developable property. Negotiations are underway, and it will be interesting to see what happens, as this could be an issue on a number of brownfields sites.

Over 6000 new jobs are expected to be created by the redevelopment process. SSLDC is working with URA to ensure that a significant number of local residents are hired.

The Southside community easily could have stood by and watched as the city made all the decisions regarding the LTV site and brought casino gambling to their doorstep. Instead, the community took action. They established several goals for the project, including job creation, open space, housing, commercial development and retail. They fought for the things their community needed. The community, city government and private developers developed a strong partnership that operates on consensus and cooperation. Of course, the relationship between the parties is not always free of conflict. But the local residents have taken ownership of this process, and they are committed to appropriate, community-friendly development in their neighborhood.

The redevelopment of Pittsburgh's Southside is just one example of both the problems and the potential of brownfields redevelopment. Almost every city, large and small, has its own brownfields challenges.

In 1998, the U.S. Conference of Mayors (USCM) recognized brownfields redevelopment as their top national priority. According to USCM president Paul Helmke, brownfields "represent missed opportunities to attract new businesses and create additional jobs…we simply cannot go on destroying our farmland and greenspaces while neglecting these abandoned or underutilized properties." [12]

As part of their commitment to brownfields redevelopment, USCM surveyed elected officials and their staffs in 126 U.S. cities regarding brownfields and brownfields redevelopment.[13] Survey respondents said that an estimated 16,531 brownfields sites existed in their cities, with 122 cities estimating a total of 47,384 acres of brownfields property.[14] The survey also found that over 100 respondents believed that redeveloping brownfields properties would result in additional tax revenues of $205-500 million, and create an estimated 236,000 jobs.[15] Clearly, mayors across the country believe there is much to gain from brownfields redevelopment, in terms of tax revenues, job creation, and farmland and open space preservation.

Brownfields has garnered a broad range of support from leading government and nonprofit agencies, analysts, and community leaders, both as a "smart growth" strategy and as a tool for job creation and urban revitalization. At the EPA, their brownfields initiative is a sizable effort that includes several programs designed to "prevent, assess, safely clean up and sustainably reuse" brownfields. The federal government has coordinated an inter-agency working group to promote brownfields redevelopment. The majority of states have developed Voluntary Consent Programs to address issues of cleanup standards, liability and financing. Various community development groups and non-profit organizations have served as brownfields project sponsors or financial intermediaries. Banks and insurance companies are beginning to offer a number of policies and financing options to developers and buyers of brownfields sites. Engineering and consulting firms have developed specialized brownfields services.

Today, the field of players with a vested interest in successful brownfields redevelopment is significant and continues to grow. A brownfields industry is emerging. But barriers still exist that stymie brownfields projects and encourage the development of suburban and rural "greenfields" areas.

THE BARRIERS

Through our survey of the brownfields literature and interviews with over 200 brownfields stakeholders, the report found seven leading barriers to successful brownfields redevelopment. The obstacles cited most frequently include the following:

1.) Lack of financing, in particular, lack of money for the up front costs of assessment and remediation;
2.) Fear of liability, both lender liability and liability in a third party action;

3.) Real estate issues, such as location, transportation routes, infrastructure, marketability, crime levels, and skilled workforce;
4.) Small parcel size and the difficulties of land assemblage. This includes the inability of local municipalities to assemble and redevelop sites mothballed by "Deep Pocket" owners who prefer to leave a site idle than to risk liability risks or incur high cleanup costs;
5.) Fear of the unknown regarding levels of contamination, threats to public health and cost of cleanup;
6.) Stigma associated with environmentally contaminated properties;
7.) Lack of information about available brownfields programs and sources of financing, both public and private.

This does not necessarily constitute a ranking of obstacles to brownfields. Whereas lack of financing, liability concerns and real estate issues were identified as major barriers most frequently by those interviewed for this report, no fixed hierarchical position can be assigned. For instance, a survey of New Jersey municipalities revealed that the major barriers to redevelopment in that state include the stigma associated with environmentally suspect properties, fear of liability and lack of financing.[16] For each project, municipality and region, barriers combine in different ways to negatively influence the redevelopment of brownfields. At some sites, all these barriers are a factor.

Most interviewees pointed out that project characteristics (and therefore barriers to development) are both site and region specific. Brownfields in the Northeast and Midwest region often are former industrial sites, with obsolete manufacturing facilities. The industrial history of the Pacific Northwest and West Coast is such that redevelopment is often more an issue of "brownfields prevention" at sites that have not yet reached the state of abandonment characteristic of the traditional industrial properties. But we have identified those common factors confronting a range of projects that most cities will need to address to establish a line of viability for brownfields development.

Financing Brownfields

"Money is needed for <u>everything</u>," stated one brownfields project manager. Most stakeholders cited inadequate funding for all project phases as a major barrier to brownfields development. They singled out lack of money for assessment and remediation as particularly difficult hurdles to overcome. These "up front" costs are sometimes daunting enough to send the private developer to a greenfields, force community development groups to consider other development projects, and lead local government to conclude that the cost of redevelopment is too great. Many developers do not have the patience to wait while initial funds are obtained. Private developers favor properties that have been assessed and remediated in order to avoid these very costs (and the initial uncertainty surrounding pre-assessed properties); banks, too, favor loans to such properties.[17] But at all phases of a project, securing timely and adequate levels of financing is essential to successful completion.

Almost all projects face a financing challenge of one kind or another. Obtaining adequate redevelopment funds has been a challenge for the Barrio Logan community in San Diego. Located south of downtown San Diego and thirteen miles north of the Mexico border, the Barrio

Logan neighborhood faces the San Diego Bay towards Coronado Island and abuts the city's Marina District. The Barrio Logan area is a predominantly low-income, Hispanic neighborhood designated as a Federal Enterprise Community and also as a State Enterprise Zone. The neighborhood includes several active chemical storage/manufacturing and metal plating facilities located in very close proximity to houses. These "emerging brownfields" blight the community and pose a threat to public health.

These properties, unlike many brownfields, are owned by private entities who are either operating a business on, or accruing rental income from, the site. Local residents are working with the city to relocate these hazardous neighbors and clean up their community. But the remediation and redevelopment of one site has been delayed due to lack of money to pay for acquiring the parcel. The city of San Diego has made efforts to buy the property, and is working with HUD to secure the necessary funds. But failure to secure the proper financing could seriously delay or kill the project.

In addition to HUD, many types of public and private sector financing are available for brownfields redevelopment. These funding mechanisms will be discussed in detail later in this report.

Liability

"The mere threat of cleanup liability under Federal and State Superfund laws has historically inhibited the reuse of brownfields." [18] As explained by USCM in their 1998 report,

> The existence of many brownfields sites can now be traced to the strict liability provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), a federal law more commonly known as Superfund. CERCLA was enacted in 1980 to stop the irresponsible discharge of pollutants to the environment by holding entities to a very strict liability regime, making owners fully responsible for any and all costs to rid Superfund-caliber properties of contamination. This strict liability regime, over time, has affected virtually all properties-including brownfields-by making them potentially subject to CERCLA's authority even though their level of contamination is less than Superfund sites. This liability threat drives many potential developers and businesses away from these brownfields as potential sites for investment. Too often, instead, private and public parties look to "greenfields" as preferred locations for new businesses and other development. As a result, our nation is consuming farmland and green spaces at an alarming rate, while leaving brownfields abandoned in just about every city and county in the nation.[19]

Almost everyone interviewed for this report named fear of liability-both lender and third party action-as a factor inhibiting the success of brownfields. But this opinion was qualified in many instances, by those who observed that the liability issue has changed significantly in the past few years. At the federal level, the passage of the Asset Conservation, Lender Liability, and Deposit Insurance Act of 1996 offered limited liability protection to lenders who finance remediation projects, and helped ease the liability fear of many lending institutions. A report issued by HUD in 1998 noted that liability concerns were more pronounced in stakeholders who had little

experience in brownfields redevelopment. Those with experience did not view liability as such a major concern.[20]

The liability questions that remain generally concern those of the prospective purchaser, innocent landowner and adjacent property owner. While these liability issues have been examined by Congress, Congressional conflict over Superfund reauthorization has limited efforts to change liability (the program continues to function through special appropriated funding while reauthorization of the law is negotiated by Congress). Questions remain, too, for those smaller developers or buyers who are unversed in the intricacies of lender and cleanup liability.

Deep pocket owners, corporate land owners for whom mothballing a site is often preferable to any type of redevelopment, also remain wary of being held liable for any contamination found on their property. Due to their ability to simply "sit" on a site, deep pocket owners cause a particular problem for brownfields redevelopment. Inaction by the owner means sites that may pose a health threat to the local community are not cleaned up. Inaction deprives local government of the ability to redevelop a property that could be important to a larger revitalization program. Inaction prevents the parcel from being redeveloped for a more suitable use. Inaction contributes to neighborhood blight. Deep pocket owners are an issue for many cities and counties across the country.

Liability issues are also being addressed in state Superfund laws and Voluntary Cleanup Programs (VCPs). VCPs vary from state to state, but all offer some type of "sign off" on state liability. Usually in the form of Comfort Letters, Covenants Not To Sue, or No Further Action letters, state regulatory authorities grant an owner, developer or purchaser protection from future state legal action regarding contamination at the site.

For instance, New Jersey has modified state brownfields regulations to resolve complex liability issues. Lending institutions are no longer held liable for contamination when providing financial support to industrial redevelopment projects. Under the New Jersey Spill Compensation and Control Act local government entities that acquire property through foreclosure, condemnation or similar means are not liable for past contamination. New Jersey also protects developers of property in qualified municipalities from liability for third party costs if they did not cause the past contamination, and they have cleaned up the site in accordance with DEP regulations.[21] Some state Superfund laws offer similar protection. However, state exemptions from liability do not offer protection against federal liability, or a third party action. Some states, such as Illinois, have gone so far as to eliminate the concept of joint and several, retroactive liability from their State Superfund laws, in favor of causation liability.

So whereas liability is still a concern, and a major barrier to redevelopment, tools are available to address the issue. Indeed, more than one person interviewed for this report suggested that de facto redlining is taking place in urban areas, with liability currently being used by banks and developers as an excuse for not getting involved in brownfields and the urban redevelopment process (of course, the truth of such an assertion demands careful study). And where liability remains a concern, certain mechanisms exist to further reduce risk. The insurance industry has developed a number of policies that target brownfields transactions. Currently, there appears to be more sellers than buyers for such products. "Municipalities almost never get involved in

insurance, and the smaller developer or buyer cannot afford it," said one insurance executive. From several interviewees, the opinion was the same: redevelopment insurance is a new, emerging market whose role in brownfields redevelopment is still uncertain. Insurance options and products will be discussed in further detail later in this report.

Location, Location, Location

Real estate issues are a third major barrier to successful brownfields redevelopment (private sector people often named them as the major barrier). Location, access to major transportation routes, infrastructure, crime levels, and skilled workforce all serve to affect the marketability of a particular project, and rate high on the barrier checklist, particularly for the private sector. A survey of New Jersey municipalities revealed that ten percent of New Jersey brownfields have significantly impacted the land and property surrounding the site. In three percent of the cases, the impact extends for more than one quarter mile from the brownfields.[22] The survey also found that the neighborhoods surrounding many of these sites suffer from crime and blight, such as deteriorated housing and infrastructure, and the chances of them being targeted by private business for redevelopment is limited.

"Real estate issues, far more than fear of liability or environmental regulations, are the biggest impediment for the private sector," declared one respondent. Are the real estate characteristics of the site such that the cost, time and risk of environmental assessment and remediation can be recovered? If the answer to this question is yes, chances are the property will be redeveloped, with or without government brownfields initiatives or state VCPs.

In Bridgeport, CT, the Bryant Electric site was a tough sell, at first. The six acre site is located in the city of Bridgeport's West End business district in an area zoned primarily for industry and commercial use. But the presence of a large, obsolete manufacturing facility made marketing the site extremely problematic. It could not be used for modern day manufacturing, and demolition would be an expensive proposition. In addition, the turn of the century building had an historical designation that complicated the redevelopment process.

The site owner Westinghouse Corporation (now CBS) knew it had to demolish the building. "Infrastructure was the key to the original inability to market the site, and the demolition of the building was the key to moving the project forward," stated Ed Lavernoich of the Bridgeport Office of Economic Development.. A deal was brokered whereby the city agreed to perform demolition activities in exchange for Westinghouse remediating the site. A portion of the property has since been cleaned up and redevelopment is underway.

The Bridgeport project illustrates another crucial real estate issue that serves as a barrier to redevelopment: time. The real estate industry, particularly commercial real estate development, operates under particular time constraints that brownfields redevelopment projects often have difficulty meeting. In Bridgeport, after initial barriers to redevelopment, the city, the site owner, and the local business association worked together to get the site infrastructure demolished and the property assessed. However, the project had not surmounted all its hurdles. Regulatory issues related to the federal Resource Conservation Recovery Act (RCRA) delayed cleanup at the site, despite the best efforts of city and state environmental officials. A potential developer of

the site was forced to look elsewhere when the site failed to receive an official sign-off on cleanup.

The Bridgeport project raises concerns regarding the time it takes to redevelop some properties. Ed Lavernoich, a planner with the Bridgeport Office of Economic Development, described the effect this can have on community support. "Everyone in the neighborhood supports the project, but they think it is taking too long. People get frustrated with the speed at which federal money is approved and issued. Neighborhoods get impatient."

Members of the community echoed this sentiment. "Parcels of land need to be ready to go," stated Jim Carbone of the West End Business Association. "Projects can not take this long**."** In addition, Carbone expressed the opinion that environmental regulatory agencies could be more flexible in their approach to brownfields redevelopment. "EPA and DEP are major stumbling blocks to getting anything done," said Carbone. "State and federal regulations tie the hands of the city. The process must move faster and regulations should be streamlined."

This is not to say that this project has failed. On the contrary, the first parcel has been redeveloped and is now the site of a commercial bakery. Additional redevelopment projects are being negotiated, and the city continues to work with EPA to get final approval for the remainder of site cleanup. It does mean that time factors, in addition to other real estate issues, can erect quite a large barrier to brownfields redevelopment, and is an issue of which brownfields stakeholders should be aware. "Time has shown that the Bryant effort is more admirable for the persistence and sophistication of city leaders in overcoming obstacles posed by the need to coordinate diverse brownfields variables than as a demonstration that complex sites can be readily transformed to house major industrial reuse."[23]

Many sites being redeveloped by the private sector are those with the right real estate characteristics and manageable remediation requirements. Many respondents noted that these sites are being "cherry picked" for redevelopment by the private sector, leaving the more marginal sites behind.

Parcel Size and Assemblage

Brownfields sites are marginalized for a number of reasons, one of which is parcel size. The small lot size of some sites, and the difficulty of assembling these lots into more marketable acreage (due to ownership issues, tax liens, and the like), was cited by many people as a major barrier to brownfields redevelopment. Determining the owners of orphan sites, gaining title or agreement to develop the property, and the extra cost and time of these steps incur: these transactions pose serious disincentives to private sector development. The problem of land assembly is further exacerbated by deep pocket owners who refuse to sell or redevelop parcels that have been targeted as part of a larger redevelopment effort. Although a mothballed site may offer significant redevelopment potential, recalcitrant deep pocket owners can lock up these sites indefinitely.

Assembling viable parcels and resolving ownership issues is a challenge for the Gateway Project in Salt Lake City, Utah. The Gateway Project is a very large, very ambitious undertaking. A

number of factors have encouraged the redevelopment effort, including the shortening of several highway viaducts that had compromised the access and visibility of the site, its proximity to the city's central business district, shortage of developable land in parts of Salt Lake City, designation as a Brownfields Showcase Community, and the upcoming 2002 Winter Olympics (hosted by Salt Lake City). However, a project of this scope is never without problems. According to the project's Master Plan, there are approximately 325 property owners, with a majority of the parcels over an acre in size. Assessing and remediating these parcels, obtaining the cooperation of landowners, and assembling large property parcels will be a significant undertaking.

The Stigma Effect: Fear of Unknown Costs and Contamination

Many developers balk at the fear of the unknown represented by potential contamination and the costs of its remediation. Decades of controversy over Superfund and cleanup of contaminated sites have fed a widespread perception that these projects carry massive hidden costs and risk.

Frequently, brownfields are not as polluted as they are perceived to be, but the inability to quantify that pollution adds another element of risk to the development process. Some buyers and landowners fear that if they do an assessment, a significant level of contamination will be discovered for which they can be held liable. Or they fear they will agree to a cleanup, only to have the cost of that cleanup skyrocket as unanticipated contaminants are revealed. Deep pocket owners, who want to avoid paying for cleanup, often prefer to simply sit on their properties, rather than determine the level of contamination. So long as the level of contamination is unknown, the stigma of being a environmentally suspect property can not be applied, nor any associations with Superfund made. Fear of having properties stigmatized in this fashion has sometimes led to resistance to state efforts to create lists of brownfields properties (nobody wants to be on "the list"), or to avoid the term brownfields entirely. In Dallas, for instance, no site can be called a brownfields without the permission of the owner. Owners who allow their sites to be classified as brownfields become eligible under the Dallas brownfields programs for certain types of assistance, but many owners have resisted the brownfields designation nonetheless.

In North Birmingham, Alabama, extending Finley Avenue is very important to the long term viability of the North Birmingham Industrial Redevelopment Project. The project area is a 900 acre site characterized by a combination of active industrial facilities, derelict and abandoned buildings, dilapidated housing and vacant space. The site is close to center of town, the Birmingham International Airport, and several interstate highways and rail lines. A mixed use redevelopment is planned, consisting of light industrial, commercial, residential and open space. Originally, the site was believed to be highly contaminated, and this perception prevented redevelopment efforts in the past. The extension of Finley Avenue, a main thoroughfare that crosses part of the site, has long been delayed due to perceptions that the area was too polluted to redevelop.

It has since been discovered that contamination at the site is far less than had been feared, and the city has developed plans to extend the road. The city examined each parcel for possible contamination by performing a historic survey of the site's prior uses. The idea was to do a rough assessment of the entire site, and then go back and concentrate on the "hot spots." Early

assessments performed by the city indicated the site was far less contaminated than had originally been perceived. "There was a certain degree of contamination, but there were no 'fatal flaws' at the site," explained John Gemmill, formerly of the city's Office of Economic Development. The most common contaminants at the site were heavy metals, arsenic, and petroleum products left over from the site's industrial past. Fortunately, no contamination was so severe as to require a major "dig and haul," and most contamination will be contained on site. Many areas of the site do not appear to be contaminated at all, although a full assessment of all 900 acres has not been completed. "The main environmental problem at the site is cleaning up its reputation," said Gemmill.

An Information Gap

For even the most motivated buyer, seller, or developer, projects will not succeed if information regarding cleanup standards, the regulatory process, financing, and state and federal brownfields programs is not easily available. Smaller municipalities, community-based organizations and developers in particular, may have less experience with redevelopment projects. On a federal level, there is no centralized location where people can access information about federal brownfields financing and programs. On the state level, many states have comprehensive Internet-based brownfields information, in terms of state regulations, requirements and financing. But few states have adequate information about what is taking place at the local level. Many community based organizations working on brownfields have little knowledge of what other organizations are doing, and no systematic way of finding out. Best practices and lessons learned at one site are not made available for the next site.

The town of Astoria, Oregon recently completed their first brownfields redevelopment project, and a large portion of the initial work was in learning what brownfields development in Oregon was all about. Said Paul Benoit, the Community Development Director of Astoria, "just learning how the Department of Environmental Quality works took time—finding out who to call, who to talk to, where to find the information we needed." Easily accessed information is not always available to developers, property owners, and municipalities.

TWO: UNLOCKING THE POTENTIAL OF BROWNFIELDS

With formidable barriers to successful brownfields redevelopment barring progress, how do stakeholders overcome obstacles and unlock the chain of brownfields development? Analysis of our case studies revealed the following factors as being essential assets for success:

Municipal Support

Case studies from the Northeast Midwest Institute's Lessons from the Field[24] cite the support of local government as critical to successful brownfields development, and our research yielded a similar conclusion. Municipal support is probably most significant in terms of the financing process, as local governments can leverage resources to fund development, as well as put the resources of local development, planning, and economic agencies to work on brownfields. Municipalities can offer tax incentives, implement GIS surveys, work with state agencies regarding regulatory requirements, and perform a host of additional activities that facilitate redevelopment.

Pittsburgh coordinates brownfields redevelopment through the city's Urban Redevelopment Authority, as part of the mayor's ambitious redevelopment agenda. In Birmingham, the mayor has likewise committed the city to redeveloping the North Birmingham Industrial Area, and increasing the amount of available industrial land in Birmingham. In Trenton, NJ, the city has made a strong commitment to brownfields and urban renewal, and provides financial resources and personnel through the Neighborhood Preservation Program. In St. Paul, Minnesota, the St. Paul Port Authority has a focused and entrepreneurial brownfields staff that sets the standard in terms of job creation. The St. Paul Port Authority requires that a full seventy percent of jobs created by redevelopment go to local residents. Clearly, having city government in the brownfields corner is a wise strategy. But the ability of local government to effectively participate in brownfields projects is contingent upon developing the internal capacity to manage a brownfields projects, a capacity which does not always exist.

Community Involvement

"Active and substantive community involvement is critical to the success of a project," stated many people interviewed for this report. Varying degrees of emphasis was placed on the value of community outreach and participation, but nearly all agreed that redevelopment projects would experience a great deal of difficulty without community support. One exception was a remediation firm VP who felt that brownfields should be considered strictly from an economic view, that EPA and others have just further complicated the process by "dragging in" issues of community outreach and environmental justice. However, it may be that to look at brownfields as strictly an economic issue is to not understand economic issues.

Community involvement that begins at the early stages of the project minimizes later conflicts and misunderstandings between the local community and the developer. Decisions regarding cleanup standards, end use and project development must be made with the active involvement of the affected community. At the end of the day, it is the local community that has to live with the project.

Even private sector redevelopment needs to invite the local community into the process, if only for the economic advantage it confers. Establishing a good working relationship helps build a well disposed pool of supporters, customers or tenants. Failure to do so can result in a shopping center no one wants to shop at, or housing that no one wants to live in, or commercial services no one wants or needs. [25]

The importance of community involvement has been accepted by many brownfields stakeholders. EPA builds community outreach requirements into its grant and loan programs, and a large number of state VCPs also require varying degrees of public notification and community involvement. Even private developers are starting to be more accepting of the need for community involvement, although some still feel it adds an extra layer of complexity to a process that is complex enough as it is. They raise the valid question of how much public input is appropriate in a private development deal, but are not blind to the advantages of having local residents on the side of the project. Not surprisingly, community development representatives were the strongest advocates for the need for decision making at the community level. "Communities must take ownership of the process," stated one city planner. A successful brownfields project marries economic issues with community development issues, and as such can play an important role in the overall process of urban revitalization.

We found a number of effective strategies for community participation. In the case of the Oregon Mill Site Conversion Project, the Rural Development Initiative (RDI) organized residents of each mill conversion project community into Local Action Committees (LAC), community-based redevelopment teams that meet regularly to discuss end use options and planning strategies. LACs are comprised of a wide range of stakeholders, including civic groups, government agencies, private sector companies, non-profit organizations, and environmental interests, who help to determine the best and highest use of the land.[26]

LACs help balance the need for jobs, economic activity and quality of life issues such as pollution, traffic and noise. They are formed in each project community, and throughout the process, mill owners go to the LAC for approval and consultation. "This project illustrates the importance of mobilizing local residents when reusing brownfields sites," explained Hanan Bowman, Project Manager at the Rural Development Initiative. "The redevelopment plans are being shaped completely by each community, rather than being introduced by outside entities. The master plans for each site have incorporated the recommendations of the Local Action Committees. Presenting a community that is organized, informed, and articulate will facilitate marketing of the sites to potential developers and companies."

According to Bowmen, many residents and local community groups are familiar with RDI and their work. And they understood the concept of LACs and advisory groups. What local people did not always understand was the process of determining end use. They questioned whether they had any say in what a mill owner could do with private property, or whether they had the right to tell an owner what to do with his or her land. RDI facilitated relationships between residents and mill owners and, as a result, two things happened: site owners learned that they need community support to redevelop their property, and the community learned it had a right to participate in end use decisions.

When the Circle F factory in Trenton, NJ first closed down, area residents were not too concerned. They were not aware of possible contamination, and took little interest in the site. As time passed, the property became derelict and served as a hang-out for drug dealers and others. Area residents wanted the site cleaned up, but did not know they had the power to do anything about it. Residents barely knew each other. As Barbara Grasso of the Circle F Civic Association put it, "We were just a bunch of people living on the same street."

In 1991, Doug Hughes, Director of the city's Neighborhood Preservation Program, came to Circle F. The Neighborhood Preservation Program targets areas in Trenton that have problems and lack organization. Hughes's job was to empower the Circle F neighborhood.
He began by passing out a questionnaire to all residents asking for "all the things wrong with their houses," (as one resident phrased it), and developing a home maintenance and repair program. "The residents thought he was crazy," said John Grasso of the Civic Association. "We did not know who he was or what he wanted. We had never heard of the Neighborhood Preservation Program." Hughes explained how the program worked, and helped area residents form the Circle F Civic Association. "You need to ask people what would serve them best, " stated Hughes. "Local residents need a stake and ownership in the process." He helped them to articulate their wants and needs for the neighborhood. He taught residents how to present an issue to City Hall. They started with neighborhood improvement projects such as new sidewalks, and new trees. Then they tackled the Circle F factory. "Doug came to us and asked us what we wanted to do with the factory site," explained John Grasso.

Residents met to discuss possible end uses for the site. They felt that there was not enough low income housing in Trenton. However, they believed that senior citizens would fit best into their neighborhood. They reached a consensus that the portion of the site owned by the City would be redeveloped into senior low income housing. With help from Hughes, they prepared to meet with the City Planning Board to present their idea. "Part of the process is explaining to residents that they have as much right to be at the table as anyone else," said Hughes. Thirty residents attended the Planning Board meeting. The Planning Board, after much discussion, accepted the idea of senior low income housing for the site.

From that point on, the Civic Association was involved with every step of the process. They were kept abreast of assessment and remediation issues. After an extensive search for a neighborhood-friendly developer, the Civic Association selected Lutheran Social Ministries (LSM), a local company. Residents felt it was extremely important to have a developer that would not only develop the property, but manage it, as well. And they wanted local people who would be willing to make a long term commitment to their neighborhood. "LSM was very open to residents," stated Barbara Grasso. The Civic Association selected a local architect who designed a housing complex that would blend in with the neighborhood, and encourage interaction between the seniors and the residents. The result is an attractive 70 unit housing complex, with a community center and a large front porch area on street level where the neighbors can meet and greet.

Residents expressed concern regarding the industrial portion of the site and over the type of tenant that might move in. In the end, the site was leased to Merlin Industries, a pool cover manufacturer. The production process is clean and quiet and employs a number of people from

the local area. Residents say they have had few or no problems or complaints with Merlin. Both Merlin and LSM were conscientious about minimizing disruption and disturbance during redevelopment, and the lines of communication were always open.

Residents talk of the tremendous improvement in the quality of life in the Circle F neighborhood, and praise the efforts of Doug Hughes, LSM and City Hall. The project empowered them to change their neighborhood for the better.

In Minneapolis, MN, residents of neighborhoods near the Quarry Retail site long worked to bring a large supermarket to their area. When early redevelopment proposals for the site were presented by the city, local residents sent city planners back to the drawing board. A Retail Task Force was formed by the local community, and they worked with the city and the developer to come up with a redevelopment plan that enjoyed broad support. A strong public/private partnership was forged between residents, the developer and the city, with the local community involved in every step of the project.

Examples of this nature are numerous, and make it clear that involving the local community in redevelopment is frequently an important component of successful projects.

Partnerships

Community participation, private sector cooperation and the support of local government are important factors in and of themselves. But projects that combine all these elements as part of a cooperative effort have the greatest chance of success. Strong partnerships among local government, local communities, non-profits, and the private sector boost the rate of success, for a number of reasons. A greater number of financial and technical resources can be accessed through a joint effort between public and private entities. Task management becomes easier, as each partner can assume different responsibilities and concentrate on separate issues. Most importantly, conflicts over end use, cleanup or design, can be addressed far more easily when stakeholders have developed a cooperative relationship to achieve a common vision for the site. Many successful brownfields projects happen within the context of a strong partnership between the aforementioned stakeholders, including the ten case studies outlined in this report. Particularly for sites too marginal to be developed exclusively by the private sector, strong public/private partnerships are the defining factor of successful brownfields redevelopment.

Public/private partnerships are also important to workforce development. As previously discussed, redevelopment creates job opportunities. Working with the private sector and local government, community-based organizations can identify the types of jobs the project will create (remediation, construction, commercial, retail, etc.) and the skills needed to fill those jobs. Community-based organizations then can develop job training strategies and work with project partners to match local residents to employment opportunities and obtain hiring commitments for local residents as part of the redevelopment package.[27]

The participation of non-profits is increasingly common on brownfields redevelopment. Indeed, the role of the non-profit intermediary in the brownfields redevelopment process deserves special consideration. Many demands of the brownfields market have not been met by the government

or private sector, and organizations such as The Clean Land Fund, the California Center for Land Recycling, and the Consumers Renaissance Development Corporation (to name a few) have stepped in to occupy niches left vacant by other stakeholders.

These programs provide technical assistance, financing, risk management, information, and advocacy and a host of related services to the owners and developers of contaminated property. "With a diverse set of tools and approaches, these groups are working with public and private sector partners to facilitate the brownfields process."[28] The advantages of a brownfields non-profit intermediary, as outlined by Clean Sites and the Phoenix Land Recycling Company, are numerous, including:[29]

- Projects are not driven by the need to maximize a profit margin, enabling non-profits to consider sites the market might avoid.

- Non profits are eligible for public and private grant funds to help finance activities.

- As a public charity, nonprofits can develop a social policy agenda and emphasize community development in their programs.

- Nonprofits are more flexible than government agencies, making them better able to respond to the needs of the market.

- The ability of nonprofits to buy options and own property provides a mechanism for communities to control reuse in ways zoning cannot, which can help balance the public and private needs at a site.

Clearly, the positive impact nonprofits can have on brownfields redevelopment is considerable and strategies to build nonprofit capacity require further consideration.

In Oregon, the Rural Development Initiative (RDI) works with its other partners in the Oregon Mill Sites Conversion Project to redevelop old timber mill sites. RDI serves an important role as both a financial and development intermediary for each site. By securing federal and private dollars, RDI assists mill owners with the task of financing the up front costs of assessment and wetlands delineation. By coordinating the assessment process, RDI is able to reassure mill owners concerned about liability for contamination. By coordinating community participation and input, RDI helps the communities articulate the best end use for their site.

In California, two non-profit organizations, local residents and the city of San Diego together are coordinating efforts to remove and redevelop the chemical plating and manufacturing facilities that infest the Barrio Logan neighborhood. "For years the community has tried to get the city to remove the polluting businesses from the area, especially the plating shops," stated John Lemmo of the Environmental Health Coalition.

The Environmental Health Coalition (EHC) and the Metropolitan Area Advisory Council (MAAC) are working with local residents to create a safer, more livable community. EHC is a community based organization—founded in 1980 to provide technical and organizing assistance to populations adversely affected by toxic chemical—that has worked in the Barrio for years, and

most residents are members or supporters. MAAC is a local developer that in 1994 built the Mercado Apartments, the first new housing in the Barrio in decades. The city will be responsible for assessing, remediating, and clearing the property. MAAC will act as the developer. EHC is responsible for community outreach and participation.

From the beginning, EHC and MAAC held public forums to determine how the community wanted brownfields properties redeveloped. These meetings revealed that new affordable housing was the most pressing need in the community. To maintain community participation and input, EHC has assigned five community organizers to the area. Each organizer is assigned fifty families, and is responsible for keeping them informed about what is going on. The goal of EHC is to rectify the incompatible land use problem that plagues the area and bring zoning in line with the economic, health and social needs of the community. "EHC and the community are now using the brownfields issue to relocate the plating shops and redevelop the area for residential or commercial use." said Lemmo.

EHC has worked with MAAC Project for many years. MAAC is serving as developer for this project, and will be responsible for building the housing units. MAAC is a familiar and well-liked face in the neighborhood, responsible for building the successful and well administered Mercado Apartments. At each facility they build, MAAC assigns a Resident Services Coordinator who is responsible for coordinating programs such as day care and job training with residents. In addition, MAAC provides child care at each of their projects. Because of their previous work in the Barrio, they are on good terms with the community. And despite a language barrier and a history of being ignored by the city, the residents of Barrio Logan are not a passive group. They are highly empowered and motivated, and are full partners in the brownfields process.

Location, Location, Location…(Again)

Just as poor location, crumbling or obsolete infrastructure, limited access to transportation routes and unsafe neighborhoods are real estate issues which serve as a barrier to brownfields redevelopment, the right real estate issues can aid immeasurably to project success. A well located site, with access to major transportation routes and other necessary amenities enjoys a greater likelihood of successful development, for reasons which are not hard to understand.

In Birmingham, Alabama, the redevelopment of the North Birmingham Industrial Project was predicated, to a large degree, on the site's excellent location. The site is close to center of town, the Birmingham International Airport, and several interstate highways and rail lines. Trucking routes from all over the state converge at this site, and many of the new businesses planned for the site will serve the trucking industry. "The site is right where it needs to be," said Annie Davis, a local resident and volunteer on several community-based organizations. "All we have to do is get it cleaned up and ready to go."

The Quarry Retail site in Minneapolis, MN was targeted for redevelopment primarily because it was well located with access to major transportation routes. Despite the fact that the site was contaminated, and presented definite redevelopment challenge, its excellent location convinced city officials and the developer that the site's advantages outweighed its disadvantages. In

Birmingham, the North Birmingham Industrial Development Project is ideally suited adjacent to several major highways and minutes away from the Birmingham International Airport. Truck access is especially important for this area, as much of the redevelopment will center around distribution and manufacturing. Location of the site is extremely important to the long range success of the redevelopment effort.

EPA Support

Ground zero for brownfields activity is the EPA, led by its Brownfields Economic Redevelopment Initiative. The Initiative, as stated by the EPA, "is designed to empower states, communities, and other stakeholders in economic redevelopment to work together in a timely manner to prevent, assess, safely clean up, and sustainably reuse brownfields."[30] To achieve that objective, EPA has launched a sizable effort that approaches brownfields redevelopment on several fronts, including liability and cleanup issues, financing, job development and training, community development and participation, environmental justice, and sustainable development.[31] The first, and the most well-known initiative, is the Brownfields Assessment Demonstration Pilots.

Since 1995, EPA has designated approximately 230 cities, towns, counties, and tribes as Brownfields Assessment Demonstration Pilots (Pilots). Pilot program participants receive up to $200,000 each for a two year period to fund brownfields redevelopment. Pilots are awarded on both a national and regional basis, with National Pilots selected through a competitive application process, and Regional Pilots picked by the EPA Regions which use their own selection criteria.[32] (Privately held sites are not eligible for the pilot program). EPA specifies a set of activities on which pilot grants can, and cannot, be spent. In general, pilot money can be used to fund preliminary redevelopment activities, such as site assessments, program development, community outreach, and planning. Funds can not be used for actual cleanup activities such as site remediation or demolition. Pilot funds can be applied to redevelop a single property, or start a citywide brownfields program. [33]

The pilot program is arguably the most effective EPA initiative to spur brownfields redevelopment. Many people interviewed for this report cited EPA pilot grants as the impetus for developing a particular site or initiating a brownfields program. In more than one instance, EPA involvement was deemed "crucial" to the success of brownfields efforts. In addition, the media often played up the awarding of pilot grants, raising the program's visibility. In response, EPA has continued to expand the pilot program. EPA expects to award up to100 Assessment Pilot grants during fiscal year 1999.[34] EPA pilot grant funds have been important to several of the case study projects examined in this report, including Bridgeport, San Diego, Dallas, Salt Lake City, Trenton, Chattanooga, Birmingham, and Oregon.

In addition to funding brownfields pilots, EPA continues to work on clarifying liability issues for lenders, property owners, and prospective purchasers. The intent is to increase the number of people willing to invest in brownfields.[35]

Recognizing the powerful job creating potential of brownfields redevelopment, EPA recently awarded eleven cities with Brownfields Job Training and Development Demonstration Pilots.

The intent of EPA's workforce development program is to provide local residents with the training they need to fill job opportunities created by brownfields redevelopment. Each city will receive funds up to $200,000 over two years, to be used to develop job training programs for affected residents. Eligible applicants include colleges, universities, nonprofit training centers, community job training organizations, states, cities, towns, counties, U.S. Territories, and Federally recognized Indian Tribes, and must be located within or near one of the 230 brownfields assessment pilot communities. According to EPA, the goals of the pilots are "to facilitate cleanup of brownfields sites contaminated with hazardous substances and prepare trainees for employment in the environmental field, including training in alternative or innovative treatment technologies."[36]

EPA works to form partnerships with states, tribes, municipalities, and other federal agencies to encourage a broad spectrum of brownfields activity. EPA has assisted several states with developing Voluntary Cleanup Programs (VCP). VCPs establish a set of rules and regulations governing the cleanup of brownfields properties, and generally contain mechanisms to address issues of liability and legal responsibility. Rules vary from state to state, as do the types of funding, technical assistance and liability relief. The majority of states have established programs to encourage brownfields redevelopment.

EPA has also joined with the Clinton Administration in an initiative called the Brownfields National Partnership Action Agenda. This initiative is designed to encourage brownfields redevelopment by building partnerships among federal agencies, community development organizations and the private sector. As part of that effort, EPA and the Clinton Administration have designated 16 cities Brownfields Showcase Communities. These communities, among them Trenton, Dallas, Chattanooga and Salt Lake City, will have access to additional federal resources and funds, and "provide a pattern for future interagency cooperative efforts in addressing environmental and economic issues."[37]

Voluntary Cleanup Programs

According to EPA, more than thirty-five states now have voluntary cleanup programs (VCPs) under which private parties that voluntarily agree to clean up a contaminated site are offered some protection from future state enforcement action at the site, often in the form of a "no further action" letter or "certificate of completion" from the State.[38] "The level of certainty state VCPs bring to the process has been critical" declared one respondent. EPA does note, however, that State law does not supersede EPA's authority under CERCLA. To establish a VCP, a state will negotiate a Superfund Memorandum of Agreement (SMOAs) with its regional EPA, specifying which sites will be covered and what liability protection will be offered.[39] Those states without VCPs have, for the most part, instituted similar brownfields programs. Some states have gone further and developed financial assistance programs, and incentives to encourage the private sector to invest in brownfields.[40] As a result, state activity on brownfields has increased over the past several years. A study conducted by the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) compared state activity from the years 1980-1992 to activity from the years 1993-1997. They found that states have completed on average almost twice as many removals (removal of contaminants), and completed seven times as many sites during 1993-1997 than in the previous twelve year period. In addition, states have

identified and are working on three times as many contaminated sites now than during the previous twelve year period. The report surmises that "the large increase in completions can be attributed to the growth of state programs, the advent of state Voluntary Cleanup Programs, and the development of state cleanup standards (i.e., clearly defined "endpoints").[41]

State Highlights

In New Jersey, brownfields sites are found in over 150 cities including Newark, Camden, and Trenton.[42] The state Department of Environmental Protection (DEP) has launched major programs to encourage smart development of contaminated industrial sites. The Industrial Site Recovery Act (ISRA), as amended in 1996, provides for a cleanup program that includes:[43]

- offering low-interest loans for cleanup to private parties, including responsible parties and developers;
- providing flexibility for private parties to remediate sites on a schedule outlined in a non-binding Memorandum of Agreement (MOA) signed by the state;
- setting risk-based cleanup standards based on planned end use;
- allowing engineering and institutional controls in place of permanent remedies, in some cases;
- providing finality in the form of no further action letters.

In addition, ISRA streamlined the site remediation regulatory process, resulting in the submittal of over 550 applications in the program's first month. It currently receives about thirty applications per month, and the agency is overseeing cleanups at thousands of contaminated sites.[44]

New legislation signed in January, 1998, by Governor Christie Whitman boosted state brownfields activity by offering developers "protection from liability for third party claims if they did not cause the past contamination and they have cleaned up the site in accordance with DEP regulations."[45] Further, the Brownfields and Contaminated Site Remediation Act created a fund to reimburse developers for up to seventy-five percent of their redevelopment costs.[46] The Act also allows municipalities to grant local property tax exemptions.[47]

With these incentives in place, redevelopment costs in NJ are approaching the traditionally low cost of greenfields development.[48] The state is overseeing cleanup at over 6500 sites, and under the Hazardous Discharge Site Remediation Fund has issued $20 million in low-interest loans and grants to municipalities.[49] Grants may be used for assessments and investigations, while loans are designated for remediation. Municipalities, businesses and individuals are all eligible for Fund money, provided they are not receiving similar funds from another source.[50] Although the rate of successful redevelopment varies from city to city (Elizabeth is notable for its success; Camden still struggles to get the process on track), overall New Jersey's brownfields development is gaining momentum and is well-positioned for the future.

Brownfields redevelopment in Pennsylvania is coordinated through the Pennsylvania Land Recycling Program, created in 1995 by three separate pieces of legislation: Act 2 is the Land Recycling and Environmental Remediation Standards Act; Act 3, the Economic Development Agency, Fiduciary and Lender Environmental Liability Protection Act; and Act 4, the Industrial Sites Environmental Assessment Act.[51] The Land Recycling Program identifies risk-based standards for cleanup, simplifies the approval process, and limits future liability when cleanup standards are achieved.

In fact, the Act gives a full statutory release of liability to anyone who meets one of the three cleanup standards. The standards are outlined in Act 2, and include 1.) Background: Restores a site to its condition before the contamination occurred; 2.) Statewide Health: Regulations developed to establish statewide health standards for containment for each environmental medium; and, 3.) Site-Specific: This approach is a more detailed process that involves developing a risk assessment based on the conditions and human exposures at the site.[52]

The Land Recycling Program also provides several financing options to developers of contaminated properties. According to the Pennsylvania Department of Environmental Protection (DEP), Act 2 establishes the Industrial Sites Cleanup Fund. This $15 million fund is designed to help innocent people (those who did not cause the pollution) conduct voluntary cleanups; grants or low-interest loans are provided to cover up to seventy-five percent of the cost of completing an environmental study and implementing a cleanup plan.[53] Act 4 establishes the Industrial Sites Environmental Assessment Fund, a fund that allows the Department of Commerce to make grants to municipalities, municipal or local authorities, nonprofit economic development agencies, and similar agencies. The grants are to finance environmental assessments of industrial sites located in municipalities that have been designated as distressed communities by the Department of Commerce. Certain cities are eligible for grants to conduct environmental assessments and remediation activities. Up to $2 million will be provided annually to the fund from the Hazardous Sites Cleanup Fund.[54]

In addition to clarifying cleanup standards and providing financing, the PA Land Recycling Program has incorporated other elements that contribute to the success of the program. A strong community outreach component has been developed, with strict "plain language" public notification requirements of site cleanup standards and remediation. To make DEP more responsive to applicants, the Land Recycling Act establishes a firm timeline within which that application must reviewed. If DEP fails to review the application within sixty days, it is deemed approved and a release of liability is granted. Setting quick turn-around time on an approval speeds up the redevelopment process and builds good customer relations between applicants and DEP. It emphasizes the fact that the state looks upon redevelopment as a priority, and is willing to work with the brownfields stakeholder to get the job done, an important factor in the development and success of the Land Recycling Program. The success of the program can be measured by the number of cleanups that occur. As of September 1998, according to the Northeast Midwest Institute, 343 cleanups were done on 313 properties; 618 Notices of Intent to Remediate (NIR) were filed for 517 properties; cleanups have occurred in sixty of sixty-seven counties; and 15,000 jobs have been created.[55]

A review of each state's VCP, or an analysis of VCP issues, problems and benefits, is beyond the scope of this report. For the most comprehensive outline of state brownfields programs, see *The Matrix of Brownfields Programs By State*, compiled by Charles Bartsch and the Northeast Midwest Institute (NEMW). For an analysis of the economic impact of brownfields programs at the state level, see NEMW's *Brownfields Program Impacts: Reuse Benefits, State by State*.[56]

Risk-Based Corrective Action

Another aspect of the state VCPs that has been important to the success of brownfields is the adoption of Risk Based Corrective Action (RBCA), which allows developers to tailor cleanup standards to reflect the end use of property. Previously, all sites had to be remediated according to health-based, or residential, standards. This level of cleanup had to be attained, even if the site was being redeveloped for industrial use, or the contaminants could be safely capped. Not surprisingly, the cost of cleaning up sites to this standard far exceeds clean-up costs for industrial, commercial, and business uses.

Parties seeking to redevelop a site for non-residential purposes were reluctant to pay the extra cost of a residential cleanup. The use of RBCA has lowered the cost of numerous economically unfeasible projects, by reducing the cost and time of remediation. For example, the Quarry Retail Project in Minneapolis saved approximately $8 million in cleanup costs by capping certain contaminants instead of excavating them.

In 1995, Oregon cleanup laws were changed to allow for the use of risk-based cleanup standards, enabling mill owners to tailor cleanup to match end use. Remediation varied with the amount of contamination. Oregon also has a Voluntary Cleanup Program (VCP), and sites in the Conversion Project have the option of participating in this program. For many sites, contamination was so minor and did not require participation in the VCP. In Astoria, the assessment revealed a high level of contamination. In an effort to access greater resources for the property, the city encouraged the mill cooperative to enroll in the state VCP. The mill cooperative paid the Oregon Department of Environmental Quality (DEQ) the requisite $5000 to participate. In return, DEQ reviewed and analyzed all existing information on the site, including the Phase I assessment. From this, DEQ put together a briefing report about what site conditions and what issues would need to be addressed to remediate and redevelop the site. "The city did not have the resources to bring in a lot of expertise or visibility to the site," stated Paul Benoit, Astoria Community Development Director. "The city was just winging it. That's why we helped get the site into the VCP."

DEQ's Phase I and Phase II Environmental Assessments at the Astoria site revealed soil contamination resulting from previous plywood mill operations. The major contamination source was total petroleum hydrocarbons (TPH), and was concentrated in the area where the processing building had been. Fortunately, no significant groundwater contamination was detected. According to the city of Astoria "DEQ's removal assessment and removal action field investigation of the Mill Site included excavating twenty-seven test pits, installing nine groundwater sumps, groundwater sampling, light nonaqueous phase liquid (LNAPL) measurement, and surface water and sediment sampling from the log pond."[57]

Due to the hazardous nature of the contamination, DEQ decided that removing the contaminants through soil removal and on-site treatment and recovery was the proper remedy. The remediation was completed in October 1996. A developer expressed interest in the site and, together with the city, sought protection from future liability at the property. To that end, the developer entered a Prospective Purchase Agreement (PPA) with DEQ. According to Oregon State law, "the PPA limits the extent of liability of the prospective purchaser for the costs of environmental contamination cleanup and functions to insulate the owner and its successors from liability arising from contamination of the site in the past. A PPA also stipulates cost sharing and recovery provisions, on-going requirements for testing and access by DEQ, and mandates the involvement of DEQ in redevelopment planning activities, but not the actual redevelopment of the property."[58] The protection this agreement offers increases the "comfort level" of the developer significantly.

However, some have raised red flags that RBCA may compromise the health and well being of communities in the interests of economic development, particularly low income and minority communities. Some stakeholders fear that cleanup standards are being relaxed inappropriately in order to move projects forward. The issue of tracking institutional controls over capped contaminants is also a concern, and stakeholders are worried that EPA and others are not doing enough to track and safeguard end use requirements (that is, ensure that thirty years down the road, a site that was cleaned to industrial standards is not turned into a housing complex). This is a real concern. The promise of brownfields redevelopment will mean little if projects jeopardize the health and safety of local residents.

Early and active community outreach efforts are important in convincing the affected community that the containment and/or remediation being carried out within their neighborhoods is not a threat to health and safety. In addition, strong institutional controls over end use must be put in place at any site where pollutants have been contained or capped. Developing strict, effective institutional controls and strong enforcement mechanisms is absolutely crucial. Institutional controls should be monitored by the local community and city governments, as opposed to the developer or buyer. Also, as RBCA standards are applied to site cleanups, more rigorous assessments should be required; if contaminants are going to be left behind, the community has the right to know what is there.

Project Managers/Advocates

Lastly, many people suggested that the power of a strong project manager cannot be underestimated in moving a project forward. Sometimes it takes one person, or group of persons, who are willing to jump through the regulatory hoops, fill out the grant and loan applications, ferret out innovative sources of financing, interface with the local community, and rally support from all quarters necessary to project redevelopment. Project managers can work to ensure that the jobs created by redevelopment are quality jobs and that many of those jobs are earmarked for affected residents. Project managers can coordinate job training activities to complement the jobs created at all phases of redevelopment. A well motivated, well organized individual is "a brownfields' best friend," and the ideal brownfields advocate is one who is committed to the project both economically and ethically, with a continuing stake in the local community.

Even with all these elements in place, brownfields redevelopment will fail if adequate funding is not available. Fortunately, a number of options exist, including state and federal programs and private sources.

THREE: THE MAZE OF BROWNFIELDS FINANCING

BROWNFIELDS AT WORK: SITE STUDIES AND LESSONS

Throughout the 20th century, heavy industry dominated the city of Birmingham, Alabama. Iron, steel, and coal plants occupied much of the North Birmingham area, employing thousands of people and creating neighborhoods and mill towns throughout the area.

In the 1950s, the heavy industry heyday of Birmingham ended, as foundries reorganized or closed and the heavy industrial base of the city eroded. The surrounding mill towns—and their residents—experienced a similar decline. Unemployment rose as hundreds of jobs disappeared, and the neighborhoods were littered with moribund factories, dilapidated housing and vacant lots.

In 1992, the city of Birmingham conducted a survey of all its industrial property located in the state Economic Zone (EZ). The city's Office of Economic Development (OED) identified twelve areas for redevelopment, including the North Birmingham industrial area.

To determine its redevelopment options, OED assessed the North Birmingham site. The city examined each parcel for possible contamination by performing a historic survey of the site's prior uses. The idea was to do a rough assessment of the entire site, and then go back and concentrate on the "hot spots." Early assessments performed by the city indicated the site was far less contaminated than had originally been perceived. "There was a certain degree of contamination, but there were no 'fatal flaws' at the site," explained John Gemmill, formerly of the OED. The most common contaminants at the site were heavy metals, arsenic, and petroleum products left over from the site's industrial past. Fortunately, no contamination was so severe as to require a major "dig and haul," and most contamination will be contained on site. Many areas of the site do not appear to be contaminated at all, although a full assessment of all 900 acres has not been completed. "The main environmental problem at the site is cleaning up its reputation," said Gemmill.[59]

The North Birmingham Industrial Site has much to recommend it, as well as some extremely imposing barriers to overcome. In its favor, the 900 acre site is located close to the center of town, close to the Birmingham International Airport and several interstate highways and rail lines. The area is the epicenter of trucking routes throughout Alabama and other parts of the South. As a result, the site is ideally located to support trucking and distribution industries and related services, in addition to other industrial and commercial use.

The barriers to redevelopment are formidable. The first major stumbling block was the perception that the site was highly contaminated and therefore undevelopable. The extension of Finley Avenue, a main thoroughfare that crosses part of the site, was long delayed due to the perceptions that the area was too developed to redevelop. In addition, a large portion of the site lacks roads and other infrastructure. The site is traversed by several active rail lines, presenting rail right-of-way issues and potential traffic problems due to numerous rail crossings.

The site is divided into hundreds of parcels owned by hundreds of people. Coordinating acquisition and land assembly will be a challenge throughout the life of the project. In several neighborhoods surrounding the site, the housing is in very poor condition, and some residents

will be relocated to other parts of the city to make room for redevelopment projects. Relocating residents is always a delicate and difficult process. The site also has a high crime rate, worrisome to potential business owners and investors.

Finally, the site is located in a low income area, even to the point of severe economic distress in some neighborhoods. A major financial commitment would be needed to redevelop the area, improve housing conditions, relocate some residents, clear properties, build and improve roads and other infrastructure, and remediate contamination. Securing adequate financing from a number of sources would prove to be a challenge.

The local consulting firm of Cecil Jones & Associates was hired to develop a site Master Plan and conduct a marketing survey. At the same time, the city and the community councils organized a series of stakeholder meetings to come up with ideas about what the community wanted and expected for the site. Each time the city submitted a plan or idea to the community, they would work together to reach consensus. "The city knew the project has to come from the community," stated Annie Davis of the North Birmingham community.

In order to assess the housing needs of local residents, the Greater Birmingham Ministries (GBM) conducted a door-to-door survey of 141 North Birmingham residents. According to GBM, residents cited churches, library, grocery stores and public transportation as the most positive aspects of their community. Residents identified drugs, crime and overall quality of life as the most negative features of the area.[60]

The initial survey of the city's industrial properties was financed by a grant from the Economic Development Agency (EDA). A second EDA grant of $50,000 financed the assessment of six industrial properties, including the North Birmingham site. A third EDA grant of $185,000 financed the planning process, including the Master Plan and the marketing survey.

In 1995, a public meeting was held at which the mayor officially launched the project. The Master Plan specifies the type of redevelopment that will take place in stages over the course of several years: Distribution Center (Phase I), Business Park (Phase II), Retail Center (Phase III) and Central Industrial Park (Phase IV).

In 1995, EPA awarded $200,00 to the city, one of the first brownfields pilot grants. The pilot grant was used to establish the Birmingham Environmental Clearinghouse, a non-profit organization designed to address environmental issues and conduct community outreach and education. The Clearinghouse then established the North Birmingham Economic Revitalization Corporation (NBERC) to coordinate redevelopment at the site. The board of NBERC is made up of local residents, bankers and business people and is responsible for making decisions on acquisition of property, the hiring of contractors and similar activities. It is one of a few community development corporations whose primary focus is industrial redevelopment. NBERC is also authorized to buy and sell property at the site, with funds raised from the sale of property used to finance the next purchase. The Clearinghouse and NBERC work very closely together, with the Clearinghouse providing staff to NBERC when necessary.

The city of Birmingham had planned to use $500,000 in CDBG funds to acquire the first 25 acre parcel, but failed to get the application in on time. Instead, NBERC worked with AmSouth Bank—a VP of which is on the NBERC Board—to provide $500,000 in financing to purchase the site. NBERC has purchased additional parcels at the site, and will channel proceeds from future property sales to property acquisition.

Remediation of the first twenty-five acre parcel was delayed due to inadequate funding. The city had not been able to provide or coordinate the funding for cleanup at the site. Eventually, remediation was paid for by an outside company that was settling a fine with EPA, through a system that allows fine money to be used on unrelated cleanup activities. From this transaction, $225,000 was made available for site remediation. For future cleanups, money will be provided by the city, and funds will be raised through the sale of parcels in the site. Overall, the city has spent over $2 million on assessment, remediation and relocation of residents.

The focus of this project is job creation and the redevelopment is expected to create over 2000 jobs. It is understood that a large portion of those jobs should go to local residents, although this has not been specified in a written agreement. The project area is within a state EZ and there are tax benefits to hiring local residents. In addition, each potential tenant will have a meeting with NBERC and local residents. The company will have the opportunity to explain how many jobs they already have (if they are expanding) and how many will be created. The Clearinghouse and NBERC hope to set up job training and assistance for local residents as new industries move in. They intend to work with incoming businesses to ascertain what type of employees and skills the company will be looking for, so that local people can be trained and ready for hire by the time the company moves in.

As of April, 1997, three new companies have located in the project area. KMAC, a company that sells industrial byproducts, invested $300,000 of its own money in locating to the project zone; $150,000 of this amount went toward environmental assessments. Kenworth of Birmingham located on a ten-acre plot, investing $6 million of its own money. Tire Engineering invested a total of $1 million to redevelop a five-acre property.[61] The first three companies to locate on the site have created approximately 200 jobs.

In 1997, EPA awarded the Clearinghouse with a $100,000 Environmental Justice Grant. . According to the Clearinghouse's Winter 1998 newsletter, the grant will be used to "empower communities along Village Creek to address and develop workable solutions to some of the problems plaguing Village Creek."[62]

Even prior to this project, Birmingham was recognized for its citizen activism. The Citizen Participation Program was established by the city over twenty-five years ago. The city is divided into ninety-nine neighborhoods, and neighborhoods are grouped together to form communities. Each neighborhood elects a Neighborhood Council, with an officer, president, vice president and secretary. In addition, approximately twenty-three neighborhood representatives are selected to serve as community officers. Elections are held every two years, and service is strictly volunteer. The community officers meet monthly at City Hall. Neighborhood councils also meet monthly. Each group prioritizes the needs of their neighborhood or community and then works with the city to try to get those needs satisfied. Neighborhood Boards receive

approximately $4000/year to fund their activities. Neighborhood councils help city government and the mayor to gauge public opinion and try to resolve problems throughout the city.

The community is very excited about the redevelopment of site. Local residents had been told the area was going to be redeveloped before and nothing happened. Even in this instance they were skeptical, until the EPA grant arrived and the Clearinghouse was established. From the very beginning, people have been aware of every step of the project, and the Clearinghouse and local councils have worked to ensure there are no surprises for area resident. Meetings and education forums are held on a regular basis, including a yearly education program in North Birmingham's schools. "The Clearinghouse is here to empower the community and strengthen decision making at the local level," said the Clearinghouse's Howard Johnson. "The biggest challenge lies in maintaining interest and participation in the project so people stay informed and involved."

The most contentious issue the community has had to address has been the relocation of people living on the site. A number of residents have been unhappy with this. Even though they are living in sub-standard housing, some just do not want to move. The Clearinghouse and the local community are working with the city to ensure that relocation and compensation are fair, and most relocated residents have been satisfied with the process. The Clearinghouse will work to make sure this process, and the redevelopment process overall, continues to go smoothly. "The redevelopment plan is very sound," said Strother. "The road can be rocky at times, but the process is working well."

"Community organizations bring tremendous value to a project, "explained Gemmill. "They know the history, the prior use and the politics of an area. " The activism of the local community, the Birmingham culture of community participation, and the presence of community based organizations such as the Clearinghouse and the North Birmingham Economic Revitalization Corporation have come together to create a redevelopment process that is high quality and truly inclusive. From this effort, the local community is building a better neighborhood, attracting thousands of employment opportunities and creating a cleaner and healthier environment.

Redevelopment is proceeding at the site, with the first projects completed, and several more in the works. A change in the business climate is also taking place. The area had been redlined by the business community as a bad investment, and the city needed to prove that the area was economically viable. Since it has convinced two credible businesses to locate on the site, the local business community is taking a stronger interest in the area. NBERC continues to work on getting the corporate community to support the process.

In June 1999, the fourth new redevelopment, American Metals Products, was completed and open for business. Sixty people have been hired, many of which live in the local area. The Kenworth of Alabama project, a ten acre parcel, is moving forward. The site will be redeveloped into a new truck dealership and service shop. NBERC has purchased most of the property, except for a number of houses that will be demolished. It took several meetings to have this project approved and to secure the money to relocate the displaced residents, and the neighborhood was very involved with the decisions regarding this property. Construction is

scheduled to begin in the Fall 1999. The Clearinghouse is essentially out of money, but is working with the city to secure more funds. It is likely that the city will come through.

Some conflicts remain to be resolved. There is still concern regarding the relocation of residents, and the Clearinghouse and community leaders must ensure that relocation continues to be handled in a fair and equitable manner. In addition, there is a great deal of concern regarding upcoming mayoral elections. The current major, who has been a strong supporter of the project, is stepping down after several terms in office. The future of the project could be jeopardized if a less supportive administration takes office. Elections will take place in November 1999.

Finally, efforts must be made to keep the community interested and involved. "The size of the site is sometimes overwhelming," explained Davis. "And we need to let people know that improvements to one area benefit everyone."

Despite huge barriers and daunting challenges, this project is working, benefiting local residents and the business community alike. This success can be attributed to several characteristics of the North Birmingham project. First, the site is ideally located for industrial and manufacturing redevelopment. It is close to several interstates, the city center, the airport and truck routes. "The site is right where it needs to be," said Davis. "All we have to do is get it cleaned up and ready to go."

Second, there is a high level of community participation. The city of Birmingham has a tradition of community activism through its Citizen Participation Program. Local residents in North Birmingham were already well organized and empowered when planning for the project began. They were very well positioned to take part in the process and make their voice heard. The local community took ownership of the project from the beginning, and they have been included in every phase of planning and redevelopment. Maintaining this high level of support and participation is crucial to the project. "The community has to stay involved," explained Gemmill. "They are the guardians of quality."

Third, the Clearinghouse and NBERC provided crucial support. The complexity of the brownfields process is such that the Citizen Participation system would have been insufficient in educating the community, addressing environmental issues, and participating in redevelopment. The role of these organizations can not be overstated.

Fourth, the city supported the redevelopment process. Not only supportive, but willing to commit significant financial and personnel resources to the project. The current mayor has made the redevelopment of North Birmingham a high priority, and it is extremely important that the next administration does the same.

Fifth, the city, the local residents formed a strong partnership. The working relationship between the city and the local community has been one of the keys to the success of this project. Through the Citizen Participation Program, the city and local communities have established clear, institutional lines of communication that are crucial to project success.

These elements combined to make the early redevelopment a success. If these elements remain in place and both the city and local residents maintain there strong commitment to the project, future redevelopment will be equally successful.

First Stop For Financing: EPA

For many projects EPA is the first stop stakeholders make in the search for funding, especially through the pilot program. But with over 425,000 brownfields sites in the country, the approximately 250 EPA assessment pilot grant awards are just a drop in the bucket. For those projects fortunate enough to receive pilot money, restrictions on the use of that money can be problematic. Pilot dollars cannot be used for remediation or demolition, activities that often require early financing. In addition, these grants are not available to privately owned sites, and it was suggested by a number of those interviewed that $200,000 is not enough money to fund the initial stages of project development.

EPA funds other important aspects of brownfields redevelopment.[63] Communities located within or near one of the 121 pre-1998 brownfields assessment pilots can also apply for a Brownfields Environmental Job Training and Development Pilot. As of 1999, EPA had awarded twenty-one Job Training Pilots, funded up to $200,000 each over two years. These pilots are targeted to communities with brownfields and are used for environmental employment and training, including training in treatment technologies, of local residents.[64]

The Brownfields Cleanup Revolving Loan Fund (BCRLF) provides financial support to state, local and tribal governments to help them create revolving loan funds that would provide low-interest loans to public and private entities for site cleanups. Any site that had been formally assessed before October 1, 1995, to characterize the nature and extent of contamination could be eligible for a loan. Stakeholders were enthusiastic about the loan program and in FY 97 EPA allocated $8.4 million to this program.[65] In 1998, Congress eliminated funding for this program, despite being the exact type of funding that stakeholders say is needed. In FY99, funding for BCRLF has been restored.

Congress appropriated $91 million in FY99 to EPA for the brownfields program. This includes $20 million to award up to 100 additional assessment pilots, $35 million to award up to sixty BCRLF pilots, $3 million for targeted brownfields assessment work, $10 million for states to support voluntary cleanup programs, and $5 million for job training and workforce development.[66]

In addition to EPA, a variety of other federal sources that can be tapped in support of brownfields projects. These programs take many forms—direct payments, grants, loans, credit enhancements, technical support, etc.—and offer additional resources that can and should be tapped as part of comprehensive efforts to redevelop brownfields.

As federal programs, each is targeted to specific statutory goals. Most are not targeted specifically for brownfields, meaning brownfields activities must compete for limited funds and follow federal rules, terms, and conditions. Meeting these requirements and conditions often limits the flexibility of states and localities seeking to use the programs for particular projects.

Nevertheless, in an environment in which funding for brownfields redevelopment is scarce, redevelopers must explore the potential of federal programs. EPA is trying to make this easier by identifying and publicizing programs throughout the federal government that have the potential to fit into brownfields initiatives. Further coordination is necessary. Use of the following federal programs for brownfields redevelopment must be explored.

I. Federal Resources

Department of Housing and Urban Development ("HUD")

HUD programs play a critical role in local economic development and have great potential for use in brownfields. Cities and towns use HUD resources to support a variety of financial assistance programs to help spur economic revitalization and growth. These resources play an important role in state and local strategies to encourage renovation and reuse of older industrial facilities. HUD has several assistance programs, including Community Development Block Grants, Section 108 Loan Guarantees and BEDI grants.

Community Development Block Grants ("CDBG")

The CDBG program provides eligible metropolitan cities and urban counties and states with annual direct grants for use on behalf of neighborhood revitalization, expansion of affordable housing and economic opportunities, and improvement of community facilities and services. These activities are targeted for the benefit of low and moderate income families, the elimination of slums and blight, and/or the fulfillment of other urgent community development needs.

HUD distributes approximately seventy percent of the block grants directly to approximately one thousand of the largest local governments in the country.[67] The legislation gives broad flexibility to these localities.[68] Traditionally, cities and urban counties have used CDBG funds primarily to create additional supplies of affordable housing, and by states primarily for creation of public facilities. Increasingly, there has been a trend toward use of the funds to promote business and job opportunities for low- and moderate-income families and neighborhoods.

There has also been a recent trend among some communities toward use of CDBG grants for brownfields development.[69] This trend has been accelerated by changes to the CDBG program that have increased its flexibility at the local level and made it more suitable for projects that involve environmental problems and site reuse activities.[70] According to the revisions made by in the law by HUD, proving the occurrence of "economic disinvestment" due to environmental contamination qualifies an area for designation as "blighted," making it eligible for CDBG assistance. HUD also significantly eased documentation requirements that made it difficult for localities to show that a project assists low and moderate income people. Finally, HUD determined that eligible expenses include both the costs of environmental reviews and the costs of actual cleanup of hazards.

Given the new flexibility in CDBG, the amount of funding available, and the relative autonomy of localities in using allocated funds, the CDBG program appears ideal for use in brownfields projects. Unfortunately, in many jurisdictions, even the significant allocations provided by the program have been insufficient to keep up with demand.[71] Many ongoing projects, such as local development and community service organizations, have received allocations for years, making it difficult for new programs, such as brownfields redevelopment projects, to break in without a fight. As a result, many brownfields project managers have been frustrated in their attempts to obtain HUD monies. Several brownfields stakeholders interviewed for this report indicated that waiting times for approval of HUD applications is lengthy and that it is often not worth the trouble. In one case, HUD approved funds for a city, but took more than 6 months to release them, delaying a project considerably.

In order to further accelerate the direction of CDBG funds toward brownfields projects, some combination of the following will have to occur: (1) persuasion of local officials to place greater emphasis upon brownfields projects; (2) appropriation of additional CDBG funds; (3) federal designation of a subset of CDBG funds for brownfields purposes (see BEDI below); (4) imposition of limits on the number of years a project or program may consecutively receive CDBG funds, to ensure some turnover.

Section 108 Loan Guarantees

Many redevelopment projects are too large to be financed by a single year's grant from the CDBG program. Section 108 enables states and local governments participating in the CDBG program to borrow against future CDBG funds and obtain federally guaranteed loans large enough to pursue such projects.

Section 108 permits eligible localities—CDBG entitlement communities (principally larger cities) and, more recently, non-CDBG entitlement communities (smaller cities) that are sponsored by their state—to issue debentures. To do so, they must pledge their annual CDBG funds (or, in the case of small cities, their state's) as collateral. The debentures are underwritten and sold through public offering by a consortium of private investment banking firms assembled by HUD. HUD guarantees each obligation, providing the full faith and credit of the US Government. As a result of this guarantee, private creditors receive sufficient security to provide localities with very low interest rates, comparable to those that the US Government receives when borrowing through the US Treasury. The localities may then use their annual CDBG allocations, as well as any income generated by the financed project, to pay off their obligation

Section 108 loans are subject to some limitations. HUD will not guaranty a loan amount that is more than five times the community's (or state's) most recent CDBG allocation. The maximum loan term is twenty years, and, with limited exceptions, the loan must be secured by more than CDBG funds alone.

Permitted uses of the proceeds of Section 108 loans are also limited. All use must fulfill the goals of the CDBG program, benefiting low and moderate income families, preventing or eliminating slums and blight, and/or meeting other urgent community development needs. In addition, all use must fall within the scope of one of a list of authorized activities. Eligible

activities include property acquisition; rehabilitation of publicly owned property; housing rehabilitation; economic development activities; acquisition, construction, reconstruction, or installation of public facilities; and public works and other site improvements. This list permits a variety of potential brownfields redevelopment usage, including property acquisition, clearance or rehabilitation of obsolete structures, public improvement constructions (e.g. construction of water and sewage systems), and site improvements (e.g. removal of hazardous wastes and toxic substances).

Although nominally restricted, Section 108 is highly flexible. HUD makes preliminary determinations of the eligibility of applications and then negotiates formal guarantee agreements with the selected localities. The negotiations settle issues such as the nature and amount of security required, the specific permissible uses of the loan funds, and the repayment schedule.

Because Section 108 significantly stretches the capital available to localities, it has been cited as among the most potent and important public investment tools that HUD offers to local governments.[72] Moreover, Section 108 loans lead to major increases in public expenditures, which in turn inspires more private investment. Although cities have extensively and successfully used Section 108 loans, they have been slow to tap these funds for brownfields purposes. Chicago recently became one of the first cities to make significant use of Section 108 for a brownfields redevelopment project, applying $50 million in guarantees to remediation of a multi-acre urban site in preparation for new industrial uses.[73] Almost no states have accessed Section 108 funds for their small cities despite the fact that these communities generally lack resources and are in dire need of such assistance.

Cities have made limited use of Section 108 in brownfields development. Despite being backed by federal guarantees, Section 108 loans are not risk free to communities and states.[74] Each must place their future CDBG allocations in some degree of jeopardy in order to obtain a loan. While experience shows that properly planned projects generally pay for themselves and cost communities and states nothing or next to nothing, local governments frequently shy away from taking any risk with their CDBG allocations on environmental projects.

The reluctance of local communities to use Section 108 for brownfields projects must be addressed. Section 108 represents a prime source of large amounts of working capital that can be accessed on very favorable terms. The program's objectives fit very well with those of most brownfields redevelopment projects. To the extent that localities are simply unaware of the program or its potential application to brownfields, education is necessary. Beyond that, great efforts should be taken to convince local officials that proper planning will eradicate most risks associated with the use of these funds for environmental projects.

Brownfields Economic Development Initiative ("BEDI")

HUD has created one brownfields specific program: BEDI, also known as the Brownfields Redevelopment Initiative (BRI). BEDI provides funds and loan guarantees to clean up and redevelop brownfields. The program seeks to attract private financing for brownfields cleanup and redevelopment efforts by providing important "start-up" funds. It is the lack of these funds

to cover start up costs such as site assessment that numerous individuals interviewed for this report identified as a major barrier to brownfields redevelopment.

BEDI brings together four different types of existing HUD assistance that communities can use to clean up and revitalize potentially contaminated sites. It offers annual formula grants allocated to states and local governments through Community Development Block Grants, lower interest loan guarantee authority available through the Section 108 Loan Guarantee program, competitive grants through the Economic Development Initiative program, and competitive grants provided through the Lead-Based Paint Hazard Control program.

It earmarks a certain portion of the funds of these programs to brownfields redevelopment activities. In FY 98, $25 million in BEDI funds and $4 million in Lead-Based Paint Hazard Control grants were allocated to brownfields activities (not including awards made for other brownfields projects funded pursuant to the normal operation of these programs, CDBG and Section 108).[75] BEDI is administered by the Office of Block Grant Assistance in HUD's Office of Community Planning and Development (CPD), the same office that oversees each of the four individual component programs.

To qualify for assistance from BEDI, a locality must meet the CDBG fund eligibility requirements. Funds acquired through the BEDI program must be used in accordance with the rules of the program(s) from which funding is derived. The programs supporting BEDI permit activities such as acquiring brownfields sites, demolishing existing buildings, installing needed infrastructure (such as water lines, roads, and sewers), rehabilitating or constructing housing, conducting job training, providing business loans, creating public facilities (such as day care centers, medical facilities, and community centers), and attracting or starting small businesses in the area.

The advantage of BEDI (as opposed to CDBG) is that it does not compete with a multitude of non-brownfields initiatives for a limited pool of resources. While tiny compared to the CDBG program, BEDI funds are directed with certainty to brownfields projects. In 1998, HUD awarded BEDI with $22 million in grants and $130 million in loan guarantees.[76] In fiscal year 1999, HUD directed $25 million to its Brownfields Economic Development Initiative grants.[77] But the current limited size of the BEDI program means the program has been unable to meet demand. Only 21 out of 60 cities competing for BEDI grants received them. Yet for those cities, the funds were in many cases crucial in undertaking projects. In King County, Washington, for example, a $300,000 BEDI grant, together with a BEDI loan guarantee of $1 million, launched a $6.5 million project to redevelop an industrial park that otherwise was to be scrapped due to cost.[78]

Despite its modest resources, the BEDI program offers significant hope for brownfields redevelopment. It represents a recognition by HUD of the important role its programs can play in brownfields redevelopment, and the need to ensure that such use of the programs takes place. Continued development and increased funding of the BEDI program should ensure that brownfields redevelopment activities continue to grow across the country**.**

Economic Development Agency

The Economic Development Administration (EDA) was established under the Public Works and Economic Development Act of 1965 to generate new jobs, help retain existing jobs, and stimulate industrial and commercial growth in economically-distressed areas of the United States. EDA assistance is available to rural and urban areas of the U.S. experiencing high unemployment, low income, or sudden and severe economic distress.

EDA awards these grants to states, political subdivisions of a state, Indian tribes, special-purpose units of state and local governments, and public or private nonprofit organizations. Priority consideration is given to projects that, among other factors, create or retain jobs, benefit low-income residents of the grant area, improve opportunities for business establishment or expansion, fulfill a pressing need in the area and demonstrate adequate local funding and commitment.

As with Community Development Block Grants, EDA's Title I public works grants fit neatly with brownfields redevelopment projects. The program can provide significant assistance to redevelopment initiatives; between 1995 and 1997, the program's annual budget ranged from $165 million to $195 million, with individual grants averaging approximately $1 million.[79]

The city of Birmingham relied on EDA funds to identify the redevelopable industrial properties within the city. The initial survey of the city's industrial properties was financed by a grant from EDA. A second EDA grant of $50,000 financed the assessment of six industrial properties. Based this assessment, the city targeted a site north of the city for redevelopment. A third EDA grant of $185,000 was used to pursue planning activities at the site, including the development of a Master Plan and a marketing survey.

The Oregon Mill Site Conversion Project relied heavily on EDA funds to finance initial redevelopment activities. In 1994, the Project received a $366,000 grant from EDA to implement a program of redevelopment in seven rural mill communities. In addition to providing the grant, EDA joined the Conversion Project as a redevelopment partner. Seven sites are selected to participate in the program, and RDI conducts Phase I site assessments at all seven sites, including wetlands delineation and flood plain evaluation. In 1995, EDA committed an additional $300,000 to the Conversion Project. These funds are earmarked to develop a set of generic development remedies that can be applied to timber mill sites. The intent is to speed the clean up process, lower costs, and facilitate development.

As with all other potential avenues of brownfields project funding, efforts need to be made to ensure that interested parties are aware of the EDA program. Expansion of the program and earmarking of a portion of the funds for brownfields purposes should also be explored.

Small Business Association (SBA)

SBA provides long term financing to small enterprises that lack access to other funds. The agency is authorized by Congress to offer several financial assistance programs, each designed to provide access to loans with terms of six or more years. Interest rates on the resulting loans vary by program; some are subsidized, others are prime plus one or two points. Most agency assistance has taken the form of loan guarantees. Approximately ninety percent of all SBA

financial assistance was delivered through the following two programs: Section 7(a) and Section 504.

General business loan guarantees – the Section 7(a) program.

Section 7(a) is the largest SBA program, guaranteeing over $7 billion in private loans annually. This program permits small businesses to gain access to capital to finance plant construction, conversion, and expansion, as well as acquire equipment, facilities, materials, and supplies. This is accomplished by a federal pledge to lenders to cover most of the outstanding loan balance in the event of default by a small business. SBA can guarantee up to ninety percent of loans less than $155,000, and eighty-five percent of loans between that amount and the program cap, now $500,000. Depending on how the loan is used, terms range from seven years at prime plus 2.25 percent (for working capital) to 2.75 percent (for building construction or acquisition).

This program was devised to reduce the underwriting risk that often makes financial institutions reluctant to lend to small businesses. It worked well in attracting financial institutions to make loans of between $100,000 and the loan cap. But in the past, documentation requirements dissuaded many institutions from making smaller loans. SBA responded with a spin off of the Section 7(a) program called the Low Documentation (LowDoc) program. LowDoc streamlines the application process by using a single page SBA form, ensuring rapid response from the agency – usually just a few days. Based on the immediate success of the pilot, SBA elevated LowDoc to full program status in December 1994.

Although the Section 7(a) and LowDoc programs put working capital in the hands of many small businesses for development projects, use on behalf of brownfields redevelopment has been extremely limited. Small scale brownfields projects could significantly benefit from the program. SBA has not only failed to specifically target brownfields redevelopment as a goal of the program, but it has declined to support many brownfields projects that have been submitted. Many private parties have complained that SBA officials are more rigid regarding contamination and environmental liability concerns than private lenders themselves. Until this attitude changes, the significant potential of Section 7(a) to assist with brownfields redevelopment will go untapped.

Suggestions have been made to link the SBA programs with state voluntary cleanup programs in order to provide SBA with comfort regarding liability. Of course, to the extent that comfort on liability is obtained, the need for SBA assistance is reduced. A Congressional earmark of certain SBA funds for brownfields-related loan guarantees may be more directly useful.

Development Company Guarantees – the Section 504 program.

SBA's Development Company Guarantees help small businesses obtain capital to finance expansion and improvements of their fixed assets (e.g. land, buildings, etc.). Through the law, SBA licenses local certified development companies to provide investment capital to small businesses. These firms debentures that are one hundred percent backed by SBA guarantees. The guarantee reduces investors' risks, which in turn lowers the debenture's rate of interest and attracts purchasers.

Proceeds from the debentures are directed to small businesses that qualify, up to forty percent of a qualified project's total cost, no higher than a $750,000 maximum SBA share. A private financial institution must provide fifty percent of the project's financing in return for which the lender obtains a priority security interest. The CDC secures the ten percent balance of project funds, with the funds themselves generally coming from the borrower as equity, or from a non-federal economic development program. The capital provided by Section 504 is generally long term capital; debentures issued pursuant to the program may have maturity dates that extend twenty years.

The Section 504 program succeeds because it significantly improves a small company's creditworthiness by lowering the amount and percentage of capital that a private lender must invest in a given transaction while giving the private lender a first claim on fixed assets in the event of a default by a borrower. As with the Section 7(a) program, however, use of Section 504 for brownfields projects has been limited to date. As discussed above, SBA officials need to be convinced to accept the risk of brownfields projects and consideration should be given to earmarking certain resources for brownfields use.

Superfund Trust Fund

As part of CERCLA, Congress created a federal trust fund dedicated to cleaning up hazardous waste sites and chemical spills. The fund is principally financed by federal taxes on corporations and feedstocks. It operates as a revolving fund and its revenues are supplemented by recoveries from parties defined as responsible for site contamination by CERCLA. Collections from responsible parties, collection of other CERCLA-imposed fines, and interest on its assets have produced for the trust fund a multi-billion dollar excess over those funds obligated for particular uses under the statute.

Since its creation in 1980, the trust has spent approximately $1.4 billion per year on authorized cleanup activities.[80] Expenditures of trust funds are limited by law to cleanups of severely contaminated sites that qualify for EPA's National Priority List (NPL). As a result, despite the excess funds, brownfields sites go unassisted by the Superfund Trust Fund.

A number of proposals exist to relax restrictions on the use of Superfund Trust Fund resources to permit a portion of the excess funds to be directed toward brownfields site assessments and remediations.[81] Such proposals offer a variety of potential mechanisms for directing trust funds toward brownfields programs and leveraging these funds so that they can have maximum impact. Such mechanisms are similar to many of those used in other federal programs discussed in this paper. They include credit enhancements, such as loan guarantees and bond insurance; standard loans at favorable rates; revolving loan funds; and direct outlays.

Superfund Trust Fund monies have recently been applied to brownfields redevelopment efforts through pilot projects. For example, in Wilmington, Delaware, the state Department of Natural Resources and Environmental Control sought federal assistance in financing site assessment of seventy older industrial properties along the waterfront and the regional EPA office responded with "Pilot Dollars" under the Delaware-EPA Superfund Cooperative Agreement. Since

authorization of the project, EPA has committed $250,000 to $350,000 per year for brownfields site assessment work.[82] Superfund Trust Fund monies have also been used to fund brownfields national demonstration pilots as part of USEPA's Brownfields Economic Redevelopment Initiative. These strategies for tapping the Trust Fund to fund brownfields redevelopment can be expanded for additional projects.

The long term viability of any and all programs using trust funds for brownfields purposes depends upon the future of Superfund. Superfund reauthorization is pending. A key issue is whether or not the Superfund tax that generates much of the trust fund's revenue stream will be extended. Superfund reauthorization also represents an opportunity to specifically authorize use of trust funds for brownfields purposes.

Direction of Superfund Trust Fund resources towards brownfields makes sense, especially since brownfields properties are subject to CERCLA standards. Obviously, the Trust Fund possesses significant resources. It appears these could be enlisted on behalf of brownfields cleanup without impeding other Superfund cleanup efforts.

Empowerment Zones/Enterprise Communities program

Created in 1993, the federal Empowerment Zone/Enterprise Community (EZ/EC) Program seeks to promote redevelopment of economically distressed urban and rural communities by offering developers incentives to undertake such redevelopment projects. The EZ/EC Initiative uses tax incentives, performance grants, and loans to designated low-income areas, called Empowerment Zones (EZs) or Enterprise Communities (ECs), to create jobs, expand business opportunities, and support people looking for work.

To date, the government has designated seventy-two urban areas and thirty-three rural communities for benefits.[83] These sites average thirty-six percent poverty rates, and fourteen percent unemployment.[84] The Taxpayer Relief Act of 1997 authorized HUD to designate fifteen new urban EZs, and USDA to designate five new rural EZs.[85] These EZs will receive slightly different treatment from the original sites.

The original EZ/ECs have received more than $1.5 billion in performance grants and more than $2.5 billion in tax incentives. Each designated urban EZ is provided with $100 million, each rural EZ is granted $40 million, and each EC is granted $3 million in social service grants annually.[86] Employers in EZs are eligible for wage tax credits, worth $3,000 for every employee hired who lives within EZ boundaries.[87] EZ businesses are also eligible for increased tax expensing for equipment purchases. All EZ/ECs are eligible for tax-exempt bond financing that offers lower rates than conventional financing for business property and land, renovations, or expansions. HUD provides funds from its Economic Development Initiative (EDI) program.

New benefits for EZ/ECs are being introduced. Among these are benefits that specifically focus upon brownfields redevelopment. The original 105 EZ/ECs are now eligible for a Brownfields Tax Incentive to clean up and redevelop contaminated industrial sites and the twenty new EZs will be eligible for a special Brownfields Tax Incentive (these are discussed at length elsewhere in this paper). The original EC/EZs may also take advantage of expanded financing (allowing a

broader range of businesses to qualify for special tax-exempt, private-activity bonds to promote commercial investment) and a tax credit for school renovation tied to the improved education standards and programs for job-skilled youth. The new EZs will be eligible to receive enhanced private-activity bonds permitting them to receive $60 to $230 million in flexible bond authority above the cap set by their states, in order to subsidize job creation and business expansion. Additional Section 179 expensing allows them to receive $20,000 in additional Section 179 investments in capital and equipment to promote commercial investment.[88]

These benefits give distressed communities a variety of tools to create jobs and economic growth. As brownfields problems are often a critical problem in urban and regional poverty, federal incentives can and should include brownfields redevelopment projects. Efforts should be made to ensure that affected communities understand and leverage EZ/EC benefits. This requires educational efforts and procedural reviews.

ISTEA/DOT

The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 marked a departure in federal transportation policy, as it created programs to encourage a multi-modal national transportation system rather than a highway-centric system. The Act also marked a recognition that transportation spending, while having brought benefits, has also led to problems such as air and water pollution, scenic degradation, loss of open space, and fractured communities. As a result of this recognition, the Act created the Transportation Enhancement Program (TEP).

This initiative sets aside ten percent of each state's Surface Transportation Program funds for a variety of environmental needs, including landscaping and scenic beautification, mitigation of water pollution caused by highway runoff, rehabilitation of historic transportation facilities, and removal and control of outdoor advertising. ISTEA was recently reauthorized by the Transportation Equity Act for the 21st Century.

The impact of TEP has been great. Over its first six years, the program has channeled over $2.6 billion into sidewalks, bike paths, trails, and other transportation enhancements. This compares to only $40 million in total expenditures on the same items during the eighteen year period preceding TEP.[89]

Both TEP and general ISTEA funds can be immensely useful to brownfields redevelopment. TEP funds can assist cleanup efforts themselves; general ISTEA funds can finance renewals of highway, road infrastructure and mass transit to serve brownfields redevelopment areas.

Department of Transportation ("DOT")

The Department of Transportation (DOT) has signed on to support the federal brownfields initiative. Secretary Slater has pledged to use DOT's financial and technical assistance programs in support of brownfields redevelopment projects. As part of this effort, DOT will encourage state and local transportation agencies to coordinate their improvement programs with local brownfields redevelopment plans and projects. DOT will also encourage transportation agency

sponsors to consider brownfields properties when siting projects as part of their redevelopment efforts.

Principal DOT support for brownfields efforts will proceed through the Federal Highway Administration (FHWA). FHWA is responsible for and provides funding for projects in six categories: (1) construction and improvement of roads formally designated as scenic byways; (2) interstate maintenance, for repair and improvements to the Interstate Highway System; (3) interstate completion, for completion of parts of the Interstate Highway System not yet completed; (4) repair of deficient bridges; (5) construction of highways on public lands such as national parks; and (6) ferry boats and terminals to facilitate movement of people and goods across inland and coastal waterways. In addition, FHWA discretionary funds are awarded by the Secretary of Transportation following requests from states for projects that meet criteria established by federal law and DOT regulations and procedures.

FHWA has revised its existing policies to fulfill DOT's pledge to support brownfields redevelopment. It has begun to provide support for improved transportation access to brownfields redevelopment projects. It also now encourages state and local officials to include brownfields redevelopment in their improvement plans. This guidance replaces previous directives to avoid contaminated properties entirely. FHWA headquarters office has also begun to advise field offices on the current brownfields pilot communities and the EPA's list of brownfields showcase communities. The headquarters disseminates information on transportation-related brownfields success stories to field offices and presents it on EPA's Brownfields Internet Homepage and FHWA environmental website.

Over the next few years, FHWA plans to continue to develop working partnerships with a broad range of institutions, including environmental, state, local and private sector organizations, as well as other Federal agencies such as HUD and EPA. FHWA plans to work with states to identify state laws and procedures that can be modified to brownfields-supporting projects. A compendium of best practices will be prepared to support State and local exploration of transportation strategies for supporting brownfields redevelopment. FHWA will also provide technical assistance as needed to communities considering brownfields redevelopment programs regarding how to use Federal-aid highway funds.

DOT funding was the catalyst for the redevelopment of the Gateway area in Salt Lake City. The Gateway District is a 650 acre site located three blocks away from the city's Main Street and adjacent to Interstate 15. The site is characterized by a number of railroad tracks, highway ramps and overpasses, and industrial properties. It is also characterized by a number of different business and residential districts. Prior to World War I, the Gateway was a vibrant area comprised of several ethnic neighborhoods, close knit communities, and economic activity. After WW I, the area's ethnic neighborhoods are gradually replaced by industrial processes. Interstate 15 was constructed, running through part of the area, creating a barrier to traffic and mobility within the Gateway.

To redevelop the site, project managers knew it was essential to make the site more visible, increase access to businesses located in the Gateway and attract new businesses. DOT grant money is financing the reconstruction of I-15 and the shortening of several viaducts that will

promote the accessibility of the site. In addition, DOT funds can be spent on the roads and infrastructure immediately surround the reconstruction.

In addition to federal programs to fund and encourage brownfields activities, a number of initiatives have emerged from the private sector, as well.

II. Public and Private Financial Institutions

Private Banks

Private banks are a principal source of third party financing for economic development in the United States. Banks are also highly risk averse. While banks will apply conservative financial analyses to any loan application, for many years, their risk aversion to financing capital for brownfields has been particularly pronounced. Changes in federal laws affecting lender liability at contaminated sites made in 1996 have lowered the risk and somewhat increased the capital involvement of banks. Banks are still reluctant to invest in brownfields projects. In fact, economic studies have suggested that private banks go so far as to double count environmental risk factors in their appraisals of contaminated or potentially contaminated properties.[90]

Without access to bank capital, large numbers of potential redevelopment projects will never occur. This is particularly true for projects that might otherwise be performed by small businesses or community development corporations (CDCs). Governments and private foundations can pick up some of the financing burden, but their resources are limited. Therefore, great efforts must still be made to address issues that restrain banks and other lenders from making loans on brownfields properties. Governments and foundations, to the extent that they seek to assist with the financing burden, should explore ways to promote bank comfort in giving loans.

Banks do not have a distinct process for brownfields loans. A loan application for a project involving brownfields is subjected to standard evaluation. As part of that evaluation, banks must adhere to detailed sets of federal and state regulations, including limitations on the risks that they may take. The banks also seek to make profits, further limiting their tolerance for risk. The evaluation process involves an assessment of the character, cash flow, liquid assets, fixed assets, and external conditions of the borrower. Each institution will have its own definition of a "creditworthy" borrower. As a general rule, banks prefer large commercial real estate deals (over $10 million) backed by strong, well established borrowers such as corporate retailers, real estate development companies, and other large companies. Banks will also seek to ensure that the loan structure of an application meets their individual policy guidelines. Repayment sources must be clearly defined and adequately underwritten. Generally, banks will require two, if not three, sources of repayment. Another important consideration for a projects' financing is whether the potential borrower has an existing relationship with the bank.

In a commercial real estate loan transaction, the real estate collateral is generally the major security for the lender. Evaluation of the real estate collateral is obviously a key part of the application process. Loans secured by commercial real estate are generally not permitted to exceed seventy five percent of the value of the real estate. For loans on brownfields properties,

the acceptable loan-to-value ratio is often lower. A contaminated or potentially contaminated property poses major valuation problems for banks, thus chilling loan activity on projects involving brownfields. The primary complication is the potential liability imposed by CERCLA and state equivalents that hold any party in the chain of property ownership responsible for the full cost of environmental cleanup, whether or not they created the contamination. Traditionally, this potentially huge liability dissuaded most financial institutions from becoming involved with brownfields at all.

The 1996 Asset Conservation, Lender Liability and Deposit Insurance Protection Act of 1996 significantly curtailed lender exposure under CERCLA and RCRA, opening the door to more bank involvement in brownfields. Whereas lenders were previously exposed merely by holding a security interest in real property, the act provides an exception from liability for any party that "without participating in the management of a facility, holds indicia of ownership primarily to protect the person's security interest in the facility."

The amendments to CERCLA and RCRA, which parallel changes to many state statutes, ease lenders' legal risks, but do not eliminate them. Banks must still be wary of legal liability for "participating in management" and legal liability after foreclosure. To the extent that banks are deemed to have "participated in management" of a site, they can no longer avail themselves of the exception created by the 1996 amendment. A few federal courts have suggested that a lender's unexercised ability to control the waste disposal activities of its borrower represents "participation in management," meaning normal and prudent lending activities, including a due diligence investigation of a property's environmental conditions, could subject banks to exposure.

EPA has gone to great lengths to try to defuse the impact of these court decisions. Its first attempt, a regulation that, in effect, rejected the statutory interpretation of the federal courts, was struck down by the courts as beyond the scope of the agency's authority.[91] EPA responded with a statement of policy designed to give lenders undertaking normal lending practices comfort that these would not be treated by EPA as "participation in management" in the agency's enforcement practices. Some states have gone so far as to revise their statutes to clarify that this activity will not subject lenders to liability. However, lenders must remain concerned about liability under the federal law as the result of actions brought by private parties or others not constrained by EPA policy.

Banks must also be concerned about liability in the event of foreclosure. Recent federal court decisions suggest that a lender who forecloses on a contaminated property becomes the "true owner" and thus loses the lender exception to CERCLA liability.[92] EPA's announced policy does not fully reject this interpretation, leaving even EPA treatment, let alone the treatment of federal courts, potentially risky. Some states have gone much further to give lenders comfort. Amendments to state Superfund laws provide that a lender does not become liable when it forecloses, provided that it undertakes certain activities and is able to dispose of the property within five years of the foreclosure.

The exposure still faced by lenders despite revisions to CERCLA has a significant impact upon bank willingness to loan on brownfields projects. Lenders must account for the exposure they

face in valuing the underlying asset; as banks are risk averse, any uncertainty with regard to exposure works against the borrower. In many cases, lenders are forced to conclude that they cannot foreclose upon the underlying property in the event of default on the loan, undercutting much of the value of the collateral and forcing the bank to charge dramatically more for the loan.

Even if the bank is able to foreclose without facing liability itself, to the extent that cleanup is statutorily required, the previous owner's CERCLA liability takes precedence even over the bank's first lien on the property, as CERCLA grants Superfund a superpriority lien. Thus, the bank will not be able to recoup the full value of the collateral to pay off the defaulted loan. In practice, this will lead banks to either heighten the financial requirements for any potential borrower—ensuring the borrower has the ability to both repay the loan and remediate an environmental problem if an active cleanup is required—or charge the borrower more up front for the loan.

Because of the risk that environmental liability poses, banks also require loan applicants to provide highly detailed reports regarding property condition and regulatory status. At least one prominent association of bankers has declared that a bank cannot "reasonably" use contaminated or potentially contaminated property as collateral unless real or perceived contamination is first confirmed, denied or otherwise quantified.[93] The process of determining information required by the bank is difficult, time consuming and expensive. Many banks continue to refuse to provide loans for environmental site assessment, requiring borrowers to conduct site assessment as part of the pre-application process.

If remediation is required, a bank may require that the borrower obtain regulatory approval of the remediation plan prior to the loan. In some of these cases the construction part of the loan is held in escrow until remediation is completed. Other banks also go so far as to seek official declarations from regulatory agencies that either release the owner from liability or otherwise establish some risk reduction or statements of cleanliness from environmental consulting firms before approving any loan.

Even after a potential borrower has complied with all the background requirements for receiving a loan, the true nature of environmental exposure is often highly uncertain. Generally, most lenders lack the expertise to accurately determine the impact of contamination on property value. As banks are conservative, the uncertainty involved with brownfields once again works against the borrower.

Within the Gateway Project area in Salt Lake City, borrowers are struggling with this problem. Mike Picardi is a local business owner who wants to redevelop a parcel directly adjacent to his current business. The parcel is the former site of the Utah Pickle Factory that Picardi plans to redevelop into a design center. But due to lack of financing, and difficulty dealing with strict zoning regulations, his efforts have been blocked. "Local banks are lining up for the big projects with big developers, but the small businesses can't get loans," stated Picardi. "The Salt Lake City Redevelopment Agency is trying to be helpful, but banks are not working with the city." Picardi spent a year and a half looking for financing, to no avail (as of March 1999, he was getting ready to try again). Tax Increment Financing (TIF) does not help cover up front assessment and development costs, he does not qualify for SBA money, and the city has offered

him a loan, but only after he gets the rest of his financing in place.[94] "If I could get the rest of my financing in place, I wouldn't need the loan," declared Picardi. He believes in and supports the Gateway project, but feels there are holes in the overall plan. There is a danger in Gateway that small business owners will be forced out by larger, better funded enterprises if the private financial sector continues to be so risk averse regarding these loans.

Despite all the above, and with some trepidation, a number of banks have increased their willingness to loan on real estate projects involving brownfields under the right conditions. Surveys show that banks have responded to some degree to the revisions to CERCLA and, in particular, respond to state initiatives involving state declarations of approval of cleanup and/or no further action letters. Major banks that have been active in lending on brownfields properties include: Bank of America, NationsBank, CoreStates, Barnett, Wells Fargo, Union Bank, Bank of the West, LaSalle Bank, American National Bank, Comerica, Home Savings of America, Sanwa Bank, Mellon Bank, Chemical Bank, First Union Bank and NBD. Many have been proactive in seeking to become more familiar with brownfields issues. In Chicago, a group of bankers met together with representatives from developers, insurance companies, local government, community and environmental advocacy groups, and other concerned groups as the Chicago Brownfields Forum and generated model loan documents for commercial lending secured by lesser contaminated property.

Many banks have also sought to hire staff with expertise on environmental issues. In general, banks have staff capable of dealing with contaminated properties once they become problems; however, many do not have staff capable of evaluate environmental risks up front in order to make determinations as to whether to underwrite remediation loans. Banks that do have personnel capable of professionally evaluating underwriting decisions on environmental risks include Bank of America, Wells Fargo Bank, Union Bank of California, Comerica Bank, Bank of the West, Home Savings Bank, Sanwa Bank. But even these banks do not make great efforts to make loans on contaminated properties and do not make such loans on a large scale. Clearly, the right set of incentives have not yet been developed to draw these institutions further into the redevelopment process, and their lack of participation remains an obstacle to successful brownfields projects.

To further promote the availability of bank financing for brownfields projects, further efforts need to be made to define potential liabilities in a more precise manner. The limitations on lender liability captured in EPA policies and certain state statutes, if enacted by the federal government, would go a long way toward encouraging banks to be more active in brownfields projects. This and other liability-clarifying actions should ideally be undertaken by governmental institutions; statutes and regulations can prevent painstaking and expensive clarification through the courts.

Even with such amendments to the law, better provision for financing for site assessments and remediation are necessary. These up front costs are prohibitive for many projects. If banks cannot be convinced to loan money for these efforts, alternative sources need to be identified. Foundations and, perhaps, government can play an important role here. Projects that provide "start-up" funds will go a long way to making banks more amenable to providing loans as projects will enjoy more diversified support.

Community Reinvestment Act (CRA)

The Community Reinvestment Act (CRA), 12 U.S.C. 2901, represents one potential means of convincing private banks to make additional loans to brownfields projects. CRA was enacted in 1977 to require banks, thrifts, and other lenders to be socially responsible within their communities. Banks are directed to make capital available in low and moderate income urban neighborhoods within their service area in order to help halt the decline of these communities. All loans must be made in accordance with safe and sound banking operations.

A government-wide brownfields action agenda was launched during 1995 to encourage a cooperative approach by EPA, lenders, and prospective purchasers to ease fears of financial liability and regulatory burdens. As part of that program, EPA has coordinated with the Office of the Comptroller of the Currency to create incentives within CRA regulations for economic revitalization and development.

Concern over potential environmental and financial liability for cleaning up these sites has made lenders, developers, and property owners reluctant to finance redevelopment of these properties. Rather than reuse former urban industrial sites, businesses have instead moved to suburban or rural "greenfields," which carry fewer perceived risks to development. A footnote was added to CRA regulations that includes "loans to finance environmental cleanup or redevelopment of an industrial site as part of an effort to revitalize the low or moderate income community in which the property is located."

Nevertheless, use of CRA to produce additional funding for brownfields projects has been limited. Banks continue to be highly concerned with the liability issues discussed above. Moreover, CRA incentives are limited, since CRA regulations limit the types of brownfields projects that banks can participate in while receiving CRA credit. To qualify for CRA credit, bank-assisted projects not only must remove contamination, they also must lead to redevelopment activities (eliminating projects for open space, or sites being remediated simply to remove a health threat from a community).

Proposals have been made to revise CRA to widen the scope of brownfields projects eligible for CRA credit. Specifically, some have suggested that lenders be permitted to demonstrate CRA compliance by lending on brownfields projects involving cleanup only or by contributing capital to a loan pool or revolving fund or local development company that operates in distressed areas.[95] By expanding the scope of activities offered CRA credit and resolving some of the liability problems discussed, banks will be encouraged to use loans to brownfields projects as a primary means of satisfying CRA requirements.

Community Development Financial Institutions

Community Development Financial Institutions (CDFIs) are private financial institutions dedicated to community development. CDFIs are generally established in order to fill financing gaps left by conventional financial institutions.

CDFIs take many forms. Most are specialized, focusing upon a particular gap in the financing market. They use a variety of business structures, including community development banks and intermediaries, community development loan funds, community development credit unions, microenterprise funds, community development corporation-based lenders and investors, housing funds, and community development venture funds. Others are unregulated nonprofit institutions that gather private capital from a range of social investors for community development lending or investing. Often CDFIs will provide technical assistance, as well as capital, to underserved communities.

These alternative financial institutions have had to develop expertise in adapting lending guidelines to the needs of their borrowers and accepting unconventional collateral for loans. They have also learned to provide education, training, and assistance to potential borrowers. In 1994, Congress passed the Community Development Financial Institutions Act, which included the creation of a CDFI Fund at the U.S. Department of the Treasury. This fund awards $30-50 million per year in grants and loans to approved CDFIs, stimulating expansion in the CDFI industry.[96] The CDFI Coalition today includes 350 CDFIs representing each of the fifty states.

These CDFIs, together with potential new ones, offer tremendous potential to brownfields redevelopment. As financial institutions, they can leverage and deliver a variety of public and private incentives, capital and financial outreach services to brownfields sites. As individual institutions and as a group, CDFIs have extensive experience in developing communities, addressing the credit and capital needs of low and moderate income communities, partnering with traditional financial institutions to serve low and moderate income communities, and taking new, alternative approaches to loans and funding. Moreover, many of these institutions have won the trust of the residents of distressed areas and understand their special needs and concerns.

CDFIs generally remain small, under-capitalized institutions that frequently rely heavily on public subsidies. Efforts to buttress their resources will need to be made before they can effectively address large numbers of brownfields projects. Expansion of the CDFI Fund and other fundraising efforts, with targeting of funds toward brownfields, would be highly useful. In addition, efforts should be made to coordinate various CDFI efforts through networking, collaboration, education and other joint programs whereby CDFIs can assist one another's efforts and expertise. Done on a broad scale, these actions could have a huge impact on brownfields redevelopment, placing CDFIs in a position to lead the movement.

Local Initiative Support Corporation

The Local Initiatives Support Corporation (LISC) was established by the Ford Foundation and six community groups in 1979 in order to support the efforts of community development corporations (CDCs) throughout the country.

CDCs are non-profit organizations managed by citizens dedicated to the redevelopment of their home communities. The focus of individual CDCs varies widely—from housing to social services to economic activity—yet all are committed to community revitalization. LISC seeks to promote CDC efforts by mobilizing public-private partnerships to help local people rebuild

distressed communities and rural areas, and by providing funding and technical know-how to the CDCs serving these areas. Upon an invitation from local leadership, whether from corporations or foundations or community residents or ministers or lenders, LISC will focus upon building the financial and technical capacity of a community.

LISC has enlisted the help of over 1,400 corporations, foundations and public agencies, and has increased the level of individual support of CDCs.[97] Through these efforts, LISC has raised over $2 billion to support grassroots community revitalization, ninety-seven percent of it from private sources.[98] With assistance from LISC, individual CDCs have leveraged the money received thorough LISC's efforts to more than $2.9 billion from local sources.[99] LISC is the nation's largest community development support organization, with thirty-five local programs working in over 100 cities and urban counties across the country. It also works in neglected rural communities, supporting sixty-eight CDCs in thirty-nine states and Puerto Rico. [100]

LISC provides grants in a variety of forms. CDCs may receive funds directly, but usually no more than $50,000 for capacity building or for special costs associated with project start-ups.[101] Sometimes, LISC will purchase services directly from a third party vendor in support of CDC initiatives. LISC provides loans, generally at six to eight percent with a term of approximately seven years, and usually for no more than $500,000.[102] Guarantees are provided for bank financing in order to induce banks to lend to certain projects. Most guarantees are partial, requiring the bank to take some risk.

In addition to its revenue-generating activities and grants, LISC operates an extensive set of technical assistance programs designed to help CDCs to translate their local expertise into results. These technical assistance programs include:

- Jobs and Income Program: This program includes job training assistance for community residents and a set of initiatives designed to reconnect neglected areas to the regional economic mainstream.

- Social Community Development Program: This broad-based program focuses upon assisting communities to develop and strengthen critical social services. It helps CDCs with programs to combat crime, achieve suitable child care and affordable and available health care, and assists CDCs in their efforts to build their capacity to own and manage residential real estate in order to expand suitable low income housing. This program also concerns itself with park and garden clean-ups, career counseling programs, neighborhood watches and community centers.

- Creative Solutions to Mobilizing Capital Programs: In order to mobilize the maximum amount of capital for community based development, LISC has founded three affiliates to help community groups take advantage of opportunities in the public and private sectors.

    National Equity Fund (NEF): NEF organizes partnerships between CDCs and Fortune 500 corporations interested in investing in affordable housing. In return, NEF investors receive Low Income Housing Tax Credits, which can be applied against their federal

income taxes. In eight years, NEF has raised over $1.7 billion to create more than 33,000 affordable homes for individuals and families across America.[103]

Local Initiatives Managed Assets Corporation (LIMAC): LIMAC makes the process of community development lending more efficient while minimizing risk by pooling loans, providing credit enhancement and converting loans into securities which are then sold to institutional investors.

The Retail Initiative, Inc. (TRI): TRI, a national commercial equity fund, is designed to help CDCs respond to the urgent need for quality retail goods and services in low-income communities. TRI helps CDCs navigate the commercial development process. Activities include putting together partnerships between communities and shopping center developers, attracting retailers to community sites, identifying economic development incentives and physically developing sites.

The many LISC efforts have had a profound impact upon redevelopment efforts throughout the United States. As brownfields redevelopment fits neatly with the LISC's programmatic objectives, the opportunity to coordinate the two is significant. Brownfields redevelopment could easily and effectively become one of the LISC's Jobs and Income and Social Community Development programs. In particular, LISC could help CDCs to identify jobs created by brownfields projects, the necessary job skills, and what types of training the local community would need to do those jobs. LISC could then work with CDCs and local job providers to establish environmental job training programs, or link CDCs to already existing job training programs.[104] While research has not revealed cases in which LISC funds have been specifically directed towards brownfields to date, this is an avenue that brownfields redevelopment advocates should aggressively pursue.

III. Financial Intermediaries/Land Recycling Companies

Land recycling companies and financial intermediaries are organizations dedicated to facilitating brownfields redevelopment projects that would otherwise be unlikely to occur. Most of these organizations are 501(c)(3) non-profit corporations that provide one or more of the following services:

- Information dissemination: Due to the large number of issues and problems presented by brownfields, an information clearinghouse that collects, stores, and effectively disperses information on subjects ranging from financing sources to cost effective remediation techniques to regulatory burdens can be invaluable.

- Neutral Third Party: A neutral organization with no financial interest in a prospective project and with a trustworthy reputation can play a number of important roles. It brings essential parties together, provide independent scientific verification of remediation plans and long term risk based land use; provide dispute resolution and mediation between parties; and sponsor effective community education of the science and risks involved in a project.

- Central planning: Sometimes, a land recycling company is better placed than a private developer to make a project happen. In such cases the company may work with various community interests—city government, redevelopment agencies, community, and environmental organizations and private interests—to put together an economically feasible plan for cleanup and reuse. In such cases, the company may either self-finance and own/manage the project itself or may work together with a third party purchaser.

- Financing: land recycling companies and financial intermediaries may also directly finance brownfields assessment and cleanup activities.

Land recycling companies have the potential to provide dramatic benefits for brownfields redevelopment efforts. They can provide invaluable institutional knowledge and experience, and develop ties that permit them to access other public and private resources. Their sole limitation is the level of their resources. Some examples of brownfields intermediaries include:

Rural Development Initiative, Inc.

The Rural Development Initiative, Inc. (RDI) is a private, nonprofit development corporation that provides assessment, training, and technical assistance to rural communities by working with communities directly and with other organizations that support rural communities. RDI is funded through a combination of grants from private foundations and public agencies, fees and Oregon Lottery funds.[105]

In 1993, in response to a rash of mill closing in the wake of the decline in the American timber industry, the federal government created the Northwest Adjustment Initiative to provide assistance to communities dependent on the timber industry. Later that year, a group of diverse organizations, come together to form the Oregon Mill Site Conversion Project. The primary goal of this organization is to redevelop closed timber mills. The group consists of RDI,

PacifiCorp (a utility company), U.S. Bank of Washington, and the law firm of Stoel, Rives, Boley, Jones and Grey. RDI takes the lead role in managing the project.

RDI selects seven sites to participate in the program, including Astoria, Coquille, Grants Pass, Myrtle Creek, Philomath, Sweet Home and Merlin. Mill owners enter into a formal Memorandum of Understanding with RDI, establishing the rights and responsibilities for each party. In the event that a mill owner withdraws from the program after assessment reveals contamination, the owner will not be subject to state regulatory action. RDI then serves as a financial intermediary, securing funds from federal agencies and private organizations and channeling them into the sites.

In selecting the projects, RDI aimed for sites in the middle of the development spectrum. They did not want those sites that were so ideally located and readily developable that the private market would address them. Nor did RDI want those sites so poorly located and contaminated that tremendous resources would be needed. RDI selected sites that were generally moderately contaminated, well located, with a skilled workforce nearby. In addition, "We were looking for willing landowners who understand the link between community participation and redevelopment," explained Hanan Bowman of RDI.

RDI conducts Phase I site assessments at all seven sights, including wetlands delineation and flood plain evaluation. Varying degrees of contamination are revealed, as well as varying acreage of wetlands, at each site. In addition, RDI helps each community form a Local Action Committees (LAC). LACs are comprised of local business leaders, residents, municipal government representatives, and other interested parties, and they solicit input from the community and develop a set of possible end uses for their site.

"The best model, from the standpoint of RDI, is to position the site for sale," explained Bowman. That is, complete the assessment process, work with the owner to market the site for sale through the Oregon Prospective Purchaser program, and then find a purchaser who will complete the remediation and redevelop the site. In addition, RDI intended to develop a set of "generic remedies" that could be used to clean up sites faster and cheaper.

Phoenix Land Recycling Company

The Phoenix Land Recycling Company ("Phoenix") is a Pennsylvania-based nonprofit 501(c)(3) corporation that was established by Clean Sites, Inc., a respected, national environmental organization, with funding support from the Vira I. Heinz and Howard Heinz Endowments, as well as other philanthropic organizations. Phoenix is dedicated to promoting brownfields redevelopment by seeking to address one of the principal roadblocks to redevelopment: the up front costs of site assessment and remediation planning.[106]

The theory behind Phoenix is that numerous brownfields sites are never developed because of the time and expense involved in assessing and planning necessary cleanup together with uncertainty regarding the scope of cleanup that will be found. Phoenix works with local economic and industrial development agencies, commercial realtors, and developers to identify locations with significant potential for economic reuse. It then uses its own resources and

expertise to conduct comprehensive assessments and develop remediation plans for these sites. Phoenix reviews its proposals with the Pennsylvania Department of Environmental Protection and, where necessary, enters into binding agreements with DEP to memorialize these cleanup decisions. These agreements provide for the transfer of their terms to new owners or occupiers of the properties.

In undertaking these activities, Phoenix shoulders the time and cost of analysis and reduces or eliminates the uncertainty associated with prior site activities. With cleanup requirements and costs reasonably quantified, a developer evaluating a potential development project can directly compare brownfields sites with other properties. Phoenix markets its sites to prospective purchasers. Through this process, it continues to work closely with local development agencies and developers, as well as representatives from the involved communities. Phoenix attempts to recoup its investment in each site from the sale of the property to the new owner.

Although Phoenix's primary efforts are in the state of Pennsylvania, it has undertaken projects throughout the Northeastern United States. It provides a useful model of a Land Recycling Company that has successfully identified and filled a niche, tackling one of the barriers to brownfields redevelopment**.**

Consumers Renaissance Development Corporation

The Consumers Renaissance Development Corporation ("CRDC") is a Michigan-based non-profit corporation founded in 1996 by Consumers Power Company in order to promote the redevelopment of brownfields properties in Michigan. "CRDC has two components," explained Kelly Fennelly of CRDC. "Education to assist stakeholders in understanding the brownfields redevelopment process in Michigan and what new opportunities exist for stakeholders. And facilitation, working with communities one-on-one to help them manage their project. We serve as a moderator between all the involved parties." CRDC has received outside funding primarily from the Michigan Job Commission, state community block grant programs and the Michigan Department of Environmental Quality.[107]

CRDC offers general guidance on process, strategic and policy issues, legal counsel, technical training and referrals on any issue concerning brownfields development. It identifies its principle functions as:

- Conducting training workshops for local government officials and economic developers.
- Distributing practical and user-friendly information on the technical, legal, financial, and political aspects of brownfields redevelopment.
- Completing pilot programs showing "how to" implement brownfields redevelopment projects; and
- Providing assistance and information to qualifying local governments and communities on a one-on-one basis.

In its two year history, CRDC has produced and distributed a brownfields training manual, conducted a number of successful pilot projects in which it took the lead on activities ranging from negotiation to site assessment to marketing to legal work. It provides education and job

training and serves as an information clearinghouse on environmental regulations, cleaning issues, legislative issues concerning how to work through the redevelopment process and the authorities. It also conducts numerous studies and publishes reports on brownfields redevelopment.

CRDC offers a useful model of a Land Recycling Company dedicated to facilitating brownfields redevelopment by shepherding interested parties through the various brownfields related issues they might face.

The Development Fund

The Development Fund is a San Francisco based, not-for-profit organization devoted to economic and social development projects. The Development Fund focuses upon creating innovative private-sector financing mechanisms for a range of community development activities. Its programs have collectively generated $700 million of private-sector financing from over 200 financial institutions and corporations representing eight states.[108]

In January 1997, the Development Fund launched a research and feasibility study for the creation of a financial intermediary—the Financing Initiative for Environmental Restoration (FIER)—dedicated to the cleanup and redevelopment of brownfields and other impaired lands in the state of California. FIER would provide a financially sound investment vehicle that permits corporations and financial institutions to comfortably participate in the redevelopment of brownfields. In doing so, FIER hopes to create a model that can be used throughout the country to access large scale private investment for brownfields redevelopment. The Development Fund's research concluded in February 1998; it is now in the process of attempting to implement its plan.

The Development Fund's research led it to certain conclusions. First, it found a significant gap in financing for many viable projects, particularly when the following characteristics are involved:

- Smaller and less established property owners without sufficient collateral and other resources to qualify for conventional financing;
- Smaller projects in which the transaction costs required to underwrite the deal, including environmental due diligence, are relatively high;
- Projects with low or marginal returns, which represent positive cash flow but are not sufficient to interest conventional financing sources;
- Projects that require special attention because of their complexity or location, including projects that need multiple layers of financing sources to become viable, sites with unusual contamination issues, and properties in low income and minority areas which involve actual or perceived uncertainty.

The FIER design is intended to fill some or all of these gaps by addressing issues such as project risk, low returns, transaction costs, and regulatory/legal liability. The FIER structure is designed to take into account the following conclusions from the Development Fund's research:

- The creation of an independent and pooled financing entity (either for profit or nonprofit), separate from the sponsoring companies, allows a greater degree of flexibility and helps the entity to serve a broader range of market needs;
- There are essentially three models for administering the financing program: creating in-house staffing capacity, working through formal partnerships or joint ventures, and outsourcing. Each of these has advantages and disadvantages; individual programs often employ a mixture of these methods;
- Strategies for sourcing projects include working through real estate industry contacts, corporation referrals, financial institutions involved in defaults and workouts, publicly available data sources and private data companies, and local public agencies;
- Investment capital from the sponsoring companies can come in the form of up front commitments or on a project by project basis; it can be structured as long-term or short-term capital.
- Project financing can be targeted in three ways: financing a current owner or developer; financing a new purchaser; or self-financing to take a direct role in the land recycling. The project financing can be in the form of debt, equity, or some combination of the two. Incorporating a variety of features in the new vehicle's product line would allow for maximum flexibility.
- It is important for any market entrant to carefully design a strategy for risk and liability management, including centralized and/or expedited regulatory approvals, liability shields, and insurance products.

It is too early to determine the level of success achieved by FIER. The experiences of the FIER should provide extremely valuable lessons to future financial intermediary efforts.

Clean Land Fund

The Clean Land Fund is a private sector, non-profit environmental organization that serves as a collaborative effort by businesses, communities, and environmentalists on behalf of brownfields redevelopment. It is structured as a sustainable, leveraged revolving fund that makes loans for financing the acquisition, remediation, and reuse of brownfields properties. It is frequently willing to provide 100 percent financing and offer a single repayment plan at loan maturity to qualified brownfields owners or developers. It will also manage the environmental and financial risks posed by these properties for owners and developers.

The Clean Land Fund has only recently begun operations, but can benefit from the experiences of numerous state and local revolving loan funds dedicated to brownfields. It is financed by capital contributed from various private and local governmental sources and then leveraged by debt capital. The Fund has begun to provide loans throughout the Northeast and Mid-Atlantic. Loans will be directed primarily to creditworthy small to medium size companies and municipalities that might otherwise have difficulty obtaining financing. The Fund provides favorable loan terms; however, it must set rates high enough to cover its interest costs on its debt capital.

This organization represents yet another model for a private effort to facilitate brownfields redevelopment. It demonstrates that governmental efforts—such as revolving funds—can be duplicated in the private sector without many of the administrative and bureaucratic restrictions.

It would be difficult to name all the intermediary organizations currently involved in brownfields redevelopment.[109] The list of participants is growing year by year, as new organizations emerge to fill niches in the brownfields market. Support of these organizations should be a top priority of philanthropic efforts.

IV. Tax and Development Incentives

A number of tax and other development incentives are offered by federal, state, and local governments to encourage private parties to redevelop brownfields sites. These incentives typically involve mechanisms that have been applied in other policy contexts to induce socially desirable economic behavior. So although application of the incentive programs to brownfields is still new, the effectiveness of the incentive mechanisms is relatively well established.

Together with insurance and some of the other programs discussed elsewhere in this report, tax and development incentives can leverage significant private investment in brownfields. Although, like other brownfields programs, this result is accomplished at some cost to the government (and taxpayers), in many cases this cost may represent a worthwhile public investment. These incentives can lead to increases in the future tax base, offset economic costs by indirectly reducing crime, homelessness, and substance abuse created by improved community conditions, and tangible social goods that outstrip the economic costs of various projects.

Tax Increment Financing

Tax Increment Financing (TIF) is a common and effective mechanism used by local governments to provide incentives for commercial and industrial development. In effect, TIF uses part of the projected growth in tax revenues to be derived from increases in property values created by redevelopment projects to pay to permit the projects to be undertaken.

TIF funds are generally applied only to projects that would not occur but for the TIF incentives. Once it approves a project, a local government will issue bonds to finance part of the redevelopment effort. The local government and/or TIF administrator will fix property assessments for the project site at pre-development values. As property values for the project site increase, the local government and/or the TIF program will direct the additional tax revenues realized on the difference between the pre-development values and the post-development values toward payments of the obligations on the bonds.

TIF has been used for years by local governments in connection with a wide variety of economic development projects. It was developed as a means for raising the local share or match required for urban renewal projects. It works particularly well for economic development projects that provide specific, measurable benefits to a select, well defined group of taxpayers. Localities

often use TIF to pay for infrastructure development, including the creation of streets, sidewalks, water, and sewer lines.

Surveys indicate that TIF is used in the majority of states throughout the country.[110] It has only recently been directed toward brownfields redevelopment. However, a number of analysts have suggested that TIF fits perfectly with brownfields needs and objectives.[111] The City of Cleveland, Ohio, has moved aggressively to use TIF for brownfields purposes and many others are pursuing its use, as well. Minneapolis, Dallas and Pittsburgh have all established TIF districts to encourage and finance the redevelopment of brownfields sites.

Although experience in the context of brownfields redevelopment is limited, the success of TIF for other uses bodes well for its use as a tool in the redevelopment of brownfields. It is very flexible in application, with local government—probably the best situated decision-maker in terms of site familiarity and public interest motivation—making decisions and setting priorities. TIF also makes development self-financing as redevelopment projects pay for themselves through the value they create. To the extent that the projects fail to create the projected increases in property values, bondholders rather than taxpayers bear the risk.

TIF has little downside. It is occasionally criticized for directing tax revenues to private developers rather than to traditional public institutions like schools and municipal services. This argument neglects the significant public interests promoted by redeveloping contaminated property. Because TIF is based upon property assessments, it is necessarily a local mechanism. This hampers national implementation strategies. However, as national brownfields initiatives progress, policy makers must seek to encourage local government use of TIF directed at brownfields redevelopment.

Low Income Tax Credits

In 1986, Congress created the federal low income housing tax credit to encourage private investment in the acquisition, rehabilitation, and new construction of low income rental housing. It is currently the largest federal program dedicated to the promotion of creation and maintenance of affordable housing construction for low to moderate income households. It was permanently extended by Congress in the Omnibus Budget Reconciliation Act of 1993.

Under the program, the federal government grants tax credits to state jurisdictions that then allocate the credits to the developers and investors of local low-income housing developments. The tax credits may be taken annually for ten years by investors in qualified low-income housing projects to offset federal income taxes. To qualify for the credits, rental housing developments must reserve either twenty percent of their units for persons making below fifty percent of the area median income or forty percent of their units for persons making below sixty percent of the area median income.[112] The targeted units must be reserved for the target populations for fifty-five years. Twenty percent of the tax credits are reserved for rural areas and ten percent for non-profit sponsors.[113] Some states, such as California, have supplemented the federal program with their own state low-income tax credits. State low income tax credits are generally provided only to those who qualify for the federal credits.

Like all tax credits, the low income tax credit provides a dollar for dollar reduction in taxes owed. It consequently represents a significant investment by the community—which directly surrenders dollars it would otherwise add to its resource base—and serves as a powerful incentive for developers, who, in effect, receive public revenues for their projects.

Results from a recent GAO study show that the program "has stimulated low-income housing development."[114] The program sponsored the creation of 4,100 low-income housing projects from 1992 through 1994, providing private sector developers and investors with tax credits worth over $6.1 billion during that period.[115] Most of the projects were apartments; the average cost of construction was approximately $60,000, and the average monthly rent of the units created was $435.[116] The average income of the household residents was about $13,000. [117]

The program is not directed specifically toward environmentally contaminated properties and contains no incentives to select such sites for the development of low income housing. However, the low income tax credit can be used in conjunction with a subset of brownfields redevelopment projects that qualify for the credits. Brownfields sites are often located near or in economically disadvantaged neighborhoods. Many of these sites have little or no commercial or retail potential. The low income tax credit will permit developers to more readily turn these sites into affordable housing for the urban poor.

The Circle F project in Trenton utilized a wide variety of funding sources, including an allocation of Federal Low-Income Housing Tax Credits, state capital subsidy funds, and city funds. In addition, Lutheran Social Ministries, the non-profit developer, paid upwards of $500,000 of its own money for assessment and remediation activities. LSM also teamed up with NatWest Bank, who provided $4 million in construction loans. The two entities formed a "limited partnership" that would be eligible for Low-Income Housing Tax Credits. As general partner, LSM maintains control over the project, which was awarded a total of $8 million in tax credits over a period of 10 years.[118]

Tax Payer Relief Act of 1997

On August 5, 1997, President Clinton signed the Taxpayer Relief Act (HR 2014/PL 105-34). The Act contains a major new tax incentive to spur the cleanup and redevelopment of brownfields in distressed urban and rural areas. This provision permits redevelopers to fully deduct environmental cleanup costs for properties in targeted areas in the year in which cleanup occurs. Federal tax law generally requires that those expenditures that increase the value or extend the useful life of a property, or that adapt the property to a different use, be applied to capital accounts. For tax purposes, the costs are then amortized over the life of the property.

The change in the law means developers can take a much larger tax write off in year one, significantly reducing the up front cost of embarking on a brownfields cleanup. The deductions are subject to recapture as ordinary income upon sale or other disposition of the property.

The incentive applies to properties that are held by the taxpayer incurring the eligible expenses for use in a trade or business or for the production of income, or as part of the taxpayer's

inventory; contain or potentially contain hazardous substances; and are situated at "qualified" sites. Qualified sites include:

- Sites located within an Empowerment Zone or Enterprise Community (and any supplemental zone designated on December 21, 1994);
- One of the seventy-six EPA Brownfields Pilot areas designated prior to February 1997;
- Sites within Census tracts in which twenty percent or more of the population is below the poverty level;
- Sites within Census tracts that have a population under 2,000, have seventy-five percent or more of their land zoned for industrial or commercial use, and are adjacent to one or more census tracts with a poverty rate of twenty percent or more.

Both urban and rural sites may qualify for the deduction if they meet the above geographic criteria. Sites on the National Priorities List are not eligible. Before taking the deduction, a taxpayer must obtain from the appropriate State environmental agency a statement that the property is in a targeted area and is eligible for the clean-up deduction due to release or disposal of hazardous substances at the property.

The Brownfields Tax Incentive enacted by the Taxpayer Relief Act of 1997 sunsets after three years. It thus applies only to eligible expenditures incurred before January 1, 2001. During its three years of operation, the federal government estimates that the Brownfields Tax Incentive will provide deductions worth $1.5 billion.[119] This public investment is expected to leverage $6.0 billion in private investment, leading to the return of an estimated 14,000 brownfields to productive use.[120]

The Brownfields Tax Incentive was initially proposed as a permanent offering by the Clinton Administration, but was limited to three years during balanced budget negotiations. If the law produces results, lawmakers should give serious consideration to making it permanent.

Industrial Development Bonds

Industrial development bonds are offered by many state and local governments. Through these programs, governments provide grants or loans on attractive terms to developers to assist efforts to improve properties to make them suitable for industrial use. Bonds are just one form of support for such programs, which also receive funding through special property and other taxes, authorizations of unappropriated government surpluses, and proceeds from government sale of real estate and other property. The programs are generally run by government economic development agencies; however, many are supervised by special-purpose authorities or corporations.

Efforts should be made to more systematically tap industrial and economic development funds as a significant brownfields redevelopment resource. To the extent that particular funds or agencies are concerned about dealing with contaminated properties, the creation of separate brownfields-focused industrial development funds should be explored. The establishment of such entities and/or their funding may require legislation. Although the funds and agencies are necessarily

state and local enterprises, federal legislation could establish incentives such as matching funds to promote creation.

EZ Facility Bonds

As part of the Budget Reconciliation Act of 1993, Congress created the federal Empowerment Zone/Enterprise Community (EZ/EC) Program. This program, discussed at length elsewhere in this paper, is designed to promote redevelopment of economically distressed urban and rural communities and offers developers incentives to undertake such redevelopment projects. One of the incentives created by the program is a new category of tax-exempt private activity bonds for use in the designated EZs and ECs, entitled "Qualified EZ Facility Bonds."

The federal program enables state and local governments to issue EZ Facility Bonds in order to assist "enterprise zone businesses" with the purchase, rehabilitation, and redevelopment of "qualified zone property." The principal attractiveness of EZ Facility Bonds and the cause of their effectiveness in raising funds is their tax exempt status. In order to retain this tax exempt status, the bonds must be issued in accordance with general federal guidelines for tax exempt bonds as well as specific program guidelines.

In issuing EZ Facility Bonds, states must abide by restrictions on the aggregate value of bond issuance. The aggregate amount of all private activity bonds, including EZ Facility Bonds, may not exceed $50 per capita or $150 million total (the "volume cap").[121] In addition, no more than ten percent of the debt service on the bonds may be derived from, or secured by, a trade or business.[122] If states fail to adhere to these guidelines, the bonds lose tax exempt status. In addition, EZ Facility Bonds must meet requirements imposed by the EZ/EC program. At least ninety-five percent of the net proceeds from the bonds must be used to finance activity by an enterprise zone business on a qualified zone property, and certain uses related to such activity (for example, land where the business is located and a parking lot for customers and employees).[123] An enterprise zone business may not use more than $3 million in EZ Facility Bonds for any one EZ or EC, and may not use more than $20 million in EZ Facility Bonds in aggregate no matter how many EZ or EC sites are involved. [124]

The program defines an "enterprise zone business" eligible to participate as a corporation, partnership, or sole proprietorship that meets certain criteria in the relevant tax year. The requirements for eligibility as a "enterprise zone business" are relaxed during the start up of the business; it may be granted eligibility for the program so long as it shows bona fide efforts toward meeting all requirements and good prospects for achieving them. Also, an outlet of a national business that is located in a zone or community may be treated as an enterprise zone business if the local outlet would meet all qualification requirements were it a stand alone corporation. Other requirements are also relaxed in the early stages of a project. For bonds issued after July 30, 1996, a property that the owner reasonably expects will meet the qualified zone property requirements by a pre-specified "initial testing date" will be treated as qualified zone property prior to the testing date. In addition, a property that meets certain substantial renovation requirements may be deemed qualified zone property even if it was not acquired by the owner after the EZ or EC designation went into effect and/or if the owner is not the first person to use the property in an EZ or EC.

Although a powerful tool for use within EZs and ECs, the EZ Facility Bond incentive is limited in its effectiveness due to its limited scope. There are only six fully operative EZs—Atlanta, Chicago, Baltimore, Detroit ,Wayne County, New York, Philadelphia and Camden, NJ—plus a few additional cities moving toward full operation. While there are sixty ECs, most of the country is left ineligible for participation in the EZ Facility Bonds program. Moreover, the operation of state volume caps reduces the effectiveness of EZ Facility Bonds even in the areas in which they apply, as states must be wary of using too much of their private activity bond value allotment.

EZs and ECs generally contain many brownfields sites. All developers considering potential brownfields redevelopment projects should consult the EZ and EC lists to determine whether or not they can avail themselves of the benefits of the EZ Facility Bonds incentive. Meanwhile, the federal government should consider whether to expand the geographic reach of the program or grant it full or limited relief from application of the state volume cap limits in order to magnify the present effectiveness of the EZ Facility Bond program.

Real Estate Investment Trusts (REITs)

Real Estate Investment Trusts (REITs) are investment funds that make pooled investments in real estate. REITs are generally organized as corporations or other limited liability vehicles, and may be publicly or privately traded. The corporations specialize in buying, improving, managing and selling real estate properties. They act as the primary investor in the real estate properties, shielding individual investors from liability. REITs often focus on a subset of the real estate market, such as residential housing, industrial properties, general commercial properties, or shopping centers.

REITs account for a significant segment of real estate market activity. Since their advent in the 1960s, hundreds of REITs have been created throughout the country. REITs invest in virtually all forms of real estate, and are the dominant investment force behind the growth of certain segments of the real estate market, such as apartment housing and shopping centers. In 1992, REITs accounted for $6.5 billion of real estate investment.[125]

As established vehicles for real estate investment, REITs offer promise to brownfields redevelopment. Established REITs have significant expertise in analysis and planning of redevelopment projects—not to mention financial wherewithal—and should be encouraged to apply these resources to brownfields. In general, the REIT model is a useful one for brownfields, as it offers a limited liability structure and the means to reduce risk through pooled and diversified investments. Brownfields initiatives ought to focus on encouraging REITs to add brownfields sites to their portfolios and on fostering the creation of brownfields or EZ/EC focused REITs.

Revolving Loan Funds

A revolving fund is a source of money that provides loans to specified parties. Parties receiving loans reimburse the fund for the loans, often with interest. As repayments are made, the funds

are automatically rededicated to the same authorized purposes, becoming available for additional loans. So long as repayments are made, the fund will continue to have resources.

Capitalization of revolving funds may come from private trust funds or from government authorizations of public monies. There are many existing governmental revolving loan fund programs, including the wastewater state revolving funds (SRFs), the emerging drinking water revolving funds and a number of state transportation revolving funds. In some cases, the U.S. government provides money to states on the condition that they establish and manage revolving funds according to certain federal requirements. In other cases, the programs are entirely state government initiatives. Both state and federal government programs typically involve loans with subsidized interest rates and otherwise generous repayment terms.

A number of commentators have suggested that surplus dollars from the federal Superfund could be used either to capitalize a revolving loan fund at the federal level or to provide capitalization to the states to establish state revolving loan funds for brownfields activities. Dedication of only ten percent of the surplus funds could provide $440 million for loans.[126] Alternatively or in addition, state Superfund programs could set aside funds for state revolving loan funds. Some state revolving funds capable of assisting brownfields redevelopers already exist. All fifty states currently operate successful revolving loan programs for financing local wastewater treatment facilities, nonpoint source pollution control activities, and estuary program activities.

In addition, a number of local governments have set up revolving loan funds to finance local infrastructure projects. The Economic Development Administration and the U.S. Environmental Protection Agency are supporting the creation of revolving funds in cities across the nation to finance economic development and brownfields cleanup projects respectively. In 1997, EPA awarded Dallas with a $350,000 Brownfields Cleanup Revolving Loan Fund Pilot. The city matched this grant, bringing the fund's total to $700,000.

On Capitol Hill, Reps. Ralph Regula (R-OH) and Peter Visclosky (D-IN) introduced a bill to establish a revolving fund to provide states with voluntary cleanup programs with funds to support local cleanup and redevelopment projects, with states repaying the funds five years after receipt. Privately funded revolving loan funds such as the Clean Land Fund also offer hope for brownfields redevelopment.

Either type of government program would provide significant assistance to brownfields redevelopment efforts. According to many sources, a large number of brownfields projects stall due to lack of access to financing [need a citation here]. As discussed in other sections of this report, financial institutions often look warily upon brownfields projects, both because they have yet to become fully comfortable in fixing liability exposure and because insurance coverage is often not put into place (more on that later). Revolving funds dedicated to loans for brownfields projects will create a pool of capital to meet the needs for loans that financial institutions often pass on serving. The favorable loan repayment terms often included in revolving fund loan agreements will further serve to induce parties to undertake projects.

FOUR: INSURING RESULTS
The Role of Insurance in Brownfields

The function of insurance is to permit the transfer and redistribution of risk. One party—the insured—pays consideration to another party—the insurer—and in return the insurer assumes the insured's risk and distributes it across a group of similarly situated parties that have each transferred their risk to the insurer through similar transactions. Ideally, insurance should benefit the insurer and the insured.

Insurance can thus make transactions happen that otherwise would not, and, in doing so, can benefit society. Yet to do so, it must operate in practice as effectively as it does in theory. Policies must be available to consumers, they must cover the proper scope of risk, and they must be priced so that the insurance transaction leaves both the insurer and insured better off. Principally, this requires the elimination of imperfections that interfere with the smooth operation of the market. To the greatest extent practicable, risks must be accurately and precisely quantified.

The Role of Insurance in Brownfields Development

Brownfields pose risks. Virtually any party that takes a role in the redevelopment of a contaminated or potentially contaminated property faces potential economic loss. Exposure can be great and is widely distributed, as statutes such as the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or "Superfund") and Resource Conservation and Recovery Act (RCRA) and their state equivalents impose exacting standards and define responsibility expansively.

To date, much brownfields activity has been deterred by the magnitude and unpredictability of the risks that brownfields sites pose. However, the real estate market—which regularly accounts for contingencies such as changes in market conditions and interest rates and unpredictable occurrences such as fire and natural disasters—should be capable of adjusting to the risks posed by brownfields. The key is construction of an operative third party environmental insurance market.

Parties already use many traditional means to shelter themselves from risk, including government-issued "covenants not to sue" and "no action letters," indemnification agreements, adjustments in land sale prices, and "self-insurance." However, as with other types of risks, third party insurance is a crucial component of effective brownfields risk management planning. It best permits land owners and operators to fix their costs so that they can acquire property and/or proceed with redevelopment with comfort. In addition, it is capable of covering all the parties relevant to brownfields redevelopment.

As noted above, brownfields can inflict significant losses upon many parties. The potential economic losses generally flow from three risks associated with responsibility for a brownfields property: the risk of being forced to clean the site to comply with government-imposed standards; the risk of liability for impairment to property values caused by the brownfields property; and the risk of liability for personal injuries resulting from the contamination on the brownfields property.

Remediation poses certain risks. During the 1970s and 1980s, society became more cognizant of dangers posed by environmental contamination. In response, federal, state, and local governments crafted laws imposing rigorous standards of environmental cleanliness and making property owners (and certain other parties) responsible for compliance. The result is that statutorily-responsible parties may be liable for the costs of any mandated cleanup to a federal and/or state government or to a private, third party that either shares the risk of cleanup liability or is potentially harmed by existing site contamination. The costs of clean-up that may be borne by a responsible party are wide-ranging, including the cost of assessing and remediating a site, the cost of overruns, and the cost of any legal fees stemming from liability actions.

Even following a cleanup, the risk of residual liability for further cleanup remains. A responsible party remains at risk for compliance with regulatory changes that occur after approval or completion of remediation. Moreover, additional remediation may be required upon recontamination or the post-remediation discovery of additional contaminants. A party may not even fully rely upon a governmental release, which is typically provided in the form of a "prospective purchaser agreement," "covenant not to sue," "no action letter," or "comfort letter" that, under specific terms and conditions, purports to release a party from potential liability to the government and/or clarifies a potentially disputable legal or factual issue. These releases do not release the potential claims of third parties. Moreover, a government will generally carve out from a no further action letter or covenant not to sue the government's rights to bring an enforcement action for contamination knowingly not addressed by the approved cleanup action or for later-discovered contamination that was not disclosed to the state.

In addition to being wide-ranging in scope, remediation risks potentially apply to many parties. Potentially responsible parties under CERCLA and similar statutes include: (1) present owners and operators of a Superfund, even if they did not contaminate the property; (2) past owners and operators of the facility where hazardous substances were disposed of improperly; (3) persons who arranged for the treatment, disposal, or transportation of hazardous substances at the site; and (4) persons who transported hazardous substances to disposal or treatment facilities that they selected. Moreover, liability is joint and several, meaning each potentially responsible party is potentially liable for <u>all</u> cleanup liability.

Major participants in brownfields redevelopment—including redevelopers and their financial backers—also face the risk of third party lawsuits for property damages caused to neighboring sites. As with remediation exposure, a party cannot extinguish its exposure to third party property-damage lawsuits through a well executed site cleanup. For one thing, spill-over contamination and stigma may linger beyond a cleanup. Moreover, no legal mechanism exists at either the federal or state level whereby a redeveloper can insulate itself from third party lawsuits; government has no right to release a party from liability to third parties under CERCLA or applicable state laws.[127]

A party involved in the redevelopment of a brownfields site also faces risk that, if site contamination exists, it will bear the costs of lawsuits stemming from bodily injury caused by contamination existing on-site or migrating off-site. For the same reasons outlined above, a party cannot extinguish exposure to third party claims via a thorough property cleanup. Environmental insurance is designed to meet the distinct needs of each relevant party.

Property Owners and/or Property Sellers

Although an owner of brownfields property faces significant exposure from that property whether or not it decides to redevelop or sell the property, the owner to some extent increases exposure by pursuing redevelopment. Activity on a property will call more attention to it. Activity may lead to the discovery of new contaminants. Remediation can spread existing contaminants, lead to neighborhood nuisance, and/or business interruptions.

Property owners can manage their existing and prospective risks before undertaking brownfields activity through insurance policies that include**:** pollution cleanup, owner-controlled insurance, pollution and remediation legal liability, remediation stop-loss, contractor's pollution legal liability (as owners and operators will be jointly and severally liable for such), and consultant's environmental liability (as owners and operators will be jointly and severally liable for such). Most likely, a comprehensive policy covering all of the above types of insurance will make sense.

Property Purchasers

A prospective purchaser that has not previously been involved with a site has the most to lose, as it acquires full responsibility for all liability stemming from past contamination of the site. Even if the purchaser factors costs associated with known contamination into the purchase price, it will be at risk for any residual contamination that remains due to improper cleanup or any new contamination that is discovered during the remediation process. It also will be responsible if the remediation process leads to the migration of contamination and/or creates any third party property damage or personal injury. The purchaser will also be responsible for future cleanup necessary due to changes in governmental standards. The purchaser will need to rely on insurance to cover all of the risks discussed above as it will be responsible for each and may well demand that insurance be in place before completing the purchase transaction.

Contractors, Project Managers, Consultants, and Lawyers

Contractors, project managers, consultants and lawyers may be directly responsible to third parties under CERCLA, RCRA and analogous statutes as parties who arrange for the treatment, disposal, or transportation of hazardous substances at brownfields sites; and transport hazardous substances to disposal or treatment facilities that they select. Contractor, manager and consultant activities also have the potential to aggravate existing contamination, lead to its migration and lead to additional contamination expenses, making contractors directly liable to injured parties under common law tort principles. All third party professionals can also be liable to site owners and operators for any professional malpractice.

Contractors which take part in brownfields redevelopment will want, at a minimum, to have contractor's pollution legal liability insurance and to ensure that the owner/operator of the site has adequate insurance to cover other risks for which they can be jointly and severally liable. Consultants will want consultant's environmental liability insurance. Lawyers will want legal malpractice insurance.

Financial Institutions

Until recently, financiers that lent money to owners or operators of brownfields sites had little ability to control their exposure to brownfields-related risks. Courts found that lenders were directly liable for cleanup costs and damages (including personal injuries and property-damage costs) under CERCLA and CERCLA-like statutes if they had the capacity to participate in the management of a polluting business or contaminated site, whether or not they actually participated in management or held the polluted property as a collateral. To the extent that a lender foreclosed upon a site held as collateral, it automatically became an owner of the site, subject to strict and joint and several liability.

As noted earlier in this paper, CERCLA was amended in 1996 in order to limit lender exposure. Lenders are now insulated from liability under CERCLA unless they become active managers of a brownfields property in which they hold a security interest. Lenders are now also permitted to foreclose upon property without losing liability protection.

Still, the CERCLA amendment does not fully protect lenders. Lenders must still be concerned with a number of risks:

- the ability of borrowers to repay loans since borrower's ability to do so may be jeopardized by cleanup costs;

- the diminution of the value of their collateral, since, if they do foreclose, buyers will fear environmental problems;

- the danger that despite the legislation they may still be liable under CERCLA, especially if after foreclosure they are forced to get involved in removing hazardous substances from their sites;

- the danger that they could still be liable under twenty-five other federal statutes and a myriad of state laws;

- the danger that irrespective of protections from liability they may be named as defendants by other private parties looking to tap financial "deep pockets" to recoup cleanup expenses.

Insurance can protect lenders against the risks that borrowers will be unable to make loan repayments and the risk that they will themselves acquire direct legal liability. Lenders will almost certainly require that creditors have full insurance in place as a prerequisite to any loan.

Economic Development Agencies

Economic development agencies seek to foster development and redevelopment, often focusing upon locations that would otherwise be unserved by the free market. Yet despite a public interest point of view, economic development agencies cannot ignore economic realities. Discovery of environmental issues on the site may make redevelopment out of reach financially,

especially when exposure to brownfields liability risks are considered. An economic development agency, just like a private, for-profit entity, must shelter itself against the full risk of environmental statutes and regulations.

Environmental insurance has the power to facilitate brownfields redevelopment that would otherwise not occur. Under existing law, a variety of participants in brownfields redevelopment—owners/sellers, buyers, contractors, project managers, consultants, lawyers, financial institutions, economic development agencies and municipal and state governments—are all exposed to potential financial ruin upon the development of greater-than-expected environmental problems on a brownfields site with which they are involved. Insurance provides a risk management tool whereby these parties can set their environmental liability risks and transfer them to another party. In return for premium payments and/or payment of a set negotiated deductible amount, the insureds acquire protection against unanticipated costs, third party claims, the acts or omissions of other parties, and impairment of property values.

Other risk management techniques exist. Indemnification and hold-harmless agreements contractually allocate risk among parties. However, they are only as strong as the indemnifying party since upon that party's default the joint and several nature of liability permits third parties to sue the indemnified party. Government releases through "covenants not to sue" and the like are limited in effectiveness since they cannot release the claims of third parties. Parties can only take so much comfort in competent, thorough site assessments and due diligence. Adjustments in sale prices to reflect environmental liability cannot accurately account for as-yet-undiscovered contamination. Given the magnitude of potential environmental risk posed by brownfields, self-insurance (set asides to cover risk) is satisfactory only to the deepest of pockets. In short, complete transfer of risk to third parties is far and away the most satisfactory means by which a brownfields participant can eliminate or reduce the uncertainty that exists for all parties involved in a brownfields property transaction.

The Availability of Coverage

A number of formal and informal surveys have been conducted to determine the availability of environmental insurance for use by brownfields participants.[128] Do policies exist, are they widely offered, and are they broad enough to cover all relevant risks?

In general, the results of the surveys are encouraging. Analysts have found that insurance is available through major insurance companies. Policies exist that focus upon all of the major financial risks posed by brownfields, including pollution cleanup, pollution and remediation legal liability, remediation stop-loss, contractor's pollution legal liability, and consultant's environmental liability. The environmental insurance market is not yet fully mature. Actuarial data, customer knowledge, and competitive pricing for all segments of the market are still developing. But interviews indicate that the insurance industry is becoming ever more comfortable with the risks posed by contaminated or potentially contaminated property and its ability to quantify them. Ultimately, there is every reason to believe that environmental insurance is becoming widely available and capable of meeting many of the risk transfer needs of brownfields participants.

Major Insurance Companies Offer Policies

Environmental insurance covering the risks posed by brownfields is offered by a number of major insurers. Two of the largest such companies are American International Group (AIG) and Zurich-American Insurance Company, both AAA rated insurance companies. Among other companies writing environmental policies are ECS, a subsidiary of Reliance National Insurance Company and an A- rated insurer), and United Coastal Insurance.

Numerous environmental insurance underwriters, brokers and environmental insurance consultants also exist. Among those often cited are J&H Marsh & McLennan Inc., ECI Inc., National Environmental Coverage Corp., LandBank, Environmental Warrantee, Lohman Insurance, BC Environmental Insurance Brokers, Inc., The Eric Group, Willis Corroon Environmental Risk Management Services.

A wide variety of policies are offered, mixing and matching types of coverage. The most common types of coverage are:

Pollution Cleanup

Pollution cleanup coverage protects potentially responsible parties against the financial risk that they will have to pay to remove presently unknown and/or not-yet-existing contamination in order to comply with government-imposed cleanliness standards. Insurance permits potentially responsible parties to set costs related to such potential cleanup. Complete coverage will account for the broad nature of cleanup responsibility imposed by CERCLA and CERCLA-type statutes.

Owner-Controlled Insurance

Owner-Controlled Insurance provides an owner of a site, a business operating on a site, or firms engaged in mitigation or removal and transport of the hazardous materials found on a site with protection against third party damage claims. This includes coverage against claims for demonstrable health damage, for effects such as income losses associated with inability to use a site, and for so-called “diminution of value,” reduction in the value of the property or adjacent/nearby properties.

Pollution and Remediation Legal Liability (PARLL)

PARLL effectively encompasses both pollution cleanup and owner-controlled insurance coverage, combining coverage for first-party (on-site) cleanup and third-party pollution legal liability (bodily injury, property damage and cleanup costs). It covers unknown, pre-existing contamination, current and future operational and environmental exposures, as well as the costs of an investigation, adjustment or defense of claims. Defense coverage, which provides coverage for the costs of legal defenses, is generally optional, although often incorporated into liability coverages.

Remediation Stop-Loss/Cleanup Cost Cap

Stop loss coverage protects an insured against a cleanup project that runs substantially over budget. Before undertaking a brownfields redevelopment project, a party must set its budget, allocating funding to the cleanup of contamination and/or the cost of mitigating exposure risks on the property. The party generally must also set aside funds for cost overruns and other uncertainties related to cleanup. At some level, cost overruns will be intolerable. Stop loss insurance helps reduce the risk of crippling cost overruns.

Contractor's Pollution Legal Liability (CPL)/Contingent Contractors Coverage

CPL coverage provides protection against accidents resulting from contractors remediation activities. It covers both sudden and gradual pollution conditions that result from covered operations performed by the insured. It thus provides protection against third-party bodily injury and property damage claims as well as cleanup and defense costs. Under CPL policies, the insureds' clients may be covered as additional insureds.

Consultant's Environmental Liability (CEL)

CEL policies combine CPL coverage, discussed above, with environmental professional liability coverage. The professional liability component of a CEL policy will generally cover "errors and omissions" related to environmental issues made by project consultants, project managers and engineering and legal firms. Professional liability insurance is available not only as a component of a CEL policy, but also in a stand alone form for each type of professional (e.g. lawyer's environmental malpractice insurance) or in an aggregate form for property owners or operators.

Comprehensive Policies

Comprehensive policies are available that shield brownfields participants from all risks that accompany brownfields activity, including remedial action, cost cap coverage, and coverage for post-remediation liabilities. These policies provide coverage for first party (on-site), third party pollution legal liability, and unexpected and unanticipated cost increases incurred during an approved site clean-up (remediation stop loss). The comprehensive policy can be transferred by an insured owner along with the property, facilitating sales of brownfields properties.

Environmental insurance has developed significantly over the last few years as insurers have become more comfortable with their ability to evaluate environmental risks. Today, industry analysts categorize environmental insurance as a "buyer's market."[129] The major trend in the environmental insurance market has been an increasing comfort level felt by insurance companies regarding the risks at issue. In general, more companies are entering the market and offering more products.

Insurance companies are also becoming increasingly flexible in their willingness to combine coverage's and vary the amount of coverage in different elements of a combined policy, and have moved away from fixed ratios to tailored mixes. Insurers offer both off the shelf and customized policies, providing flexible and responsive products that permit brownfields projects to proceed.[130] The trend toward more flexibility in policy offerings in many cases permits consumers to more efficiently find and purchase coverage. Consumers do not have to purchase

broader coverage than they want or need and do not need to purchase multiple policies to stitch together the full range of coverage that they want.

Another recent development has been a trend toward longer terms being offered for many policies. Many policies now offer coverage extending for ten years, whereas the previous maximum was three to five years. The longer tail is highly significant, as it lets parties satisfy medium- and longer-term cost-benefit planning goals.

The trends in the marketplace have made virtually full coverage of environmental risks possible. Coverage for certain types of risks remains tough to find, such as insurance costs incurred in defending rare but potential "private enforcement action" suits filed by private citizens to impose cleanup programs on property and/or, to pay damages for harm caused to animals, aquatic life, or entire ecosystems. However, for the most part, effective insurance of otherwise activity-deterring risks is now relatively easy to achieve. Many experts now predict that environmental insurance is on its way to becoming as standard and integral a part of commercial real estate transactions as title insurance.[131]

Cost of Coverage

The fact that insurance is available to cover all the risks posed by brownfields redevelopment is only half of the story. The insurance must also be available at reasonable prices relative to the risks it covers in order to best facilitate brownfields redevelopment.

To date, there have been two major barriers to reasonable pricing: (1) insurer uncertainty regarding the risks posed by brownfields, and (2) significant set costs in pricing any policy that increase the relative cost of coverage for small, less lucrative projects, often making the cost of insurance prohibitive.

Because insurance companies are themselves conservative and risk averse, their reaction to uncertainty regarding the risks posed by a potentially insurable event is to either not write coverage at all or set the price of coverage high enough to protect themselves from high levels of exposure. In practice, this led insurance companies to price most prospective environmental projects out of feasibility for a number of years as they attempted to learn the true nature of the risks posed by contaminated and potentially contaminated sites.

Recently, insurers have become more familiar and thus more comfortable with environmental risks. As a result, in general, the price of insurance has dropped. Typical coverage ranges from $2 to $10 million per policy, but overall policies range in coverage from $100,000 to $40 million per policy, with minimum coverage falling in the $100,000 to $1 million range and maximum coverage ranging from $10 million to $40 million per policy, depending on the insurance company.[132] Premiums on these policies now range from $5,000 to $1 million, with widely variable deductibles; typical environmental insurance premiums average $5,000 per $1 million of coverage , but a fraction of the cost of the same coverage just a few years ago.[133] These cost decreases may result in more brownfields projects carrying insurance.

However, some problems relative to coverage for smaller projects remains. To some extent, this problem applies generally to the insurance industry. All policies require some amount of administrative time and expense on the part of the insurer. These costs, of course, are passed along to the insured. With huge policies, the administrative costs are dwarfed by the coverage costs and thus are so spread out over the total costs of the insurance that they are hardly felt. However, proportionate to the cost of the coverage itself, administrative costs are far greater for small policies. Hence, the smaller insured pays relatively more for the same unit of insurance.

The small insured problem is exacerbated in the environmental insurance context. One significant reason is that the risks posed by a particular site are highly unpredictable absent the collection of detailed project and site specific data.[134] This data requires extensive, expensive surveys and assessments to determine the risks involved and the appropriate level of the coverage fee. These expenses are recouped through a policy, or underwriting, fee, which is a fixed charge to all insurance applicants regardless of the amount of coverage sought (and regardless of whether insurance is obtained). Insurers may also require a substantial up-front premium payment and set substantial deductibles, on all policies issued, again regardless of the coverage amount. These fees can raise the total cost of coverage to an uneconomical level for small projects or those with relatively low projected site cleanup costs and similarly limited liability risks.

A survey conducted by the EPA revealed that the small insurance problem has kept the volume of sales of insurance policies low industry-wide. Eight major companies in the environmental insurance industry confirmed that policies focus on the "high" end of the market; parties other than large, well-financed corporations often do not qualify for insurance and find it too expensive for their needs in any event. As a result, insurance is rarely bought by such parties and many potential redevelopment projects are never undertaken.

Recently, insurance companies have attempted to ameliorate the small insured problem (and sell more insurance) through the pooling of risks into portfolio or pooled coverage. One insurance application can apply to the risks borne by multiple parties, or multiple risks borne by the same party. Through this mechanism, some economies of scale are acquired, and the price of insurance for each smaller insured can be reduced.

The small insured problem will never be completely solved; it is one of the inefficiencies of doing business on a smaller scale (which, in certain contexts, can be offset or more than offset by certain efficiencies of doing business on a smaller scale). However, additional efforts to create mechanisms such as pooling that can reduce some of the relative burden on small insureds will undoubtedly occur and should further reduce costs. Likewise, additional experience with environmental insurance will further reduce insurer uncertainty and lower insurance costs. As the price at which an insurer can make a profit of an insurance contract goes down, more parties will purchase insurance and more brownfields will be redeveloped.

Mechanisms to Encourage Use of Insurance

As has been detailed above, insurance plays a vital role in plans to redevelop brownfields, just as it does in all types of real estate projects. Overall, it appears that environmental insurance is on

the right track. Some developers maintain that the availability of insurance has been more important than state legislation in limiting their liability.[135] Many brownfields projects are using insurance and proceeding to create economic benefits for private and public parties. The challenge is to continue to make cost-effective insurance more available to more parties so that brownfields redevelopment can go forward. The market is already moving in that direction. The only question is how far and how fast it will go.

A review of relevant studies and prognoses suggests three broad types of activity that could enhance environmental insurance market operation and accelerate greater availability of cost-effective coverage:

Precise Definition of Risks

Based upon the principle that insurers react to uncertainty by overpricing coverage, it follows that activities that help define relevant risks with precision have the potential to reduce the cost of coverage. Greater information and improved underwriting tools and methodologies would help to better determine potential risks in brownfields projects.

Even complete information on issues relevant to risk will have a limited ability to define risks so long as legal liability application standards are not well defined. Federal and state hazardous waste laws must be further refined or amplified so that parties can better predict when and how much they will be liable. Enforcement and application of law should not be arbitrary. If government makes environmental liability standards clear, insurance and other costs will accurately reflect considered policy determinations, and economic cost-benefit analyses and resulting behavior will proceed accordingly.

Adjustment to Market Imperfections

Economic markets never operate perfectly. As was discussed above, in the context of insurance generally and environmental insurance particularly, one significant imperfection is the relatively greater cost of insurance for smaller, less lucrative projects. The administrative cost of writing the insurance, rather than the cost of coverage reflecting the risks involved, may make many otherwise sound projects unsound economically. Additional beneficial brownfields redevelopment will occur to the extent that adjustments can be made to offset some of the inefficiencies. Possible strategies include:

- ***Packaging and pooling risk:*** As was discussed above, some efforts to create efficiencies of scale through pooling of risk are already taking place. To the extent that public and private activities can help smaller insureds and projects with potential for pooling find one another, it can assist these efforts.

- ***Gap Filling Financing:*** Limited, directed assistance may help small parties and projects to pay for underwriting fees and other set charges. Public interest entities may also lend guarantees that permit smaller parties and projects to take out insurance when they would otherwise be denied policies for lack of resources.

- ***Product Awareness Efforts:*** Many surveys have revealed that potential insureds often do not possess adequate knowledge of potential environmental insurance products. Hence, they do not explore insurance as a mechanism that can help them transfer risk that otherwise deters activity. While dissemination of insurance information is clearly the responsibility of the insurance industry, public and private entities can assist brownfields redevelopment by aiding the dissemination process.

Both the insurance industry and the commercial real estate industry are used to managing risks, often cooperatively. While it has taken both industries a while to digest the new risks posed by environmental statutes constructed in the 1970s and 1980s, experience and comfort with environmental liability is growing. Ultimately, the environmental insurance market should mature so that it operates as effectively as other insurance markets covering real estate related risks. Some spot assistance could accelerate the maturation process. Moreover, some market imperfections will always exist; spot assistance may overcome some of these imperfections and lead to more optimal levels of brownfields redevelopment.

This report makes clear that many issues must be resolved in order redevelop tier two and three sites (those sites that will not be redeveloped strictly through the private market) and to move brownfields forward. Fear of liability, the stigma associate with contaminated properties, lack of financing, and lack of information must be eliminated through the joint effort of federal and state governments, the private and non-profit sectors and philanthropic institutions. If these stakeholders commit themselves to meaningful brownfields support and funding, the number of successful brownfields projects will increase dramatically.

FIVE: TURNING BROWNFIELDS INTO JOBFIELDS: A CALL TO ACTION

In the past few years, stakeholders in a growing number of urban neighborhoods and rural areas have come together to make brownfields redevelopment work. These stakeholders recognize the economic and environmental potential of brownfields redevelopment and are committed to dismantling the barriers that continue to stymie redevelopment activity. The case studies examined in this report are proof that innovative, effective solutions to the many obstacles facing redevelopment projects can be found. From our case studies and research we know that brownfields redevelopment will thrive under the right conditions. And conditions are favorable. As the U.S. economy continues its record-breaking expansion, generating higher tax revenues, corporate profits, and consumer spending, public and private institutions have new flexibility to invest in these complex and challenging projects. In numerous cities, brownfields and related development efforts have flourished, spurring new job creation and business investment in once crumbling urban cores. While cities still face major problems, the record of the last decade is clear that smart redevelopment can become an anchor for sustained, substantial growth.

Our challenge is to create the policy and practice environment brownfields stakeholders need to move redevelopment projects forward. This chapter outlines major recommendations that are needed to catalyze brownfields redevelopment. The first set of recommendations address those areas where timely, strategic investment by the non-profit sector would be the most effective intervention. The second set of recommendations suggest policies the federal government should consider. While brownfields stakeholders continue to work with government to address the many public policy issues, the non-profit community should implement the following recommendations immediately and aggressively.

1. Increase the Capacity of Community Development Corporations and Other Community-based Organizations to Participate in Brownfields

Public and private efforts could have a particularly positive influence on brownfields by increasing the capacity of community development corporations and other community-based organizations. Non-profit organization, philanthropic institutions, and local governments should make a significant financial commitment to this endeavor.

As discussed previously, CDCs play an essential role in community-friendly brownfields redevelopment. We also noted that CDCs are seriously under funded and under equipped to deal with the complexity of redevelopment. Non-profits and philanthropic institutions, particularly those with a focus on urban revitalization and community building, would make an ideal partner for CDCs by providing support to finance a whole range of activities, including:

- Planning activities, such as community meetings, design charettes (an intense effort to address design issues within a limited time), and economic and market studies. These activities can culminate in a comprehensive master plan for the site. In addition, support could be provided to help communities develop a comprehensive neighborhood plan that would articulate the goals of the community and provide a blueprint for community wide growth and development. Philanthropic institutions could provide pilot planning grants to joint local government-neighborhood groups to develop a vision for neighborhood redevelopment that include remediation of brownfields and improving neighborhood quality.

- Neighborhood outreach to assess the needs of the community and to keep local residents informed of project progress.

- Hire professional brownfields staff to assist with project management. Staff would include technicians to assist on assessment and remediation, brownfields financing, or regulatory requirements. The ideal brownfields professional would be familiar with all these aspects of brownfields redevelopment.

- Mediation/neutral third party services, to help CDCs negotiate and work with other project partners when necessary. The mediator would be in charge of addressing areas of conflict and developing strategies to resolve the issue. The mediator would facilitate meetings, take notes, perform necessary follow up activities, form agendas and negotiate conflicts. This allows the CDC (and other partners) to spend time on other facets of the project while conflict issues are being resolved. Once agreement is reached, the mediator would then make sure that all parties stick to the agreement. By addressing conflict in this way, the mediator would ensure that all parties are considered in the dispute, and prevent conflicts from escalating to the point that the project is derailed

- Develop and implement long term institutional controls over cleanup standards and end use. Many states and localities now allow developers to tailor cleanup according to end use, capping or containing contaminants on site. It is important that, over the long term, end use continues to be compatible with the conditions at the site, to ensure that conditions are safe for residential areas. Ideally, these controls would be monitored by the community or municipality, not the developer or owner (trustworthy though they may be). With support, CDCs can develop ways to ensure that the long term safety of local residents is maintained.

- Provide job training to local residences so that they can take advantage of employment opportunities created by the redevelopment. Non-profit organizations such as the Local Initiative Support Corporation (LISC), philanthropic organizations or local governments could provide pilot job training grants to CDCs and community-based organizations. These grants can be used for a wide range of activities that: identify the types of jobs the project will create, the types of skills required, and the training local residents will need to fill these jobs ; find or establish training programs targeted to the identified jobs; assist local residents in enrolling in training programs and accessing other job training services, such as career counseling, resume writing and interviewing skills; work with providers of environmental and construction services and end users to match local residents with job opportunities and create on-site learning opportunities.

In short, public and private entities can offer CDCs the support they need in order to fully participate in the brownfields process. They can accomplish this by creating a specific brownfields program area, or by incorporating brownfields into existing urban revitalization, job training, and community development program plans. Either way, they should commit significant resources to provide the support that CDCs desperately need. With this support, CDCs will be playing on a level field with developers, municipalities, and other brownfields

stakeholders. By partnering with CDCs and other community based organizations, non-profits, foundations and local governments can increase exponentially the capacity of local residents to participate in the growth and redevelopment of their communities.

2. Create a Nationwide Group of Brownfields Development Corporations

Non-profit organizations and philanthropic institutions should fund the creation of brownfields development corporations.

Most of the financial intermediaries that currently work on brownfields and brownfields-related issues have a regional or local focus. Philanthropic institutions and other non-profit organizations should create a nationwide group of intermediaries to stitch the various local and regional efforts together, giving them greater coherence, stature and resources.

A few such corporations exist in the private sector. For example, Brownfields Realty, Ltd., is a Pennsylvania company that provides comprehensive services to the owners of environmentally impaired properties.[136] According to company literature, Brownfield Realty "will assume regulatory responsibility for the environmentally compromised property, provide funds for efficient remediation, provide environmental insurance and/or secure agency approvals necessary to return the property to profitability." The company will also buy contaminated properties, at which point it "provide a full indemnification to the owner for all environmental liability." The company recoups its investment through redevelopment and sale or lease of the property.

Likewise, the Brownfields Recovery Corporation (BRC) also buys and redevelops brownfields properties.[137] BRC, a New England based company, is a partnership between Environmental Reclamation, Inc. (ERI) of Cape Cod, a remediation firm, and Mugar Enterprises, Inc. of Boston, a commercial realty firm. BRC buys contaminated properties, with ERI providing the technical expertise and Mugar Enterprises addressing real estate issues. And like Brownfields Realty, BRC provides a solution to liability and financing issues plaguing many brownfields sites.

The creation of non-profit brownfields development corporations will provide a vehicle for the participation of many brownfields stakeholders that have not been helped by current federal and state level programs. The corporations would offer services to both publicly and privately owned sites, services that include financing, technical expertise, and regulatory assistance. The corporations would work in partnership with relevant state and federal regulatory agencies to ensure full compliance with regulatory requirements.

The development corporations would agree to hold the parties harmless in the event the parties faced future liability not caused by their direct actions, and the liability would be assumed by the corporations themselves. Such contracts should be relatively easy to draft and should be very attractive to the parties to whom they are offered.

Insurance coverage would be essential to cover the risk absorbed by the brownfields development corporation. The purchase of insurance would guarantee that the development corporation would have the resources to meet any future obligation. With insurance, the risk assumed by publicly created brownfields development corporations can be controlled and shared.

Without it, or some other mechanism to replace insurance, the risk is too high, for a public corporation or a private one.

The non-profit sector should make a major investment in developing brownfields redevelopment corporations. A significant investment of philanthropic capital would result in well-capitalized entities able to tackle the legal, financial, and environmental complexities of redevelopment for a wide range of products. Such an approach would provide the opportunity to address the brownfields liability issues in innovative ways that would allow for a solution within the context of current laws.

3. Support Existing Brownfields Intermediaries

Philanthropic organizations, state and federal governments, and the private sector should fund and support existing brownfields intermediaries. Intermediaries have the ability to provide a host of specialized services not currently available to brownfields stakeholders. As such, they have the potential to play a major role in future brownfields redevelopment efforts.

Significant gaps exist in current brownfields funding and support structure. The most obvious is a shortage of financing for the "up front" costs of assessment and remediation. In addition, many brownfields projects are stymied because developers cannot find reliable information regarding cleanup regulations, sources of financing or effective redevelopment techniques. Some projects have both the necessary financing and the technical know how, but struggle with dissension among the redevelopment partners over how to proceed. And there are those sites that will never attract private investment until they are assessed and remediated and have received the necessary regulatory approval. These sites require a party that is willing to shoulder the cost and responsibility of readying parcels for the private market.

Non-profit brownfields intermediaries such as the California Center for Land Recycling, the Development Fund, and the Consumers Renaissance Development Corporation play an invaluable role in filling gaps left by current brownfields initiatives, including:

- Information Dissemination: Due to the large number of issues and problems presented by brownfields, an information clearinghouse that collects, stores and effectively disperses information on subjects ranging from financing sources to cost effective remediation techniques to regulatory burdens can be invaluable.

- Neutral Third Party: A neutral organization with no financial interest in a prospective project and with a trustworthy reputation can play an important role in bringing essential parties together, verifying remediation plans and long term risk based land use; providing dispute resolution and mediation between parties, such as developer and community; promoting effective community education of the science and risks involved in a project; and gathering community concerns and aspirations for the purpose of finding common ground with proposed projects.

- Central Planning: Sometimes, a land recycling company is better placed than a private developer to make a project happen. In such cases the company may work with various

community interests—city government, redevelopment agencies, community and environmental organizations and private interests—to put together an economically feasible plan which results in cleanup and community enhancing reuse. In such cases, the company may either self-finance and own/manage the project itself or may work together with a third party purchaser.

- Financing: land recycling companies and financial intermediaries may also directly finance brownfields assessment and cleanup activities.

Non-profit brownfields intermediaries exist in a number of states, and their activities generally have a state or regional focus. These organizations were formed in response to a particular set of local needs, be it lack of information, financing or technical assistance. As a result, they are best able to assess the needs of local brownfields stakeholders and facilitate brownfields redevelopment in their area. But as non-profit organizations, most of these organizations operate with limited financial resources. The range of activities they can engage in, and the number of stakeholders they can serve, are similarly limited by financial constraints, regardless of how critical their services. To expand the power and ability of these organizations to facilitate brownfields redevelopment, resources should be directed toward supporting existing intermediaries.

Both the public and private sector should make a major financial commitment to brownfields intermediaries. This funding is critical if the more marginal brownfields sites are to be redeveloped, as brownfields intermediaries are particularly sensitive to the smaller, more polluted, underfunded brownfields projects. Only a small portion of brownfields projects receive EPA or other federal assistance. Another small portion of sites are redeveloped by the private sector. These sites are often lightly contaminated, well located properties that require little or no outside assistance. But the remainder of the sites require some level of subsidy if they are to be redeveloped and returned to productive use. Brownfields intermediaries offer these sites the assistance they need.

4. Create a Brownfields Information Network

To increase the amount of information available to brownfields stakeholders, non-profit organizations should fund the creation of a comprehensive brownfields information network.

Although several Internet sources provide a great deal of brownfields information and education, no site has assembled a comprehensive collection of brownfields resources. We have identified lack of information as a barrier to redevelopment, and it is crucial that more information be made available to all brownfields stakeholders, including lenders, developers, community organizations, project managers, and land owners. Unfortunately, federal and state governments are not particularly adept at creating such systems. Government agencies tend to be too slow, too bureaucratic, and subject to political pressures. Instead, the network should be funded by one or more non-profit or philanthropic organizations and housed in a non-profit or university setting. A relatively modest investment could create and maintain an on-line resource that would contain publications, information on insurance products, regulatory requirements, and funding options, consultants, engineers, lawyers and developers, and present models, best practices and

case studies of successful brownfields redevelopment. Links should be established to all useful brownfields resources, and the site should feature interactive functions such as discussion forums, chat rooms, "Ask the Experts," and other mechanism to allow brownfields stakeholders to share their knowledge and experience.

This report makes clear that money and support is available for brownfields developers and stakeholders. But it also makes clear that these resources are fragmented, poorly organized, poorly publicized and, therefore, not easily accessible. The case studies in this report provide ten models of innovative brownfields projects. What is needed are more models of successful brownfields redevelopment that demonstrate how to make things happen in the real world, models that can be replicated by other brownfields stakeholders. In particular, lending institutions and the private sector need models of how to manage the complex liability issues that pose the greatest barriers to widespread redevelopment. With a relatively modest investment, non-profits can study and publicize on the Brownfields Information Network examples of successful brownfields redevelopment.

In addition, non-profit organizations should fund community education programs. Stigma and liability are issues that often impede brownfields cleanups. There are many brownfields education programs in the U.S, but few are targeted to the grass-roots and the community, particularly, faith-based and local citizens groups. The programs currently in operation are small in scope and fail to reach youth and fail to set up ways in which members of a community with similar problems can meet and exchange ideas.

Non-profits could make a major contribution by funding the development of an education program that talks about how brownfields redevelopment could improve neighborhood quality, lead to jobs, and increase public health. Developing a high quality program, including the development and distribution of educational materials, would require a relatively modest investment. Program information would also be made available on the brownfields information network. A carefully thought through educational program created for brownfields and neighborhood redevelopment would substantially expand the education efforts in place today by placing brownfields redevelopment in the context of larger neighborhood, economic and social issues.

5. Improve the Environmental Information Available to Insurance Companies

The private and non-profit sector should assist insurance companies in improving the underwriting methodologies they use by increasing and improving the environmental information available to them.

The key to giving mainstream financial institutions further comfort, and thus to accessing significant additional funds for brownfields projects, is insurance. Insurance can protect lenders against the risk that borrowers will be unable to make loan repayments and the risk that they will themselves acquire direct legal liability. Lenders will almost certainly require that creditors have full insurance in place as a prerequisite to any loan.

As has been detailed previously, it appears that, overall, environmental insurance is on the right track. Many economic brownfields redevelopment projects are already employing insurance and proceeding to create economic benefits for private and public parties. The challenge is to continue to make more cost-effective insurance available, so that more brownfields redevelopment can go forward. The market is already moving in that direction, although the use of environmental insurance on brownfields projects is still limited. The question now is how environmental insurance can reach a broader audience and how fast it will go.

Three broad types of activity have the potential to enhance and accelerate greater availability of cost-effective coverage: precise definition of risks; adjustments to market imperfections; and improvement of market awareness of products.

Based upon the principle that insurers react to uncertainty by overpricing coverage, it follows that activities that help define relevant risks with precision have the potential to reduce the cost of coverage. Such activities will certainly relieve imperfections in the market and make it operate more efficiently. In order to achieve this result, emphasis should be placed upon improving the environmental information available to insurance companies and the underwriting tools and methodologies they use.

While the insurance companies are best placed to refine tools and methodologies, these can only be as useful as the data fed into them. Thus public and private efforts to create comprehensive data banks containing community and site specific contamination information, liability histories, lender/creditor policies and reports, and other information pertinent to assessing risk, will help insurance companies better understand the true nature of risks for any given site, reduce costs, and promote wider availability of insurance.

6. Break the Logjam of Sites Mothballed by Corporate Deep Pocket Owners

A number of people interviewed for this report stressed the issue of mothballed sites as a problem that must be solved. They articulated a unique role for philanthropic institutions: to help Deep Pocket corporate land owners to return idled sites to active use. As discussed previously in this report, the prevalence of sites mothballed by, typically, Fortune 500 corporations that fear being held liable for contamination on their property, or want to avoid the expense of cleanup, is a barrier to brownfields redevelopment. Yet these properties may be located in a residential area, posing a health threat and contributing to neighborhood blight. Or it may be a property that a local municipality needs as part of a larger redevelopment (one mayor of a small New Jersey city has sued a large corporation over mothballed sites, arguing that one third of the entire city is stigmatized by the massive unproductive facility). Even if better end uses for the site are identified, redevelopment cannot take place unless the owner agrees to relinquish or redevelop the property.

Many philanthropic organizations, because of their resources and prestige, are in a position to address mothballed sites. For a modest sum, philanthropic organizations could fund an analysis that looks at the distribution of mothballed sites. That analysis would lead to the identification of locations where it is in the interest of the local government and the company to redevelop all or part of the site. A few widely trumpeted success stories-publicized on the brownfields

information network-could stimulate more companies to return properties to active use, and could encourage Congress to unblock the legal barriers to redevelopment that lead to mothballing in the first place.

As large an undertaking as some of the above recommendations may seem, none are so daunting as the task of changing the federal laws that govern the cleanup and redevelopment of brownfields and Superfund sites. Despite successful efforts at the state level to resolve liability and move redevelopment forward, the specter of federal liability still hangs over private lenders, property owners, and prospective purchasers. Its effect is chilling, and private lenders and prospective purchasers will continue to shun brownfields redevelopment until the federal government orchestrates a major restructuring of brownfields law.

Federal Government Recommendations

Amend Federal CERCLA (Superfund) Law and Pass Comprehensive Federal Brownfields Legislation

1. *REFORM SUPERFUND AT LAST*

For the most part, mainstream private financial institutions are not willing to invest in or make loans to brownfields properties. This is due primarily to fear of being held liable for contamination, and paying the extra costs associated with assessing and remediating a brownfields property. Most mainstream banks do not have the staff or technical expertise to adequately assess the risks of redeveloping contaminated, or potentially contaminated, properties.

Legal liability is a key factor in environmental cleanup. All parties—current owners, past owners, lenders, developers, or others involved in environmental cleanups or prospective cleanups—are affected by liability issues.

The private financial industry is reluctant to take on the liability of a contaminated site because the potential downside cost is so enormous. Insurers are unwilling to insure; developers are unwilling to commit money; lenders are unwilling to lend. While joint and several liability is intended to allow for recovery from multiple guilty parties for "inseparable" harm, conservative legal advice when joint and several liability is involved is constantly the same: don't get involved because you could become responsible for everything, even if it happened years or decades before you got involved. The result of the application of joint and several liability is often simply an unwillingness to participate in a transaction where environmental cleanup is required.

It should not be the case that such a liability standard creates insurmountable problems. All parties are worried about being forced to pay for unforeseen future, expensive cleanup because they become part of an effort to cleanup and develop a site. However, businesses and individuals face many types of potential catastrophic loss in their everyday dealings, and such possibilities are rarely permitted to paralyze their activities. In virtually every context, parties are capable of constructing mechanisms to control the risk posed by potential catastrophic circumstances.

There is no reason that CERCLA liability, any more than other forms of potential catastrophe, should pose an insoluble obstacle. If the threat of liability for future cleanup can be controlled, then the predominant threat to cleanup can be removed.

A number of major financial institutions have become involved with brownfields redevelopment, albeit on a rather small scale. The 1996 Asset Conservation, Lender Liability and Deposit Insurance Protection Act, which amended CERCLA in order to limit lender exposure, has gone part way toward allaying liability concerns. Lenders are now insulated from liability under CERCLA unless they become active managers of a brownfields property in which they hold a security interest, with "active management" being determined by reference to a clearly articulated list of types of action that give rise to exposure. Lenders are also permitted to foreclose upon property without losing liability protection so long as they follow the steps set forth in the 1996 amendment

Yet the amendment to CERCLA does not fully protect lenders. Lenders must still be concerned with: (1) the ability of borrowers to repay loans since borrower's ability to do so may be jeopardized by cleanup costs; (2) diminution of the value of their collateral, since, if they do foreclose, buyers will fear environmental problems; (3) the danger that despite the legislation they may still be liable under CERCLA, especially if after foreclosure they are forced to get involved in removing hazardous substances from their sites; (4) the danger that they could still be liable under twenty-five other federal statutes and a myriad of state laws; and (5) the danger that irrespective of protections from liability they may be named as defendants by other private parties looking to tap financial "deep pockets" to recoup cleanup expenses.

Mainstream financial institutions need more comfort in investing in and loaning on brownfields properties so that brownfields redevelopment projects can access significant additional resources. For this to occur, the risks facing financial institutions must become more clearly defined, more circumscribed and more manageable.

In nearly every Congress, numerous liability reform proposals, often dozens, are submitted and fail to get out of committee.[138] While many, if enacted, would have a significant impact on the pace and course of brownfields redevelopment, they are inevitably abandoned.[139] This frustrates many analysts, and has led to a proliferation of law review articles and other opinion pieces which propose comprehensive theoretical federal reform packages. Just as inevitably, in every Congress a new round of reform bills are submitted by members of Congress and the cycle renews.

The sticking point in reauthorization of CERCLA is who pays for the cleanup of contaminated sites. Without liability, insufficient funding will exist for cleanups of contaminated sites, a result that DOJ, EPA, environmental activists, and a pro-environment electorate will not tolerate. The only alternative to private liability would be governmental funding of cleanups, and such an enormous financial undertaking by the federal government is not possible in the current political climate. Conservatives will not accept federal responsibility and no one will accept the tax burden. Those with knowledge of the political situation agree that the cycle will not be broken any time soon.

Nonetheless, the 106th Congress is attempting to resolve questions over Superfund once again. In the Senate, Frank Lautenberg sponsored S.20, the Brownfields and Environmental Cleanup Act of 1999. Among other provisions, it calls for amendments to CERCLA to exempt innocent landowners, prospective purchasers and contiguous property from federal liability. Numerous people interviewed for this report, in both the private and public sector, indicated that liability relief for these categories of property owners is urgently needed. They do not call for the wholesale abandonment of joint and several liability: the chain of title will still dictate who is considered a potentially responsible party.

Liability relief for innocent landowners, adjacent landowners, and, in particular, prospective purchaser, will increase the number of property owners, developers and lenders willing to invest in brownfields redevelopment. This, in turn, will dramatically increase the amount of private capital available to brownfields stakeholders.

2. *EXPAND FINANCING FOR ASSESSMENT AND REMEDIATION*

Securing adequate financing for a project is a core challenge for many brownfields project managers and developers. They face limitations on the types of funding available, and restrictions placed on those funds that are available. In particularly short supply is financing to cover the costs of assessment and remediation.

Governments—state, federal, and local—have limited resources. They are capable of providing financing assistance in a number of forms, including grants, loans, and tax incentives. Yet the assistance provided to any objective must both fit within limited budgets and compete with a multitude of other projects for the available funds. A variety of public financing programs exist that either currently or potentially benefit brownfields redevelopment efforts. These programs bridge the gap for up front costs such as assessment and remediation.

As of March 1999, the federal government had provided a total of over $46 million to fund 250 brownfields grants.[140] According to the Clinton Administration, these grants have leveraged over $1 billion for redevelopment and created over 2,500 jobs.[141] These numbers are encouraging, but more must be done to increase funding to brownfields activities.

To increase funding for brownfields programs, efforts should be made to get federal and state legislatures to authorize more dollars. Moreover, efforts should be made to obtain legislative and/or regulatory directives that funds from such programs be targeted directly to brownfields projects only. Initiatives can take the form of including brownfields redevelopment within existing general programs and/or establishing subsidiary or similar, new programs with a brownfields-only focus.

For instance, the federal government, in partnership with state governments, should create a well-funded brownfields state revolving loan program.

As part of the Clean Water Act, the federal government authorized the creation of state revolving funds (SRF) to aid cities and local communities in their efforts to protect drinking water and water quality. According to EPA, states then make loans to communities, individuals, and others for high priority water-quality activities. As money is paid back into the fund, new

loans are made to other recipients that need help in maintaining their quality of water. Municipalities and other loan recipients realize financial savings because projects funded through this program cost less than those funded through the bond market.[142] SFR's in all fifty states and Puerto Rico finance agricultural, rural, and urban runoff control projects, and alternative treatment technologies.[143] Capitalization began in 1988; today total assets of the SRF program stand at more than $27 billion.[144]

In FY 1997, EPA operated a Brownfields Cleanup and Revolving Loan Fund (BCRLF), awarding twenty-four Pilots, each funded at $350,000.[145] According to EPA the "purpose of these pilots is to test a model for a brownfields cleanup revolving loan fund. Unlike EPA brownfields pilots, money from the revolving loan fund can be used for remediation and demolition activities, among others (EPA pilot grants are restricted to assessment, outreach, and planning activities).

In FY 1998, Congress did not reauthorize funding for BCRLF, despite widespread approval of exactly this type of funding among many brownfields stakeholders interviewed for this report. In fiscal year 1999, Congress restored funding to the BCRLF program. As of October 1999, EPA has awarded 68 BCRLF pilots, of up to $500,000 each.[146]

Many people interviewed for this report expressed strong support for BCRLF, mainly because of the broader range of activities for which these funds can be used. BCRLF grants solve the problem of covering up front costs such as assessment, remediation, and demolition that are often the key to project success. Yet BCRLF has its drawbacks. Only those sites selected as EPA brownfields pilots or sites selected for targeted site assessment are eligible for BCRLF grants.

In light of this fact, this report recommends that the federal government create a brownfields state revolving fund, funded at similar levels as the clean water fund. Instead of awarding loans to individual projects, EPA would award seed money to each state to finance a brownfields SRF. A brownfields SRF will give non-EPA pilot project access to a greater pool of funds than currently available, and allow states more options in funding redevelopment projects. Criteria should be established to ensure the greatest number of projects are eligible for SRF loans, and can be modeled after clean water SFRs currently administered by EPA. A well funded, highly accessible revolving loan fund will go a long way towards solving the problem of financing for many brownfields stakeholders, and will be particularly helpful in financing the up front costs of assessment and remediation.

Financing brownfields projects will also be easier if the federal government modifies and extends the Brownfields Tax Credit beyond year 2001.

A provision in the Tax Payer's Relief Act of 1997 permits developers to fully deduct environmental cleanup costs for properties in targeted areas in the years in which cleanup occurs. This means developers can take a much larger tax write off in year one, significantly reducing the up front costs of embarking on a brownfields cleanup. Many people interviewed for this report cited this provision as the type of creative financing options that facilitates brownfields redevelopment. Unfortunately, the provision sunsets after three years and thus applies only to

expenditures incurred before January , 2001. Three years is not enough time for this provision to be effective.[147]

In 1999, the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) conducted a survey of states on the use of the Brownfields Tax Incentive Program. They found that the brownfields tax incentive is not being widely used. "Nationwide, of a total of fifty-two applications for eligibility determinations had been received by seventeen states, for which twenty-nine eligibility certifications had been issued. At the time of the survey, half of the respondents (seventeen states) had not received a single request form."[148] According to ASTSWMO, many states feel that the tax incentive program is not being extensively utilized by developers because of the program's narrowly defined eligibility requirements, a lack of awareness about the program, a lack of guidance on which costs the exemption covers, and the program's limited value as a financial incentive. In addition, states identified the program's short time frame as problematic, that developers who are just now becoming aware of the incentive will not have time to take advantage of it before it sunsets.

We recommend the extension of the Brownfields Tax Incentive for at least several more years, to give developers further opportunity to take advantage of the incentive, and increase the private investment that has been generated by the provision. The federal government should also do more to publicize the availability of the tax incentive and promote its use. We also recommend modifying the terms of the incentive program to include a greater range of projects and activities covered under the exemption. Many states have implemented tax incentive programs of their own, and states indicate that "their tax incentives are becoming important tools in their 'brownfields tool boxes,' and suggest that Congress look to these programs as possible models if the federal tax incentive is extended."[149]

As part of any government redevelopment financing, federal and state governments should require community participation notification for all their brownfields grant and loan programs. For instance, as part of the brownfields pilot grants, EPA requires the grant recipient to meet certain community participation and notification criteria. Grant recipients conduct activities such as neighborhood surveys, public or town hall meetings, and design charettes to solicit input and support for the project. This ensures that the local community is aware of the development plan, and has an opportunity to participate in the decision making process.

All federal brownfields funding programs should include similar community notification and participation requirements for projects that will affect local residents. In addition, private financial institutions, private developers, and corporations involved in brownfields redevelopment should be encouraged to inform and involve local residents. Though a valid question can be raised over how much public input should be allowed into a private development transaction, residents have the right to participate in projects that affect their community. In the end, having a good working relationship with the affected community will minimize conflict and facilitate successful development.

Finally, it is critical that comprehensive information regarding brownfields financing options is made accessible from a centralized location (such as EPA's brownfields web pages) including eligibility requirements, qualified activities, and application assistance.

This information could also be compiled and organized as part of the brownfields information network, with the assistance of federal and state government officials. This would be a relatively inexpensive initiative, but will be useful to those stakeholders applying for public funds. Increasing financing options and expanding federal programs related to brownfields will be useless if people do not know what is available or how to access it.

3. *CLARIFY AND COMMUNICATE BENEFITS OF ENVIRONMENTAL INSURANCE*

Even when risks are precisely defined, economic markets never operate perfectly. One example is the relatively greater cost of insurance for smaller, less lucrative projects. The administrative cost of writing the insurance, rather than the cost of coverage reflecting the risks involved, often makes otherwise sound projects unsound economically. New approaches to this are problem are essential to spur additional brownfields development. These approaches include packaging or pooling risks of small insureds, and expanded public and private efforts to provide gap filling financing. Limited, directed assistance may help small parties and projects pay for underwriting fees and other charges that cover the difference between a party's ability to pay for the costs of coverage and its inability to pay for the cost of coverage plus administrative costs.

Finally, many surveys have revealed that potential insureds often do not possess adequate knowledge of environmental insurance products.[150] Even when potential purchasers are aware of insurance covering brownfields risks, they may lack knowledge needed to feel comfortable in purchasing such policies. Because coverage has evolved toward customized policies, the range of issues and options has proliferated to the point where medium and small size purchasers often do not have the resources to easily navigate the purchasing process.[151] As a result, insurance that could launch or solidify a redevelopment project goes unpurchased.

Public and private efforts to educate potential purchasers of insurance would aid brownfields redevelopment. While dissemination of insurance information is clearly the responsibility of the insurance industry (which should benefit from it), public and private entities can assist brownfields redevelopment by aiding the dissemination process.

CONCLUSION

In an ideal world, their would be no brownfields. Corporations and industry would always practice environmentally sound and non-polluting operations while strictly adhering to regulatory requirements. Zoning regulations would never allow residential areas to be adjacent to industrial processes that pose a health threat. Low income or minority communities would never have to bear a disproportionate share of that threat. States and municipalities would discourage greenfield development, promote redevelopment, and build markets for former industrial properties, all incorporated into overall regional land use planning. Unfortunately, in many areas, it is still more cost-effective to develop open space or farmland, and leave urban and rural brownfields properties languishing.

Brownfields redevelopment has the power to change that equation. By redeveloping former industrial sites, cities and communities will create new jobs and new housing, generate economic activity, and protect public health. At the same time, chemical contaminants will be removed from the environment, and options other than development of open space will be available. In short, cities will be creating more livable communities for local residents.

To accomplish this, brownfields stakeholders must develop strategies to improve the regulatory and economic climate for investment, create the tools and incentives to be used by investors, and make strategic interventions in specific circumstances. The successful implementation of these brownfields strategies will require continued interest by state and local government to keep building strong public-private partnerships and develop markets for brownfields. Brownfields redevelopment is still a complex, often difficult process. However, environmental issues are becoming the easy part; financing, liability, education and community outreach are the new challenges.

The case studies outlined in this report represent successful models of brownfields redevelopment. They highlight both the challenges of redeveloping brownfields, and the rewards. The case studies show that although barriers can be significant, even daunting, the right combination of stakeholders, financing, and planning can make redevelopment work. The case studies show that well executed projects can clean up contaminated property, create jobs, and build communities.

The recommendations outlined in this report will address the challenges to brownfields redevelopment. Increasing the participation of philanthropic institutions and non-profit organizations such as LISC will provide much needed financing and assistance to brownfields projects, as well as build the capacity of CDCs and community based organizations to participate in brownfields redevelopment. Creating models of successful brownfields redevelopment will help ease the fear of liability experienced by lenders, property owners, buyers and sellers, and developers. It will also help erase the stigma associated with environmentally contaminated properties and reduce the fear of the unknown regarding levels of contamination, threats to public health, and cost of cleanup that plagues redevelopment efforts. Creating a brownfields information network will centralize brownfields information and make it more accessible to brownfields stakeholders. Finally, increased funding will help sites overcome related economic development barriers, such as lack of skilled workforce or obsolete infrastructure. Taken together, this call to action creates a comprehensive strategy to address the environmental, economic and social barriers to brownfields redevelopment. Implementing these recommendations will catalyze brownfields redevelopment and dramatically increase the number of successful projects.

[1] Superfund sites-those listed on EPA's National Priorities List, are excluded from the EPA definition of brownfields. See EPA Office of Solid Waste and Emergency Response, Brownfields Glossary of Terms. Accessed at http://www.epa.gov/swerosps/bf/glossary.htm#brow on 10/11/98. Last updated 9/30/97.

[2] General Accounting Office. "Superfund: Extent of Nation's Potential Hazardous Waste Problem Still Unknown" (GAO/RCED-88-44, Dec. 17, 1987).

[3] Environmental Health Coalition, "Communities at Risk: Your Right to Know About Toxins in Barrio Logan," 4/93

[4] There has been some concern that the ability of communities to file environmental justice complaints may hinder the redevelopment of some brownfields. Under Title VI of the Civil Rights Act, a person can file a complaint alleging discriminatory environmental and health effects from actions taken by recipients of EPA financial assistance, including environmental pollution control permits. In a series of seven case studies, EPA determined that "community residents were not likely to file Title VI complaints because they were actively involved in the redevelopment process and could identify and address their concerns; and residents were more interested in the economic benefit." In addition, most brownfields redevelopment projects did not involve environmental permitting, limiting the number of instances in which Title VI complaints could be brought. For more information, see "The Brownfields Title VI Case Studies," at http://www.epa.gov/swerosps/ej/html-doc/Report.htm.

[5] Chattanooga Chamber of Commerce, "Specific Innovations and Projects." Accessed on 5/11/99 at http://www.rivervalleypartners.com/cstory/inno/innob.htm#vision.

[6] Paula Doogan, "Working on Brownfields: the Employment and Training Connection." Northeast Midwest Institute, July 1998.

[7] EPA Office of Solid Waste and Emergency Response, Brownfields National Partnership Action Agenda Fact Sheet, May 1997. Accessed at http://www.epa.gov/swerosps/bf/html-doc/97aa_fs.htm, on 4/5/99. Last updated 3/12/99.

[8] A note regarding the selection of case studies. Ten projects were selected for study: LTV Southside Works, Pittsburgh, PA; North Birmingham Industrial Project, Birmingham, AL; Oregon Mills Conversion Project; Ross's Landing/Aquarium, Chattanooga, TN; Barrio Logan, San Diego, CA; City of Dallas Brownfields Program, TX; Quarry Retail Project, Minneapolis, MN; Gateway Project, Salt Lake City, UT; Circle F, Trenton, NJ; and, Bryant Electric, Bridgeport, CT. The intent was to examine a range of projects, from the very successful to more borderline projects, to show how barriers and efforts to overcome them can combine in unique ways. Some of the sites selected are the archetype of success (the Quarry Retail Project in Minneapolis, Ross's Landing/Aquarium in Chattanooga, Tennessee, and Circle F, Trenton, NJ) and, as such, have been examined by others previously (Most notably, by Edith Pepper of the Northeast-Midwest Institute in *Lessons from the Field)*. However, we believed the success of these sites, and the lessons they teach, warranted inclusion. Projects such as the Oregon Mills Conversion sites and the Bryant Electric site in Bridgeport, Connecticut have also been looked at before, but midway through the project cycle. Now that these projects are closer to completion (and in some instances have gone in unexpected directions) we believe they also have lessons to impart. Projects such as he Barrio Logan project in San Diego, California was included to both illustrate the substantial barriers to success for many sites (it still remains to be seen whether sites in Barrio Logan can be successfully cleaned up), and the great potential such sites have for community development and participation. Finally, projects were selected to reflect geographic and spatial diversity, demonstrating different levels of contamination, size, and development history. In addition to phone interviews and research, we visited three sites for more in-depth study: LTV Southside Works, Pittsburgh, PA; North Birmingham Industrial Project, Birmingham, AL; and, Barrio Logan, San Diego, CA.

[9] LTV Southside Works Fact Sheet, Urban Redevelopment Authority of Pittsburgh, 1999, p.1

[10] Pennsylvania Department of Environmental Protection, "A Citizen's Guide to Pennsylvania's Land Recycling Program." Accessed at http://www.dep.state.pa.us/dep/deputate/airwaste/wm/landrecy/FACTS/Brochure.htm on 4/5/99. Site last updated 2/5/97.

[11] LTV Southside Works Fact Sheet, Urban Redevelopment Authority of Pittsburgh, 1999, p.1

[12] United States Conference of Mayors. "Recycling America's Land: A National Report on Brownfields Redevelopment," January 1998, p. 2.

[13] For a complete list of participating cities in the USCM survey, see "Recycling America's Land. A National Report on Brownfields Redevelopment." United States Conference of Mayors, January 1998.

[14] Ibid., p. 6.

[15] Ibid., p. 5.

[16] Michael Greenberg, et al. "Brownfields, TOADS and the Struggle for Neighborhood Redevelopment: A Case Study of the State of New Jersey," Center for Neighborhood and Brownfields Redevelopment, March 1999, p.15.

[17] Environmental Finance Advisory Board, "A Guidebook of Financial Tools, Section 9, Tools for Financing Brownfields Redevelopment," US Environmental Protection Agency, 6/97. Accessed at http://www.epa.gov/efinpages/sec9.htm on 78/13/98. Site last updated 7/18/97.

[18] Kirshenberg, Seth, et al. Brownfields Redevelopment: A Guidebook for Local Governments and Communities, 1997, p. 3-1.

[19] United States Conference of Mayors. "Recycling America's Land: A National Report on Brownfields Redevelopment," January 1998, p. 4.

[20] U.S. Department of Housing and Urban Development, "Redeveloping Brownfields: How States and Localities Use CDBG Funds." October 1998, p. vi. This report was based on interviews with 80 community development agency staff members, case studies and site visits.

[21] See the New Jersey Site Remediation Program, "Site Reuse Opportunities and Cleanup Tools." Accessed at http://www.state.nj.us/dep/srp/bcr/st_reuse.htm on 4/29/99. Site last updated 3/20/97.

[22] Michael Greenberg, et al. "Brownfields, TOADS and the Struggle for Neighborhood Redevelopment: A Case Study of the State of New Jersey," Center for Neighborhood and Brownfields Redevelopment, March 1999, p.15.

[23] Tom Maguire, "Despite Setbacks, Bridgeport Perseveres." *Brownfields EPA Pilot News,* Institute for Responsible Management, Volume 2, Issue 1, April 1998. Accessed at http://www.instrm.org/bfnews/v2i1/5bridg.htm.

[24] Pepper, Edith, Lessons From the Field, (Northeast Midwest Institute), 1997.

[25] The issue of community participation is not always straight forward. In some cases, the site is not located in or near a residential area, and so there is no neighborhood to contend with. In other cases, the developer and city officials have a different vision for the site than the neighborhood in which it is located. Such conflicts often arise over public health concerns, and the developers and mayors wish the issue of community participation would just go away. In still other cases, city officials and local residents have a common vision for the site. By reaching agreement and working together, mayors and local residents can secure more funds and support for the project

[26] Edith M. Pepper, Northeast Midwest Institute, Lessons From the Field, 1997, p. 180

[27] Paula Duggan, "Working on Brownfields: The Employment and Training Connection." Northeast Midwest Institute, July 1998, p.11.

[28] Christensen, Paul D., "Brownfields Redevelopment: The Value-Adding Role of Nonprofit Organizations." Draft of article prepared for *Brownfield News*.

[29] "Nonprofit Organizations Stimulating Brownfields Cleanup and Redevelopment," a report by Clean Sites and The Phoenix Land Recycling Company, 1997, p.4-5.

[30] EPA Office of Solid Waste and Emergency Response, Brownfields Glossary of Terms. Accessed at http://www.epa.gov/swerosps/bf/glossary.htm#brow on 7/23/98. Site last updated 9/30/97.

[31] In April, 1999, the national environmental non-profit Renew America and the President's Council on Sustainable Development awarded EPA's Brownfields Economic Redevelopment Initiative with a National Award for Sustainability in the category of hazardous waste management and recycling, demonstrating leadership and excellence in integrating environmental, economic and community sustainability. For more information on the sustainable redevelopment of brownfields, please see EPA at http://www.epa.gov/swerosps/bf/sustain.htm.

[32] For further information regarding these selection criteria, see EPA Office of Solid Waste and Emergency Response, at http://www.epa.gov/swerosps/bf/html-doc/regsum.htm

[33] For a full description of EPA's pilot program guidelines, see EPA, at http://www.epa.gov/swerosps/bf/html-doc/99guide.htm#intro

[34] EPA Office of Solid Waste and Emergency Response, "Proposal Guidelines for Brownfields Assessment Demonstration Pilots." 10/98. Accessed at http://www.epa.gov/swerosps/bf/pilot.html-doc/99guide.htm on 3/99. Site last updated 11/2/98.

[35] For EPA's guidance on liability and cleanup issues, see EPA, at http://www.epa.gov/swerops/bf/bfaccomp.htm

[36] EPA Office of Solid Waste and Emergency Response, "brownfields Workforce Development." Accessed at http://www.epa.gov/swerosps/bf/job.htm on 4/23. Site last updated on 12/23/98.

[37] EPA Office of Solid Waste and Emergency Response. "Brownfields Showcase Communities Fact Sheet," 3/98. Accessed at http://www.epa.gov/swerops/bf/html-doc/showfact.htm. Site last updated 6/16/98.

[38] EPA Office of Solid Waste and Emergency Response, at http://www.epa.gov/swerosps/or/vcp_hist.htm

[39] For a discussion of the framework for SMOA negotiations, see EPA, at http://www.epa.gov/swerops/bf/gdc.htm#vc

[40] Northeast Midwest Institute. "Matrix of Brownfields Programs by State," 9/29/98. Accessed at http://www.nemw.org/bfmatrix.htm on 3/12/99. Site last updated on 1/20/99.

[41] Association of State and Territorial Solid Waste Management Officials, "State Cleanup Accomplishments for the Period 1993-1997." Final Report, December 31, 1998, p. ES-8.

[42] Michael Greenberg, et al. "Brownfields, TOADS and the Struggle for Neighborhood Redevelopment: A Case Study of the State of New Jersey," Center for Neighborhood and Brownfields Redevelopment, March 1999, p.11.

[43] Begley, Ronald, "Brownfields Development in the Garden State," *Chemical Week,* 9/18/96, p. S20-S23.

[44] Ibid., p.S20-S23

[45] P.L. 1997, Chapter 278 of the Brownfield Act.

[46] The way the state has structured this fund is very interesting. The state has established levels of jobs and ratables that projects must generate if they are to be reimbursed for their development costs. This will encourage quality projects that focus on job creation and economic activity.

[47] New Jersey, according to a recent article in the *New York Times*, has the most active level of brownfields redevelopment in the metropolitan area because the regulatory climate in Connecticut and New York is less certain. "New Jersey Brownfields Are Drawing Developers," *New York Times*, Sunday, October 17, 1999, section 11, p.1/

[48] Littman, Margaret, "Building a New New Jersey," *Brownfield News,* Vol. 2(4), 8/98, p.2-3.

[49] Littman, Margaret, "Building a New New Jersey," *Brownfield News,* Vol. 2(4), 8/98, p.2-3.

[50] Ibid., p.2-3

[51] PA Department of Environmental Protection, "A Citizen's Guide to PA's Land Recycling Program," 7/95. Accessed at http://www.dep.state.pa.us/dep/deputate/airwaste/wm/LANDRECY/FACTS/Brochure.htm on 7/11/98. Site last updated on 2/5/97.

[52] PA Department of Environmental Protection, "A Citizen's Guide to PA's Land Recycling Program," 7/95. Accessed at http://www.dep.state.pa.us/dep/deputate/airwaste/wm/LANDRECY/FACTS/Brochure.htm on 7/11/98. Site last updated on 2/5/97.

[53] PA Department of Environmental Protection, "A Citizen's Guide to PA's Land Recycling Program," 7/95. Accessed at http://www.dep.state.pa.us/dep/deputate/airwaste/wm/LANDRECY/FACTS/Brochure.htm on 7/11/98. Site last updated on 2/5/97.

[54] PA Department of Environmental Protection. "Financial Assistance Fact Sheet." Accessed at http://www.dep.state.pa.us/dep/deputate/airwaste/wm/LANDRECY/facts/fs8.htm on 7/11/98. Site Last Updated 2/5/97.

[55] Northeast Midwest Institute. "Matrix of Brownfields Programs by State," 9/29/98. Accessed at http://www.nemw.org/bfmatrix.htm on 3/12/99. Site last updated on 1/20/99.

[56] These reports, and other information on brownfields redevelopment, can be accessed at NEMW's website, at http://www.nemw.org

[57] City of Astoria, at http://www.darkwing.uoregon.edu/astoria.

[58] City of Astoria, at http://www.darkwing.uoregon.edu/astoria.

[59] Village Creek, which runs almost the entire length of the site, is somewhat more contaminated. As a result of uncontrolled dumping and the run-off of pollutants and toxic chemicals, water quality has been compromised. In addition, areas around the creek are prone to severe flooding. A separate initiative called Friends of Village Creek has been established to facilitate the cleanup of the creek and focus on the health risks associated with its polluted condition. The rehabilitation of Village Creek will be in accordance with all city and FEMA floodplain requirements. Current plans are to redevelop Village Creek into a 17-mile greenway that includes a paved, multi-use trail and which features improvements to scenery and accessibility. Development costs of the greenway are estimated at approximately $10 million.

[60] City of Birmingham, "North Birmingham Industrial Redevelopment Project," at http://www.ci.bham.al.us/oed/pr20.htm

[61] EPA Office of Solid Waste and Emergency Response, "Birmingham, Alabama." Accessed at http://www.epa.swerosps.bf.html-doc/ss_brmng4.htm on 4/5/99.

[62] *North Birmingham Redevelopment News*, "Friends of Village Creek Formed," Birmingham Environmental Clearinghouse, (3:1), Winter 1998.

[63] The Association of State and Territorial Solid Waste Management Officials, in their 1998 "Compendium of State/Territorial Brownfields Program Funding Activities," outlined the types of activities EPA funds at the state level. The most commonly cited use of EPA funds was for conducting brownfields assessments. In addition, "the most commonly cited activities were: public outreach (workshops, meetings, information development, etc.); brownfields and/or voluntary cleanup program development (development and/or refinement of governing guidance/regulations/legislation); and the development of databases and site tracking systems. Activities also funded by States/Territories include: outreach activities for municipalities, financial community representatives and consultants; the training of State/Territorial staff in program development and site remediation techniques, including attendance at the EPA National Brownfields conference; the evaluation of State/Territorial practices, e.g., the effectiveness of land use restrictions; the development of State/Territorial cleanup standards; purchase of computer equipment; and funding of State/Territorial Voluntary Cleanup program staff. Innovative uses of funds include: evaluation of the establishment of State/Territorial revolving loan funds; development of a mass balance approach for assessing remedial alternatives; development of presumptive assessment/remedial guidances; and the purchase of a mobile laboratory or other field equipment for rapid field assessment activities." ASTSWMO, May 1998, pg. 6-7.

[64] EPA Office of Solid Waste and Emergency Response, "Brownfields Workforce Development." Accessed at http://www.epa.gov/swerosps/bf/job.htm. Site last updated 12/23/98.

[65] EPA Office of Solid Waste and Emergency Response. "Brownfields Cleanup Revolving Loan Demonstration Pilots Fact Sheet," 3/98. Accessed at http://www.epa.gov/swerosps/bf/html-doc/bcrlf.htm on 3/99. Site last updated on 1/20/98.

[66] EPA Office of Solid Waste and Emergency Response, at http://www.epa.gov/swerops/bf. In fiscal year 2000, EPA will award and additional $50,000 to those pilot programs that are or will be used for green space purposes such as parks, playgrounds, trails, gardens, habitat restoration, open space, and green space preservation. Federal Register: October 19, 1999 (Volume 64, Number 201), page 56346-56347.

[67] Department of Housing and Urban Development, "Community and Economic Development." Accessed at http://www.hud.gov/sec1.html.

[68] For a complete list of authorized activities see HUD, at http://www.hud.gov/sec1.html

[69] *Hazardous Waste News*, "Financing Cleanups: Appropriations Committee Increases Superfund Allocation to $2.2 billion." (18:24), 6/17/96.

[70] Sara Beth Jones, "Senate Brings Good News to Cities, Spares Housing From Cuts." *Nation's Cities Weekly*, (20:30), 7/28/97. (Senate Appropriations Committee identifies brownfields as an eligible activity under CDBG)

[71] Janet Pearson, "Rust Busters: Saving Blighted Areas Makes Everyone a Winner." *Tulsa Word*, 7/12/98.

[72] Statement of Congresswoman Maxine Watters before the VA-HUD Appropriations Committee, 4/23/98.

[73] *Presswire*, "U.S. HUD: Cuomo Announces King County, Washington Will Get $1.3 Million in HUD Assistance." 11/17/98.

[74] David. J. Freeman, "Brownfields Redevelopment Becomes Priority." *New York Law Journal,* (221:43), 3/8/99 (local governments are required to pledge annual CDBG funds as collateral for Section 108 loan guarantees).

[75] Abdon M. Pallasch, "City to Receive Millions From HUD to Reclaim Brownfields, 5 Industrial Locations Expected to Attract New Factories, Jobs." *Chicago Tribune,* 11/17/98.

[76] *National Mortgage News,* "HUD Funds to Revitalize Polluted Sites." 11/30/98.

[77] HUD, "Financing Brownfields Development." Accessed at http://www.hud.gov/finanbf.html.

[78] *Presswire*, "U.S. HUD: Cuomo Announces King County, Washington Will Get $1.3 Million in HUD Assistance." 11/17/98

[79] EDA, "Public Works Development Facilities Program." Accessed at http://www.doc.gov/eda/html/pwprog.htm

[80] Environmental Financial Advisory Board, Superfund Report #2,"Leveraging the Superfund: Ideas and Opportunities." 3/96.

[81] Environmental Financial Advisory Board, "Leveraging the Superfund: Ideas and Opportunities." 3/96; Charles Bartsh, "Financing Brownfield Cleanup and Redevelopment." Northeast Midwest Institute. Accessed at http://www.nemw.org/brownfin.

[82] Environmental Financial Advisory Board, Superfund Report #2, "Leveraging the Superfund: Ideas and Opportunities." 3/96.

[83] Charles Brash, "Financing Brownfield Cleanup and Redevelopment." Northeast Midwest Institute. Accessed at http://www.nemw.org/brownfin.

[84] *Id.*

[85] *Id.*

[86] *Id.*

[87] *Id.*

[88] *Id.*

[89] Edward T. McMahon, "What's Next for ISTEA?" *Planning Commissioners Journal*, Summer 1997

[90] Peter B. Meyer and Christopher W. Reeves, "Brownlining Banks: The Bank Merger Movement and Urban Redevelopment." *Journal of Economic Issues,* (31:2), 393-400, 6/97.

[91] See *Kelley v. EPA,* 15 F.3d 1100 (D.C.Cir. 1994)

[92] See, e.g., *United States v. Maryland Bank & Trust Co. ,* 632 F. Supp. 573 (D. Md. 1986).

[93] Environmental Bankers Association, "Brownfields Background and Summary." 7/31/96.

[94] EPA defines Tax Increment Financing as an incentive created through a local government's assessment of property values. Special assessments are made on properties that are expected to accrue particular benefits from a general improvement, or from an environmental activity, such as a cleanup. The incremental difference in tax revenues between the original assessment rate and the new, higher assessed rate is then used to finance the improvement activity. See "Available Funding Mechanisms" at http://www.epa.gov/swerosps/bf/funding.htm.

[95] See, e.g., Charles Bartsh, "Financing Brownfields Cleanup and Redevelopment." Northeast Midwest Institute, at http://www.nemw.org/brownfin.

[96] EPA, "Environmental Finance Program: A Guidebook of Financial Tools, Section 9: Tools for Financing Brownfields Redevelopment." Accessed at http://www.epa.gov/efinpage/secp.htm on 8/13/98.

[97] LISC, at http://www.liscnet.org/.

[98] *Id.*

[99] *Id.*

[100] *Id.*

[101] *Id.*

[102] *Id.*

[103] EPA, "Environmental Finance Program: A Guidebook of Financial Tools, Section 9: Tools for Financing Brownfields Redevelopment." Accessed at http://www.epa.gov/efinpage/secp.htm on 8/13/98.

[104] Paula Duggan, "Working on Brownfields: The Employment and Training Connection." Northeast Midwest Institute, July 1998, p.12.

[105] Rural Development Initiative, at http://www.rdiinc.org

[106] For more information, see Phoenix Land Recycling Company at http://www.brownfieldsnet.org/moreplrc.htm

[107] for more information, see Consumers Renaissance Development Corporation at http://www.crdc.consumersenergy.com/community/crdc/index.html

[108] The Development Fund, "Community Economic Development Lending Programs." Accessed at http://www.tdfsf.org/ced.html on 4/12/99.

[109] For a more comprehensive list of non-profit organizations involved with brownfields redevelopment, see the Brownfields Non-Profit Network, at http://www.brownfieldsnet.org

[110] George A. Baker, "Survey of Brownfields Tax Incentives." Williams and Jensen, P.C., 9/3/97

[111] See, for example, Great Lakes Environmental Finance Center at Cleveland State University's Urban Center, "A Report on the Workshop on Benchmarking Best Practices in Brownfields Finance." June 3-4, 1996 (citing TIF expert Randy Muller).

[112] Testimony of Steven J. Weiss, Esq. Before the House of Representatives Committee on Ways and Means, 5/1/97.

[113] *Id.*

[114] General Accounting Office, "Tax Credits: Opportunities to Improve Oversight of the Low-Income Housing Program." Chapter Report, 03/28/97, GAO/GGD/RCED-97-55, Ch. 0:5.

[115] Upendra Mishra, "Using Tax Exempt Bonds to Finance Affordable Housing." *National Real Estate Investor*, 6/1/97; Testimony of Steven J. Weiss, Esq. before the House of Representatives Committee on Ways and Means, 5/1/97

[116] *Id.*

[117] *Id.*

[118] Finance information was obtained from Northeast Midwest Institute, Lessons From the Field, 1997.

[119] EPA Office of Solid Waste and Emergency Response, "Brownfields Tax Incentive Fact Sheet," 8/97. Accessed at http://www.epa.gov/swerops/bf/html-doc/taxfs_2.htm. Site last updated 12/23/98.

[120] *Id.*

[121] EPA, "Environmental Finance Program: A Guidebook of Financial Tools, Section 9: Tools for Financing Brownfields Redevelopment." Accessed at http://www.epa.gov/efinpage/secp.htm on 8/13/98.

[122] *Id.*

[123] *Id.*

[124] *Id.*

[125] *Id.*

[126] Environmental Financial Advisory Board, "Leveraging the Superfund: Ideas and Opportunities." 3/96

[127] Environmental Financial Advisory Board Publications, "Expediting Clean-up and Redevelopment of Brownfields: Addressing the Major Barriers to Private Sector Involvement – Real or Perceived." 12/97.

[128] See, for example, EPA, "Potential Insurance Products for Brownfields Cleanup and Redevelopment."6/96; The Kentucky Institute for the Environment and Sustainable Development, "Notes on Insurance and Brownfields Investment Decisions."4/97.

[129] Jenny Beeh, "Out of the Ashes." *Brownfields News*, (2:1), 2/98. Accessed at http://www.brownfieldnews.com

[130] *Id.*

[131] See, for example, Jenny E. Beeh, "Out of the Ashes." *Brownfields News* 1/98. (quoting Chicago-based environmental insurance consultant Chris Matern, "financial institutions will require borrowers to take out environmental insurance just like they require other kinds of insurance").

[132] EPA, "Potential Insurance Products for Brownfields Cleanup and Redevelopment: Survey Results of Insurance Industry Products Available for Transference of Risk at Potentially Contaminated Property." 6/96.

[133] *Id.*

[134] Peter B. Meyer, "Notes on Insurance and Brownfields Investment Decisions."

[135] *New York Times,* "New Jersey Brownfields are Drawing Developers," October 17, 1999, Section 11, p.6. "As helpful as the New Jersey law and similar legislation in other states has been, some developers say the development of insurance policies for brownfields projects has been more important in limiting developer's liability and ensuring nervous lenders that they will not be stuck with a dirty track of land if something goes awry and they have to foreclose on the property." The article goes on to quote Christopher J. Dagget, a former New Jersey Department of Environmental Protection commissioner who is now president of Chadwick Partners, a New Jersey brownfields developer. "He said he viewed the availability of insurance as a far more secure protection for developers than government regulations, because an insurance policy is a legally enforceable contract that is not as subject to changing political winds as environmental rules. ..that with this protection now available and with the price of land rising in many areas, developers are now more interested in contaminated sites they previously avoided."

[136] For more information on Brownfields Realty, see the company website at http://www.brownfld.com.

[137] For more information on the Brownfields Recovery Corporation, see the company website at http://www.brownfields-recovery.com.

[138] See Sarah Rubenstein, "CERCLA's Contribution to the Federal Brownfields Problem: A Proposal for Federal Reform," 4 U. Chi. L. Sch. Roundtable 149, 175-76 (1997).

[139] Id.

[140] The White House, Office of the Vice President, Press Release. "Vice President Gore Announces Grants for Brownfields," 3/12/99.

[141] Ibid.

[142] EPA, Office of Wastewater Management, "The Clean Water State Revolving Fund Program," 1996. Accessed at http://www.epa.gov/owmitnet/finan.htm#whatwedoon 4/2/99. Site last updated on 2/12/99.

[143] According to EPA's Office of Wastewater Management, SRF's offer states a wide variety of options. "States may choose from a variety of assistance options, including loan, refinancing, purchasing, or guaranteeing local debt, and purchasing bond insurance. States also set loans terms, including interest rates (from zero percent to market rate), repayment periods (up to twenty years), and many other loan features. SRFs are also available to fund a wide variety of water quality projects including all types of nonpoint source and estuary management projects, as well as more traditional municipal wastewater treatment projects. States may also customize loan terms to meet the needs of small and disadvantaged communities." See http://www.epa.gov/owmitnet/finan.htm#whatwedoon for further information on State Revolving Funds.

[144] EPA, Office of Wastewater Management, "The Clean Water State Revolving Fund Program," 1996. Accessed at http://www.epa.gov/owmitnet/finan.htm#whatwedoon 4/2/99. Site last updated on 2/12/99.

[145] EPA Office of Solid Waste and Emergency Response, "Brownfields Cleanup Revolving Loan Fund Demonstration Pilot," 3/98. Accessed at http://www.epa.gov/swerosps/bf/html-doc/bcrlf.htm on 4/2/99.

[146] EPA Office of Solid Waste and Emergency Response, Press Release, "First Brownfields Revolving Loan Awarded." 10/7/99.

[147] Developers must apply to the state in which they are operating to for certification to qualify for the Brownfields Tax Incentive. The state environmental agency provides the developer with a letter that certifies that their property meets the standards under the act. The developers may use these certification letters when they file their tax returns with the IRS. Unfortunately, the tax provisions did not include reporting requirements. Therefore, we do not have verifiable numbers on the usage of the tax incentive. States such as New Jersey indicate that they have had fifteen to twenty such applications, although only two or three have qualified. Texas and Pennsylvania have each issued six certifications. Michigan and California have issued one apiece. It may be that the newness of the incentive is such that developers are either not aware of it or have been slow to take advantage of it. In addition, some eligibility criteria may also prevent some developers from taking advantage of the incentive. As Sandy Karinen of the California Department of Toxic Substances Control explained, "We have had two applications for the Brownfields Tax Incentive Program. One applicant did not meet the geographical/locational criteria and was denied. One applicant met all qualifications and was approved. We have had numerous inquiries about the program. The geographical restrictions have seemed to be the "stopper" for most potential applicants. We have also had a number of inquiries which have been located in applicable geographical areas but involving petroleum-only cleanups." To meet the geographic criteria, the property must be:

1.within a 1990 census tract with a poverty rate of 20 percent or more; or

2.within a 1990 census tract with a population of less than 2,000, if—

(a) more than 75 percent of the tract is zoned for commercial or industrial use, and

(b) the tract is next to another census tract(s) with a poverty rate of 20 percent or more; or

3.within any federally-designated Empowerment Zone (EZ) or Enterprise Community (EC); or

4.within a U.S. Environmental Protection Agency (EPA) Brownfields Pilot project area announced before February 1, 1997.

For further information on eligibility criteria, please see EPA Office of Solid Waste and Emergency Response, "How to Find Out if a Property is Eligible for the Brownfields Tax Incentive," at http://www.epa.gov/swerosps/bf/html-doc/eligible.htm. Also see EPA's new "Enviromapper" Application to view actual and potential brownfields tax incentive zones, at http://maps.epa.gov:10010/enviromapper/.

[148] Association of State and Territorial Solid Waste Management Officials, "Tax Incentive Check," May 1999, p.3.

[149] Ibid., p.4

[150] See, for example, EPA, "Potential Insurance Products for Brownfields Cleanup and Development," June 1996. (survey responses suggest that many do not know that risk transfer insurance policies for brownfields developments exist).

[151] See Jenny E. Beeh, "Out of the Ashes: The Regrowth of the Environmental Insurance Industry," *Brownfield News,* (1:2), 1/98. *Brownfield News* can be accessed at http://www.brownfieldnews.com.