A SECOND CHANCE:
Brownfields Redevelopment in Pittsburgh

FINAL PROJECT

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Brownfields Revitalization in Pittsburgh

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Spring 1998

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EXECUTIVE SUMMARY

The subject of brownfield redevelopment is wide ranging, and it is one that encourages research by people with a wide variety of interests and experiences. In this class, we each have been able to examine brownfields redevelopment. Our research ranged from big picture information providing background and context pertinent to brownfields revitalization to a more specific focus on brownfield redevelopment in Pittsburgh. Our major findings and conclusions are:

Regional policies and practices greatly impact brownfields issues.

A regional format is needed to implement a multi-faceted approach to the brownfield issue. There must be an "idea" branch, which will create a comprehensive development plan for the county. The second branch should act as a clearinghouse, collecting information and tracking interested community groups. Finally, the third branch should be the "marketing" branch.

The abundance and variety of stakeholder groups involved in brownfields redevelopment definitely requires a structured approach in order to take advantage of the benefits these groups can provide and to avoid the pitfalls that might result if not properly managed.

Community groups can and should become more active in brownfields redevelopment. We conducted two transactional Phase I investigations, using publicly available resources and meeting with community groups and other actors and have recommendations for public and community officials on both of these sites.

We also reviewed funding options and programs:

A special service district like the Regional Asset District should fund the beginnings of a revolving loan program. This could be administered by representatives from different municipalities, each of them with brownfields they wish to redevelop and could make loans available at favorable rates to investors in brownfield development.

Taxing bodies in southwestern Pennsylvania should be encouraged to consider the two-tiered property tax. Enabling legislation to this end should be introduced in the state legislature. Theory and evidence indicates that it can be effective, particularly if implemented regionally and by all taxing bodies.

Marketing brownfields requires sensitivity and creativity. Marketing industrial property on the World Wide Web is one tool in the marketing package, but it cannot be the sole effort in order to have a successful development program. The ancillary services provided by both Clean Start and SEDCOR are prime examples of the way economic development programs and educational efforts go hand in hand with the marketing effort.

Public finance: To obtain brownfields redevelopment funding assistance: know what assistance is available and what the granting agency's criteria are. Develop a funding plan which is well thought out, viable, and adaptable to changing conditions. Always:

- Coordinate funding strategies and applications among the various applicants and local offices of the various funding agencies.
- Develop a critical path to meet funding requirements.
- Involve community groups
- Demonstrate the commitment of local municipal officials for project completion.

In the Mon Valley, redevelopment can be a catalyst to focus efforts to improve and enhance the Pittsburgh region. Issues reviewed included:

- ***Cooperation and coordination*** - both between the jurisdictions involved with one specific brownfield site and between communities involved with different sites. Further coordination could link Mon Valley brownfield redevelopment with that on Pittsburgh's Southside for a truly regional focus.

- ***Emergence of a leader*** - Coordinated redevelopment of large brownfields therefore poses a challenge. Due to the region's high level of political fragmentation, leadership efforts should be channeled through an already existing organization, such as the Allegheny County URA.

- ***Site prioritization*** – As opposed to ad hoc, piecemeal redevelopment efforts, prioritizing redevelopment on a site-by-site basis will allow for a more focused redevelopment effort in terms of funding, economic and community development initiatives, regional cooperation, and community participation.

- ***Community participation and linkage*** - this is important simply because such massive redevelopment projects *absolutely must* be done to benefit Lower Mon Valley residents and their communities. Residents cannot be ignored. Several funding sources, including ISTEA, require neighborhood participation.

- ***Mixed - use development*** - The more ways there are to use the sites, the more people will use them. Among these uses, recreational uses, namely through waterfront reclamation, is a key aspect in improving the marketability of these sites to both potential residents and businesses.

- ***Dense development*** can reduce sprawl and can help link the new developments to their adjacent communities by emphasizing pedestrian access. Dense development can partially mitigate traffic concerns and may be more conducive to extended bus or even light rail service connections to Pittsburgh. Dense development complements mixed-use development and allows more land to be available for recreational uses.

- ***Incorporation of novel ideas*** - certain tools can be employed that would help facilitate redevelopment, increase the marketability of the redevelopment projects, and meet certain community needs at the same time. Worker retraining programs can

provide community residents with skills they may lack, which in turn enhances communities' positions to lure new businesses. A shuttle bus system can run between the new developments and the communities. Inclusionary zoning programs would ensure that new housing would not be only for the wealthy to enjoy. Active marketing strategies should also be employed to alter the (mis)perceptions that are often associated with distressed communities.

- ***Comprehensive approach*** - as should be evident, proper planning requires that several factors, including environmental factors, transportation, land use, community interests and long-range and regional focuses, should be included.

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CHAPTER I - INTRODUCTION

The abandonment of industrial and commercial sites and the subsequent development of the urban fringe is a well-recognized phenomenon throughout metropolitan areas in the United States (Garreau, 1991, Peirce, 1993). This is especially true in the Northeast and Midwest, where the process of de-industrialization has severely weakened a number of regional economies once dependent on heavy industry (Harrison & Bluestone, 1982).

The development community, neighborhood groups and policy makers at all levels of government are paying increasing attention to brownfields redevelopment. This can partially be attributed to the scope and concentration of the problem -- the General Accounting Office estimates there are 450,000 brownfields sites in the U.S., mainly concentrated in the cities and their inner suburbs of the industrial Northeast and Midwest. Moreover, the Clinton Administration has taken an active role in providing funding for brownfields redevelopment. The administration has also helped to lessen the stigma of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) or Superfund status for thousands of brownfields sites. Thirty-nine states have developed aggressive and innovative brownfields redevelopment strategies. The importance of addressing this issue has not been lost on the mayors of the cities weakened by the brownfields problem: Mayor Mike White of Cleveland has stated that environmental contamination on brownfields sites is the number one issue facing urban development practitioners today (Bartsch & Collation, 1997: 1).

The Pittsburgh region shares these problems. The closing of several giant steel plants has decimated several communities, some of which are so strapped for money that they cannot provide basic city services. The region's lackluster economic performance between 1980 and 1991 was ranked sixth lowest of all metropolitan areas (ICMA, 1996). Despite population losses in the Monongahela Valley, Pittsburgh and Allegheny County, automobile-oriented sprawl development continues within and around the county's borders. Compounding this is the region's political fragmentation, which further hinders regional initiatives to address the Brownfields problems.

More importantly, though, is the fact that the "brownfields problem" is actually an *opportunity* for many cities. Brownfields redevelopment represents a truly unique opportunity for the Pittsburgh region. The immense brownfields sites of the Mon Valley allow for a wide range of reuses in which economic development, for both the region and the individual communities, can be linked with community development. Redevelopment of these sites, as well as the hundreds of smaller brownfields within the city of Pittsburgh, can be used to bring people and jobs back to areas that already have infrastructure in place. Finding new uses for the vacant, sometimes polluted industrial sites that do not generate much tax revenue and are neighborhood-blighting influences will benefit neighborhoods, cities and the entire Pittsburgh region.

What Are Brownfields?

The term brownfields is certainly becoming part of the development vernacular; however, there lacks a true consensus on what the term actually means. Two definitions seem to be most commonly accepted: 1) the U.S. Environmental Protection Agency's definition which states that a brownfields is “an abandoned, idled or under-used industrial or commercial site where expansion or redevelopment is complicated by real or perceived environmental contamination that can add cost, time or uncertainty to a redevelopment project”; 2) and the Office of Technology Assessment's definition which adds that a brownfields site is also “one whose redevelopment may be hindered not only by potential contamination, but also by poor location, old obsolete infrastructure, or other less tangible factors often linked to neighborhood development.” For the purposes of this report aspects of both definitions will be addressed.

What’s Causing Brownfields

Arguably, much of the problem associated with existing brownfields can be attributed to an economy in the throes of changing from an industrial base to an information base. However, many of the more recent additions to the brownfields inventory have resulted from strict adherence to environmental regulations. Concerns of liability have caused owners, buyers, lenders and insurers to flee from any property with the label of brownfields. There are two sides to this debate regarding the intent/effect of environmental laws. Regulating agencies acting on behalf of federal, state and local municipalities supporting the status quo and owners, lenders and insurers of industrial age properties seeking reform.

The regulator’s argument is simple if not brutal; the law is the law! A representative from a Pittsburgh Council member’s office was direct about compliance with CERCLA: Hold all parties associated with a property strictly liable. Using this ideology also eliminates the need for public monies to become part of the solution. All compliance costs are the responsibility of the property owners, lenders and insurers.

In an article titled “When Cleanliness Isn’t a Virtue” (Silber, 1996) sentiment from the other side of this debate is accurately portrayed:

> Two powerful recent trends have engendered this state of affairs: a governmental tendency to impose environmental regulation without regard to economic consequences, and a litigation mania that assigns legal liability in defiance of commonsense notions of personal or corporate responsibility. Parties that had little or nothing to do with a site's contamination become liable for its cleanup--especially if they have deep pockets--while genuine polluters escape accountability. Some cleanup requirements are unnecessarily stringent; others, ambiguous and ever shifting. The division of authority among agencies and levels of government is frequently unclear. And sites that contain little or no contamination become caught up in labyrinthine procedures designed for severely polluted toxic-waste dumps.

Industry's biggest and perhaps most legitimate gripe is the retroactive nature of CERCLA. An anonymous official from a local industrial site states:

> We were performing a perfectly legal business here fifty years prior to environmental laws. Suddenly everybody associated with our industrial properties is a potential crook. Consequently, when it's no longer feasible from an economic standpoint to continue this specific kind of business here, there is only the remotest chance we'll find a party interested in taking on the liability associated with this property. Even worse, we'll never be able to tap into our property's pre-CERCLA value (meaning lending institutions won't give them a mortgage loan) should we desire to reinvest into another activity at this site. Essentially our property became worthless the day these regulations came into existence.

The EPA has taken actions to reduce liability to organizations wanting to redevelop Brownfields. Many of the concerns developers and lenders have expressed in recent years have been addressed in the form of new legislation which reduce some of the hardships associated with development of Brownfields. Most of the states are following suit.

Apparently the word isn't getting out. On March 15, 1996, Richard Morrison, Senior Vice President of Bank of America, noted: *"We think there are three elements to achieving success -- clarification of future liability, an economically viable project, and effective community involvement."* Recent EPA initiatives do in fact clarify some of the liability issues as well as promote community involvement. Perhaps the real stumbling block to Brownfields redevelopment and prevention is determining economically viable projects.

Brownfields Prevention

If one had to draw a theme from the preceding paragraphs it could be summed up from the assessment of U.S. government, industry and labor relations in the documentary "Surviving the Bottom Line (Smith, 1998)." There is a hard line element associated with all the Brownfields players. Many government agencies seem willing to continue holding the "polluter pays" line regardless of the long term economic implications. Of course, most industries are only concerned about economic implications and how the corporate bottom line is affected. Finally, labor, realizing the current structure seems to make them irrelevant and unable to seek solutions, digs in for a fight with corporate management.

If we are to prevent Brownfields from occurring, a very different environment among government, industry, labor and environmental groups must exist, one of cooperation. One successful example is the Dutch Model (see adjoining box). The climate between the Dutch government, industry and labor is one of mutual understanding and goals. Each recognizes that success is ultimately not possible if any one player is left out.

Pittsburgh, already having one of the highest number of existing brownfields, has an opportunity to prevent another one from becoming part of the inventory. For several months the

Hazelwood community has sweated the impending closure of the LTV Coke Plant. In an effort to delay or even stop the inevitable, union representatives sued company management to remain open. Though the union won the suit, it's a hollow victory. When current contracts expire, the coke plant will close.

The Dutch Model:

The creation of brownfields is not just a problem of environmental laws and their interpretation. If we are to seriously address the possibility of brownfields prevention then we must recognize social and economic factors. One country that does take such an approach is the Netherlands.

The Dutch have similar environmental laws on their books but enforcement and compliance are handled differently. Dutch industry is heavily regulated. Yet the Dutch realize that regulation is not a prescription to protect the environment as well as promote development. They also recognized the pitfalls of retroactive laws (until recently, a key stumbling block to U.S. brownfields).

The Dutch enter into environmental covenants which address government, industry and labor concerns. These covenants spell out goals and responsibilities of all participants. They also foster the already close relationship that exists between government, industry and labor (Van Empel, 1997; Dutch Embassy, 1997). Unlike the competitive "winner take all" atmosphere (PBS, 1998) that exists in the U.S., these entities cooperate closely in all matters concerning the economic well being of the Dutch state. Environmental policy is no exception.

This relationship seems to be the key ingredient in the conversion of the Dutch mines to the Nedcar assembly line near Maastricht in southern Netherlands. When the Dutch government announced the closure of the state-owned coal mines, Maastricht faced the same dilemma Hazelwood faces with the closure of the LTV Coke Works. Despite agreements to explore the possibility of placing a newer coke plant on the same site, there is a very real possibility that the Hazelwood LTV site will become another brownfields.

The Dutch prevented a brownfields at Maastricht. The Dutch government secured foreign and local capital by matching their investments in a project. Management and labor invested profits and pension funds into retraining/converting the mine workers into assembly line workers.

The result was minimal downtime between the closure of the mines and the opening of the Nedcar assembly line. As the project took shape, additional developers were attracted to the area, resulting in a model community that was once considered by many as an undesirable area to live and work. Once the project was completed, the government began selling its interest back to investors. Because the involved parties worked together, everybody won. The Nedcar assembly plant is a classic example of how to keep brownfields from occurring.

During the month of February, 1998, LTV announced its imminent closure followed by an announcement that they would build a new coke plant on the same site. In time more details will be revealed to the public regarding this decision. At this time, however, all of the players are tight lipped. In retrospect, this might have been the best alternative for LTV. They were facing enormous cleanup costs for the original plant as well as continued litigation from the union. Only time will tell if this decision is economically feasible.

Could the Dutch formula work here in Pittsburgh? The players are already off to a dismal start. Government must take a more holistic approach, realizing the long term implications of lost revenue and relax their preoccupation with liability. Perhaps the most difficult change required will be that of corporate culture. U.S. corporations, too often, fixate on the bottom line. Too often, they lack a sense of responsibility to the communities that helped them achieve the bottom line. If these two issues can be mitigated, labor must be prepared to support the dramatic changes that will occur to its membership.

The Dutch formula may be impossible here. For too many generations a culture has developed between U.S. corporations and labor which views each other as the enemy. A similar culture exists between business and government. The result is a lack of trust. Trust and dialog are critical factors. If these barriers can't be broken down the Dutch formula will fail here in the U.S.

The Brownfields Classroom

In the Spring of 1998, a Capstone project led by Professor Sabina Deitrick was begun, entitled *Brownfields and Urban Revitalization in Pittsburgh*. The goal of the Capstone seminar is to serve as the final project of one's graduate studies in which a culmination of one's educational achievements can be showcased. Through our combined diverse backgrounds -- from different countries, in different programs -- we hope to add another resource for Pittsburgh's brownfields redevelopment. To study brownfields, Pittsburgh and its industrial heritage transforms the city into our classroom.

Over the past semester, we have worked to gain a greater understanding of issues facing brownfields redevelopment in Pittsburgh. To lead up to this, we enjoyed a number of guest speakers, read extensively through existing brownfields literature, conducted site visits and interviews, and discussed development and planning issues as applied to brownfields redevelopment. Through our efforts, a number of common themes arose:

- Despite obstacles to brownfields redevelopment, there are many opportunities to address regional and specific community development issues.
- The nature of brownfields redevelopment has changed over the past five years through both legislation and perception changes. Redevelopment is now recognized for its viability and necessity in political, economic, and social arenas.
- There is a need for further information and education to help spur redevelopment. The ever-increasing use of technology can help facilitate this process.

Early in the semester, the class divided into groups focusing on their own interests relating to brownfields redevelopment in Pittsburgh. The goal of our work was to create a final presentation and project on Brownfields redevelopment that would not only enhance our education but would serve as a thought- and discussion- provoking asset to the Brownfields redevelopment playing field. Our final product investigates how regional issues apply to Brownfields redevelopment, takes a closer look at a subregion in Pittsburgh, the Mon Valley, and lastly, examines two specific brownfields sites that are intimately linked to their communities' economies. Throughout our final report, other case studies and concepts have been included that we feel are most relevant to brownfields redevelopment in Pittsburgh. Our final project has been designed to address some of the common themes identified above by pointing out the opportunities for brownfields redevelopment in the region and addressing the changing nature of brownfields revitalization. A second part of our final product is found on the internet (www.pitt.edu/~bfield) and contains the class, the project, and an annotated bibliography of web sites (see Appendix I). Most importantly, we hope that our project will serve as a tool increasing the information and education available for those involved in the brownfields redevelopment process in the Southwestern Pennsylvania region.

The class would like to thank the following individuals for their informative presentations and assistance during the term: Ed Henry of the Pittsburgh Urban Redevelopment

Authority, Andrew McElwaine of the Heinz Foundation, August Carlino of the Steel Industry Heritage Corp., Davitt Woodwell of the Pennsylvania Environmental Council, Tim Collins of the STUDIO for Creative Inquiry at CMU, and Ron Gdovic of GSPIA.

CHAPTER II - AN OVERVIEW OF BROWNFIELDS REVITALIZATION IN PITTSBURGH

Pittsburgh, strategically located in southwestern Pennsylvania, has had its history greatly influenced by the three rivers and the region's rich abundance of natural resources. The waterways provided an inexpensive means for transporting goods and commodities while the natural resources provided the "fuel" that made Pittsburgh into one of the nation's great industrial centers.

The waterways coupled with the region's rich natural resources made Pittsburgh into one of the nation's great industrial centers particularly identified with the manufacture and fabrication of iron and steel and associated industries. Taking advantage of these amenities, large industrial complexes quickly grew along the three rivers and their tributaries. Pittsburgh became the seedbed of innovation and technological advances during the industrial age. However, there was a price to pay for being one of the leading industrial centers in the nation. These large industrial complexes, established along the riverfront and with the rail lines that serviced them created communities isolated from the waterways. Quality of life factors were less than desirable. Pittsburgh gained the reputation of being one of the dirtiest and smokiest cities in the country.

To address these factors, a massive urban redevelopment project began in the late 1940's (Lubove, 1995). Strict air-purification standards were adopted for industrial polluters. The heart of the downtown area underwent a renaissance with the construction of many skyscrapers and the city's new park at the Point. Because of these efforts the city became an attractive corporate headquarters and boasted one of the highest numbers of Fortune 500 company headquarters.

By the early 1980's, tragedy struck this one industry region. The steel industry collapsed, suffering from lack of capital reinvestment, increasing demands of unions, and falling competitiveness in a world economy (Hoerr, 1988). The region experienced the closing and abandonment of many of its industrial complexes. These abandoned steel mills, now referred to as brownfields, had not only the economic and social devastation of the loss of jobs and tax base, but also had a host of environmental problems associated with them.

Faced with these economic, environmental, and social impacts, partnerships among the city, universities, foundations, businesses, financial institutions, and communities were formed to address the revitalization of the region's economy. The service, education, and technology sectors now fuel Pittsburgh's economy, although steel and coal remain important. Local communities who were once isolated from their banks by the large industrial complexes and the rail system that served them are reclaiming the three rivers. Recreational use of the three rivers is making a comeback. The region boasts of having the largest inland recreational boater registration in the nation. Brownfields sites are being reused with this theme in mind. For instance, Sand Castle Water Park on the Monongahela River is one example of recreational reuse of brownfields.

Environmental cleanup and reuse of brownfields throughout the region has been a priority for economic recovery. Nonetheless, reuse of these sites had been hampered by strict federal and state legislation. However, the Environmental Protection Agency has recently been more flexible allowing states to have more say in the amount of clean-up effort necessary. Pennsylvania, under the leadership of Governor Ridge, has enacted numerous legislative acts easing environmental liability issues to foster an atmosphere that is friendly toward redevelopment efforts. The Land Recycling and Environmental Standards Act, commonly referred to as Act 2, has been the catalyst which has spurred renewed interests in developing brownfields (see below). Act 2 allows for the level of cleanup to be commensurate with the proposed site-specific development. There are three specific categories of clean up that are allowed, to pristine levels, meeting state wide health standards, and site specific criteria based upon future use requirements such as industrial, nonresidential, or residential uses. These Acts have helped spur development.

Developers, such as the privately-owned Park and the Regional Industrial Development Corporation (RIDC) of Southwestern Pennsylvania, a non-profit organization, are pursuing development efforts at several regional locations. Both of these corporations have been active in brownfields reclamation projects prior to Act 2 legislation and remain committed to developing and marketing brownfields.

The Park Corporation is currently developing a 500-acre site at the former USS Homestead Works, Homestead on the left descending bank of the Monongahela River at r.m. 8.0. The other site is a 110- acre site, known as the Carrie Furnace Site in Rankin, located on the right bank of the Monongahela River at r.m. 9.0 (see Chapter 4).

RIDC has been directly involved with development efforts being undertaken at Keystone Commons, City Center of Duquesne, and Industrial Center of McKeesport. The Keystones Commons complex is the former Westinghouse Electric Corporation Plant in East Pittsburgh and Turtle Creek, which closed at the end of 1988. RIDC purchased the site in 1990 and it now boasts of employing 650 people, which is close to the 800 employed by Westinghouse (Chute, 1994). A second site, the former USS Duquesne Works, known as the City Center of Duquesne is located in the City of Duquesne along the left bank of the Monongahela River at r.m. 13.8. Through a partnering effort between the City of Duquesne, RIDC, and the U.S. Army Corps of Engineers, suitable excavation material from the nearby Monongahela River Dam 2-construction project will be made available to RIDC. This material will be used to cap contaminated soil present at the Duquesne-RIDC site helping to facilitate development efforts. A third site, the former USS McKeesport Works, known as the Industrial Center of McKeesport is located on the right bank on the Monongahela River upstream of the Duquesne-RIDC site. Chapter 4 below analyzes reuse and revitalization of the once heavily industrialized Mon Valley.

Another effort currently underway is known as the Nine Mile Run Greenway Project. The Nine Mile Run is a historic scenic stream valley that was purchased by steel industry and used as a slag dumping ground. Included in this partnership are: the STUDIO for Creative Inquiry at Carnegie Mellon University, City of Pittsburgh Department of City Planning, Pittsburgh's Urban Redevelopment Authority, the Environmental City Initiative, the Children's

Museum, and the private developer (see Chapter 3). The project is being undertaken to "transform an urban industrial waste site to a sustainable environment of private housing and public greenspace (STUDIO, 1997)."

Regional interests have recognized the potential benefits associated with development of brownfield properties. Federal and State government entities have become more flexible with their policies toward brownfield development thus facilitating an atmosphere that fosters developers and financial institutions efforts with reuse of these brownfields. The Pittsburgh area, once devastated by the closing of the steel industry, is now making a slow and steady comeback due in part to modifications made concerning strict environmental liability issues and a team spirit among partnering concerns dedicated to the revitalization of the area. But are these efforts enough? We explore a number of these themes in the rest of this report. We begin below by analyzing some of the recent legislative changes.

Liability Issues and their Impact on Property Marketability

In marketing industrial property, "barriers" to sales or redevelopment can be anything that impacts the competitiveness of a brownfields property when compared to a greenfields property, including added time, cost, or uncertainty. Significant barriers associated with brownfields include:

- Risk to current property owners of liability for past contamination.
- Uncertainty associated with cleanup of a site, ranging from the levels and types of contamination present, the level of cleanup required, and an unfamiliarity with types of cleanup methods available.
- Unwillingness by the lending community to provide financing for brownfields.

In an effort to address and mitigate these barriers to development, both the federal and state governments have instituted programs aimed at controlling or more clearly defining a prospective purchaser's liability. Here we review the roots of the liability problem and the steps being taken to address them at the federal level and then focus on efforts at the state level in Pennsylvania.

Regulatory creation of "liability"

CERCLA, or Superfund, is the most significant federal environmental statute related to liability issues in brownfield redevelopment. CERCLA was enacted in response to Love Canal to protect the environment and human health and to hold polluters accountable for the cost of doing so. CERCLA specifically governs the cleanup of abandoned hazardous waste disposal facilities; it also provided authority and allocated responsibility for cleanup of contaminated soil, surface water, and groundwater (Grayson, 1995).

CERCLA statutes provide the U.S. Environmental Protection Agency (EPA) with two options for the remediation of a contaminated site. The EPA may order the parties responsible for contamination at a site to perform the response action and pay for the remediation if they

believe that the potentially responsible party (PRP) is acting properly (CERCLA, §9622). Alternatively, the EPA can undertake the site remediation itself by financing the cleanup through Superfund and recovering the cost from the responsible parties in a lawsuit. This became known as the “polluter pays” principle, and raised fear of such lawsuits of industrial site developments.

The broad interpretation of CERCLA by the courts has contributed to the liability problem. The courts impose strict, joint and several liability for releases of hazardous substances. Strict liability means that liability for cleanup costs exists without regard to fault. Joint and several means that each of the responsible parties at a CERCLA site is liable for the entire cost of the cleanup, as long as the harm each party caused is indivisible from harm that other responsible parties caused. Moreover, if the EPA sues and recovers all of its cleanup costs from one of the liable parties, the targeted party then may seek contributions from other responsible parties. This has become a bonanza for the legal profession and a burden for communities and parties related to a Superfund site.

The impact of CERCLA has spilled over onto non-Superfund sites. Even if a brownfield owner or operator is not liable under CERCLA, *it may be liable under state or local law*. States are primarily responsible for the bulk of environmental enforcement activities, including site detection and federal notification. Many states also have their own site priority lists, cleanup funds, and site remediation standards independent of EPA's.

In 1989 the EPA announced that it would attempt to combat this unintended effect of Superfund with what it called a "prospective purchaser agreement" or “PPA.” Prospective purchasers who did not cause or contribute to a site’s contamination could receive a covenant not to sue agreement, provided that they either undertook the site’s cleanup or reimbursed EPA for the remediation costs. The offer would be applicable only for sites where an enforcement action was anticipated and reimbursement of the cleanup would not be available other than by the Superfund itself (Rosemarin, 1997).

The applicable situations and the tradeoff expectations greatly limited the effectiveness of the PPA plan. In the six years following the inception of the 1989 Policy, only about twenty PPAs were effected nationwide. In 1995 EPA revised the PPA plan to expand the number and types of sites that could qualify for a PPA. The revision shifted the focus of the plan from direct benefits to the EPA, i.e. remediation of cleanup costs, to indirect benefits. Indirect benefits included reducing the risk posed by the site, creating or retaining jobs in a community, developing abandoned property, creating parks or conservation areas, or providing community services, such as improved public transportation and infrastructure (Rosemarin, 1997).

These changes added 20 PPA’s since 1995, benefiting both purchasers and the EPA. Purchasers gained from liability for contamination they did not cause and the ability to market the property. EPA maintains the right to access the property for any contamination that may remain and to assure that the prospective purchaser’s use of the property will not be harm health, safety or the environment. In the end, both parties aim is to have contaminated properties become useful again, as long as that can be accomplished with a reasonable measure of safety (Rosemarin, 1997).

Liability issues and related uncertainty associated with cleanup

A recurring question associated with the remediation of a brownfield site is the question "How clean is clean?" In many cases no standards exist, so appropriate cleanup criteria are determined through a site-specific risk assessment. There is, however, considerable disagreement about the use of risk assessments. Procedures and requirements vary from agency to agency and from state to state. This variation can result in uncertainty about how the relevant agency will assess a potentially contaminated site and what cleanup standards it will impose. When developers cannot accurately ascertain cleanup needs, they also cannot easily estimate the costs associated with remediation, thereby creating even greater uncertainty.

In addition, "cleanliness" standards have evolved over time, and what is considered an adequate level of cleanliness now may not be so in the future. Environmental regulations are constantly being enacted and/or modified to reflect changes in technologies as well as increased knowledge about the impact of pollutants on people exposed to them. The fear is that changes in environmental laws or improvements in technology may force more stringent, costly revisions to remediation plans after they are underway, or possibly even after work is complete (Grayson, 1995).

Some of the steps being taken to reduce anxiety associated with clean-up related liability issues include programs such as environmental insurance. Some insurers are providing coverage for any remediation cost beyond a certain dollar figure, which limits the risk a developer is taking. There are also insurance programs that provide coverage against discovering pre-existing contamination of a site after the closing of a sale. These types of programs may reduce the level of anxiety associated with site clean-up related liability.

Environmental Groups and Brownfields

Environmental groups have taken diversified stances on brownfields redevelopment. For groups whose main concern is land conservation, preservation and education, such as the Nature Conservancy or the Audubon Society of Western Pennsylvania, brownfields are not part of their agendas. For other organizations, such as the Sierra Club, Clean Water Action, Western Pennsylvania Conservancy, and Pennsylvania Environmental Council, brownfields redevelopment is a double-edged sword.

They view the goals of redeveloping brownfields as important, particularly by stemming greenfield development, but these environmentalist activists have reservations about brownfield redevelopment. These are centered on environmental clean- up issues, the use of risk assessment and deed restrictions, and the granting of relief from liability. They fear that relaxing clean-up standards and releasing responsible parties from liability could encourage the creation of new brownfield sites in the future.

In their view, problems occur because the brownfield debate tends to center on speeding economic revitalization while environmental quality concerns, such as protecting public health and preventing sprawl, have been secondary considerations. By emphasizing economic revitalization, much of the legislation is designed not so much to eliminate the public health threats as to remove barriers to redevelopment. Environmental groups identify large real-estate interests, municipalities, financial institutions and industry as the driving forces behind these policies.

Groups differ in their views, however. The Sierra Club opposes the use of risk assessments and the relief from liability as a redevelopment tool. The Pennsylvania Environmental Council, on the other hand, supported the establishment of different clean up standards. Both have been very active with the state

Liability related to financing a redevelopment project

Financing a brownfields project has become very difficult. Banks are risk adverse, and brownfield projects present banks with three types of risk. Brownfield developers, underestimating the expenses required by a cleanup, may be more likely to default. Second, the risk exists that the collateral used for a mortgage may be discovered to be impaired by existing contamination, and consequently not worth the amount financed. Finally is the risk that the bank itself will be held liable for cleanup. As environmental enforcement grew and the risks mounted for banks engaged in loans on industrial properties, they began to steer clear of such loans for all but their largest customers.

Lenders are changing their practices regarding projects that involve potential environmental liability. Some lenders, particularly small ones, are sharply curtailing lending for commercial or industrial facilities that might be contaminated. Some lenders may limit loans to only those companies that have substantial assets. This practice restricts financing for smaller enterprises, especially startup companies, that want to use the land and buildings they are financing as the loan collateral.

Potential lender liability also increases transaction costs on a brownfield site in comparison to a greenfield site. In order to mitigate the risk incurred by lending for a brownfield project, lenders may now require purchasers to undertake extensive environmental testing and cleanup. This ensures that the property will maintain its value as collateral. Grayson and Palmer, estimate that, "For an industrial property, a simple environmental assessment can cost anywhere from $1,000 to $10,000, and a detailed site investigation with soil and groundwater sampling can easily cost $ 50,000 or more"(Grayson, 1997:4). Thus, these initial costs, prior to receiving the financial assistance sought, make brownfield projects much less financially attractive that comparable greenfield projects.

In response to this, in the last session of Congress, as part of the 1996-97 Federal Budget, a law known as the Asset Conservation, Lender Liability, and Deposit Insurance Protection Act of 1996 was adopted. The Act limits a bank's liability for the cost of cleaning up a contaminated site and may permit banks to be more aggressive in lending to brownfield remediation projects. Despite the Act's passage, uncertainty at the national level remains a confounding factor for both lenders and developers of a brownfields site (Deitrick and Meyer, 1998). Despite these problems, states have moved ahead with their own legislative changes to encourage clean up and reuse of brownfields. The section below addresses the changes in Pennsylvania.

Pennsylvania State Liability Initiatives

Pennsylvania initiated the Land Recycling and Environmental Remediation Standards Act in 1995, also known as Act 2. This initiative is managed through the Pennsylvania Department of Environmental Protection (PADEP). This Act further defines the cleanup liability of potential purchasers involved in brownfield projects in the state (see Appendix II).

Lender liability was then addressed in Act 3, the Economic Development Agency, Fiduciary and Lender Environmental Liability Protection Act. The focus of this act is to limit

the liability of parties involved in the financing of a redevelopment project. Pennsylvania's brownfields initiatives also include funding opportunities.

In Act 4, the Industrial Sites Environmental Assessments Fund provides money to municipalities, non-profit economic development agencies, and related agencies to conduct environmental assessments of sites in targeted or distressed communities. This answers lender needs to have assessments conducted prior to lending money for brownfield projects, and it keeps the costs of brownfield sites competitive with greenfield sites by eliminating or reducing a major up front financing cost. Pennsylvania Acts are summarized below:

The Land Recycling and Environmental Remediation Standards Act (Act 2): This Act establishes environmental remediation standards to provide a uniform framework for cleanups. Three cleanup standards are: *background* standards, *statewide health* standards, and *site-specific* standards. Submission and review procedures using each of these three types of cleanup standards are. In addition, Act 2 frees owners or developers of a site that has been remediated from liability, based on the standards selected for that particular site.

The Economic Development Agency, Fiduciary and Lender Environmental Liability Protection Act (Act 3): This Act protects financiers, lenders and fiduciaries from liability. Unless their actions directly caused the contamination, these parties cannot be held responsible for contamination at that site. Routine commercial lending practices, including foreclosing on contaminated property, does not trigger liability, according to this law.

The Industrial Sites Environmental Assessment Act (Act 4): This Act authorizes the Department of Community and Economic Development to provide grants to help finance environmental assessments of industrial sites located in designated distressed communities. Grants are provided to nonprofit economic development agencies, municipalities, and local authorities. Certain cities may receive grants for remediation work, in addition to environmental assessments.

Source: PADEP, 1995; Ridge, 1996

Act 2 liability waivers differ between parties not responsible for contamination versus parties who are responsible for contamination. Parties who are responsible for contamination at a site are not eligible for loans or grants through Act 2. However, they can be released from liability by undertaking the clean up of the site at their own expense, and by following the programs' clean-up guidelines (Scott, 1997).

Parties not responsible for the site contamination are released from liability when cleanup standards are met, and the legislation provides three clean-up options. These include a background cleanup option, statewide health standard option, and a site-specific option:

- *Background standard*: Returns the site to the level of cleanliness it had prior to the contamination. In these cases, contamination is usually a naturally occurring contaminant, or the contamination originated in another site.
- *Statewide health standards*: Meets a statewide health standard level that eliminates risk to humans and the environment. This standard includes two concentration levels, residential and non-residential standards, and has different standards for groundwater and water intended for drinking water.

- *Site-specific standards*: Standards based on the present or future use of the property based on a site-specific risk assessment. These cleanups require public notice and the opportunity for municipalities to have public involvement plans developed before development of the cleanup plan. Those conducting cleanups of contaminated industrial sites must use one of the three cleanup options in order to qualify for a liability waiver (Scott, 1997).
- *Special industrial sites*: When no financially viable party is available to clean up a site or the site lies in a state Enterprise Zone, under Act 2 this site can be designated a "special industrial site." This is discussed below in Chapter 4.

Of the 109 sites completed under Act 2 in late 1997, 57.8 percent were cleaned under statewide health standards (See Figure 2.1; PADEP, 1997). Of sites not yet completed, the proportion of sites under statewide health standards fell from the proportion of completed sites, while the number of site-specific, special industrial, and combination-based standards grew in both number and proportion. Sites using background standards dropped from 12 completed sites to 9 sites still underway. Additionally, more sites underway were using the special industrial classification and one of several different combination classifications.

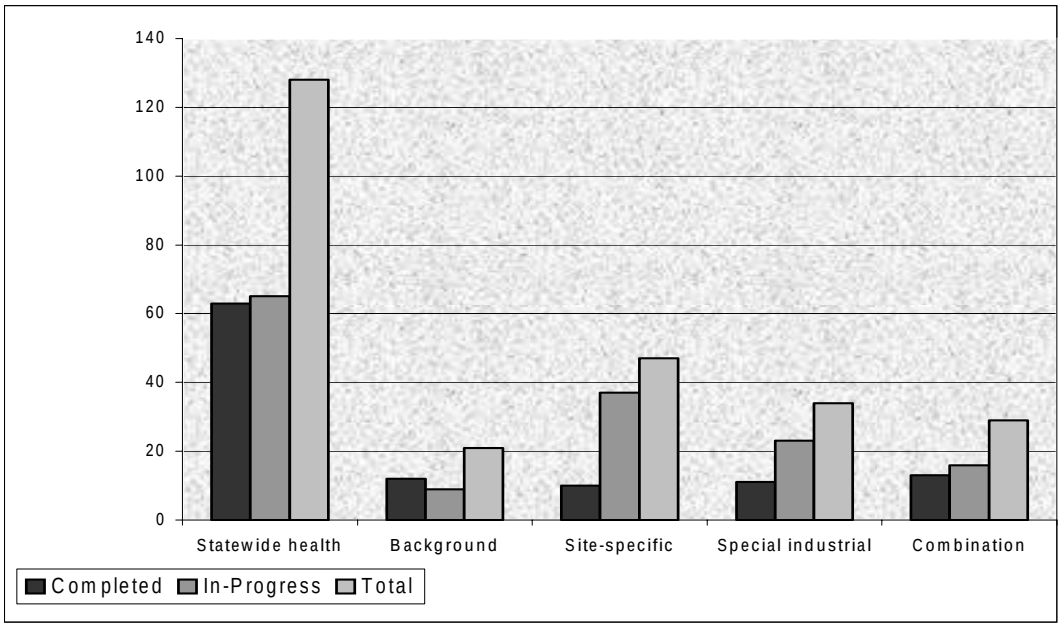


Figure 2.1: Pennsylvania Land Recycling Program by Type of Cleanup

The legislation also established an independent Cleanup Standards Scientific Advisory Board to help ensure that standards are protective of human health and safety. The Board also helps to differentiate the standards for human health from those for ecological health, which in some cases must be stronger that those for human health. Copper standards are an example

where human exposure without harm is higher than the exposure that aquatic life can withstand (PA Township News, 1996).

Results and Recommendations

Understanding liability issues is important in marketing brownfield projects. Fears of liability often make brownfields a less attractive option for a developer. However, an awareness of the unintended consequences of governmental regulation has led to modifications of existing regulations and adoption of new programs that will continue to protect environmental quality, while also enhancing the potential for redevelopment of brownfield properties.

The efforts in Pennsylvania have paid off. Since the 1995 enactment of the Land Recycling and Environmental Remediation Standards Act, over 100 sites have been remediated and 150 additional sites have begun cleanup (Ebert, 1997). Pennsylvania's law specifically targets the special problems of Pennsylvania brownfields. The state established a $15 million fund to help those not responsible for contamination conduct assessments and cleanups. These grants are available to local governments and nonprofit development corporations.

CHAPTER III – REGIONAL POLICIES AND ORGANIZATION

In the preceding chapter, we reviewed many of the brownfields policy initiatives on the federal and state level. It is on the regional and municipal levels, however, where the actual work of attracting potential site developers and investors, and assisting and expediting their efforts in whatever way possible occurs. Despite their lack of purview over environmental and liability regulations, regional and municipal governments have a crucial role to play, and an expanding array of promising tools to use, in the effort to regenerate the built environment through the renewal of these currently fallow sites.

A wide range of local and regional issues impact the development of brownfields. A comprehensive and effective response by practitioners and policymakers to the following is necessary:

- **Local and regional development finance policy**
- **Local and regional taxation policy**
- **Community organization and development policy:**
  - ✓ coordinating regional development and business attraction efforts;
  - ✓ streamlining and facilitating the location and development *process; and*
  - ✓ cooperation among stakeholders and citizenry.
- **Land use control policy**
- **Transportation planning policy**
- **Human capital development policy:**
  - ✓ education
  - ✓ workforce training
  - ✓ quality of life issues, including public health and safety
  - ✓ removing barriers to discrimination

This chapter focuses on the tax and finance policy and community development. We make several specific policy recommendations that we believe would be particularly suitable and useful in the southwestern Pennsylvania area. The issues of land use control, transportation policy and human capital development will be dealt with in chapter 4, in the specific context of the Mon Valley.

Brownfields are a specific example of community decay and disinvestment. They are similar to other examples of urban disinvestment and have the same set of barriers and challenges. They are distinguished by additional obstacles, however: environmental contamination and liability. The problem of brownfields is an aspect of the larger problem of regeneration faced by most older American cities: how to attract investment into areas that for a variety of reasons lack the competitive advantage to compete for it.

Local and regional development finance policy

Attracting investment to a brownfield site involves managing the reality and perception of risk and disincentives. Local and regional governments, and their associated development agencies, can offer incentives, assistance and expedited service to potential developers to make these sites more attractive (see Appendix III-A for financing instruments). In many areas, development professionals will take the lead in coordinating and directing the development of a lot, in partnership with private entities. Their job is to solve problems and overcome barriers to develop the site. Without the necessary resources, many projects will not go forward, regardless of their promise. What programs, initiatives and techniques can local and regional governments institute to meet the challenges posed by these sites? The following section describes options and strategies that have been used in various parts of the country.

Tax Abatements

Tax abatements are the most common tool used by municipalities to encourage development within their jurisdictions. An agreement is made by the local government to reduce or eliminate property or other tax payments for a specific length of time, in exchange for a pledge from the developer to build or otherwise expand within the community. They are often are used to encourage building construction (Bartsch, Collaton and Pepper, 1996).

Tax abatements can be useful in attracting or expanding a business in an area with high taxes and they can help a business to make investments that it otherwise would not have made.

Abatements are often criticized because of the difficulty of gauging the recipient's need. Brownfield experts generally consider them to be insufficient by themselves to provide solutions to specific remediation problems. They would be unlikely to provide sufficient "up front" money, for instance, to carry out a clean-up (Bartsch, Collaton and Pepper, 1996). However, because they are simple to implement and target, they can often play a helpful supplementary role, sometimes on projects where the developer has potential cash flow problems (Bartsch, Collaton and Pepper, 1996). They are also useful as a gesture of good faith by a municipality toward a new or struggling business.

General Obligation Bond Pools

Most communities have the power to issue bonds in the tax-free municipal bond market for "any proper public purpose which pertains to its local government and affairs" (Bartsch, Collaton and Pepper, 1996). Bonds could be issued for purposes such as acquiring sites, preparing and remediating them, and making the necessary infrastructure improvements necessary for the redevelopment project to go forward.

The serious weakness of this strategy is that the municipality that has issued this bond must now adjust its general operating budget to include bond retirement payments. Many municipalities, particularly those that are small or fiscally distressed, do not have the resources to assume this additional burden. General obligation bonds work best in large cities with good bond ratings.

Tax-Increment Financing

Tax Increment Financing (TIF) is a financing technique that involves the targeted reallocation of anticipated tax revenues from a specific area, made up of one or more property taxpayers in a "TIF district." TIF assumes that the development within the area will bring in increased property values subject to additional taxation. A TIF initiative arranges for the anticipated future revenue generated by this new "increment" to be redirected on a yearly basis to retire payments on a bond. The bond is issued to provide financing for some specific purpose related to the development of the district. This bond can be used for a variety of needs, from equity financing to building supporting roads or other infrastructure. Once the bond is retired, usually after twenty years, the taxing bodies that have been foregoing the incremental revenues can now begin to receive them. Brownfields, with their special environmental remediation demands, are ideal candidates for TIF projects.

TIF districts allow public money to be made available for development activities without raising taxes or redirecting funds from operating budgets toward additional general obligation bond payments. Present levels of tax revenue are not reduced. They also give resources to municipalities and their redevelopment agencies that they would not ordinarily have, notably the revenues that would ordinarily go to school districts and counties (Hitchcock, 1995).

The City of Pittsburgh has four approved TIF Districts: the Pittsburgh Technology Center, Center Triangle, North Shore ALCOA, and the Penn Liberty Plaza Buyer's Mart. One of them, the Pittsburgh Technology Center, is located on a brownfield, the site of the former Jones and Laughlin steel mill. $5.5 million in bonds were issued to assist in site remediation, infrastructure development, and parking garage construction costs of a Union Switch & Signal facility. This bond was financed with pledged revenues of $561,000, scheduled to reach maturity in 2013. The success of this project brought an unexpected windfall: a higher increment of growth than expected. Two new developments, Aristech and 2000 Technology Drive, were lured to the district, and their presence enabled a revised financing structure to be developed. Additionally pledged increments will now allow the bond to be paid off in 2004. This means that the taxing bodies will begin to receive the incremental revenues from these sites nine years earlier than originally anticipated- revenues from growth that likely would not have occurred otherwise (Birru, 1997). This success story illustrates the potential of TIF districts: to create additional development and revenues, as other parties become interested in the possibility of locating in an attractive and redeveloped site.

Minnesota has recently adopted legislation to further encourage the use of TIF districts for the purpose of cleaning up brownfields. Under this initiative, properties certified to be in a "hazardous waste subdistrict" can have their base property values reduced to zero for the purposes of TIF. This increases the amount the increment generated, allowing more revenue for redevelopment purposes (Bartsch, Collaton, Fischer, and Kirshenberg, n.d.).

There are some potential pitfalls when using the technique. A TIF project assumes that there will be a successful development in the area. If growth fails to occur, or is more sluggish

than expected, the bond still has to be retired and the municipality is responsible for covering these payments (Hitchcock, 1995). Should a key developer pull out of the project, or go bankrupt, the municipality can be left "holding the bag," and scrambling to attract other investors.

Special Service Areas

A “special service area” raises funds within a defined area to finance special services, improvements or projects. The Pittsburgh Improvement District levies an eleven mill tax on land value to all businesses and residences in the “Golden Triangle” area. This levy raised $1,100,000 in 1995. The money is used for a variety of purposes designed to improve the attractiveness of the downtown area. The Regional Asset District is another special service area that raises money for a variety of needs. In Minnesota, the Metropolitan Planning Council of the Twin Cities area has its own tax authority, which recently developed a specific new levy which has raised $6.5 million yearly in brownfield grants and loans (Bartsch, Collaton, Fischer and Kirshenberg, n.d.). A special service district covering a wide enough area could raise a substantial amount of money at a small cost to individual businesses for the purpose of brownfield remediation and other economic development activities.

Revolving Loan Funds

Another option would be a revolving loan fund geared towards brownfield redevelopment. This would make loans to private developers like ordinary commercial lending institutions, but with a less risk-adverse attitude. These loans could be used for a wide variety of capital spending on a development project. It is hoped that as more properties are brought back into use through these mechanisms the community would 1) have an easier time repaying the bonds as a result of higher property tax base, and 2) the loan fund would be able to make more loans, as well as interest commercial lending institutions in brownfield sites.

Land Reclamation Banks

A land reclamation bank is a quasi-public institution that purchases contaminated property or assumes control of it through foreclosure. After cleanup and preparation, the site is sold to a commercial developer. The city of Minneapolis has such a “bank,” called the Minneapolis Light Industry Land Acquisition Program, which spends $5 million a year to prepare sites. Initial funds can be generated through a TIF district or through a more general tax. By assuming the risk for the cleanup, up to state and federal standards, such institutions can often interest the private market in a site which it would otherwise shun (Wright, 1998).

Local and Regional Taxation Policy

Many brownfield sites are located in municipalities that are fiscally distressed. These municipalities have found themselves in the no-win situation of having to raise taxes to meet a revenue shortfall caused by loss of population, industry and commerce. This in turn fuels more loss, leading to another round of tax increases, a further acceleration of decay, and the reduction of essential services. Regionally, this process fuels continued suburban sprawl and greenfields

development, as investments in these areas become even more attractive by comparison. These fiscally strapped communities are in need of a financing mechanism that will enable them to meet their revenue needs without creating even further disincentives to investment.

Land Value Taxation (LVT)

Land value taxation (LVT) is a tax proposal that has intrigued many highly respected economists and others with its potential to raise revenue, while encouraging rather than discouraging development. LVT has recently been implemented, with preliminary indications of modest but consistent success, in 16 Pennsylvania municipalities.

LVT asserts that the assessment of property value and the resulting property tax burden should be divided into two components: the value of the land itself and the value of the buildings or other improvements on the land. Dividing property value into these two "tiers" allows the value of the land itself to be taxed at as high a rate as possible, and the value of the improvements to the land at as low a rate as possible, or perhaps not at all, in the extreme case.

The burden of higher tax payments, in a revenue neutral shift from a single-rate property tax to a two-tiered tax, would be borne by owners of lots in areas where the land is in high demand – such as central business districts, suburban retail corridors, and large suburban housing lots. Owners of underdeveloped but extremely large tracts in more distressed communities – such as large-scale absentee landlords, or owners of the former steel mill sites in the Mon Valley, would also be likely to have a much higher tax burden if land were taxed at a higher rate. Several studies have documented that most homeowners, particularly in the older communities, would have a lower tax burden under such a plan (Barry and Sullivan, 1992; Incentive Taxation, 1992).

The amount of the land tax would be a defined millage rate applied to a given percentage of the "full rental value" of that piece of land. The method of determining this land value would be similar to the current assessment process for property, except that it would be based on what the value of the parcel would be if it were completely vacant.

Proponents of this shift in taxes hold that it can have a very beneficial effect on many aspects of the urban and regional economy. Expected results include:

1) **Increased construction and other improvements on already developed but underutilized land:** Property owners would have an increased incentive to maximize the utility of the land they own. Developing each lot to its "highest and best use" would increase one's ability to pay the higher land tax, while improvements on a lot would not be penalized as much by higher assessments on building improvements. Those unwilling or unable to develop their properties would be encouraged to sell them, at reasonable prices, to those who would (The Economist, 1998).

2) **Decreased land speculation and suburban sprawl**: With more intensive development on already developed but underutilized sites, greenfields would be less likely to be developed before their time (Incentive Taxation, 1993a). Land speculation would be penalized. Large sites in outlying areas – shopping malls with their huge parking lots, for instance – would be highly taxed.

3) **Increased revenues <u>without</u> reduced incentives to economic activity**: Most economists agree that the LVT is a largely neutral tax due to the highly inelastic nature of land as a production factor (Bentick, 1997). Taxing land at higher rates "does not have a damaging effect on the urban economy," and permits the city to reduce or avoid reliance on the types of taxes that do (Oates and Schwab, 1997). (See Appendix III-B for a microeconomic analysis of the impact of LVT.)

LVT is not just a theoretical municipal finance idea. It has been widely implemented in many nations, particularly Australia, New Zealand, South Africa and Estonia. In the United States, the idea has been implemented most extensively here in Pennsylvania. The following municipalities and districts have already instituted a two-tier tax, at the following rates:

Table 3.1: Tax rates in Pennsylvania municipalities with two-tiered tax, 1997

Municipality	Pop. (1990)	Year Instituted	One Rate	Land Rate	Building Rate	% of Rev. from Land	$/per year shift-buildings to land
Aliquippa School Dist.	13,374	1993	44.2	163.0	11.0	80.6%	$2,115,336
Aliquippa	13,374	1988	22.7	79.0	7.0	75.9%	$1,001,915
Allentown	103,500	1997	12.2	16.8	11.3	24.1%	$1,303,177
Clairton	9,685	1989	36.6	100.0	21.0	53.7%	$300,193
Coatsville	11,038	1991	30.3	50.15	25.0	33.9%	$70,521
Connellsville	9,229	1992	30.4	113.50	17.5	50.1%	$384,508
DuBois	8,286	1991	19.3	51.0	13.0	44.0%	$31,180
Duquesne	8,845	1985	46.3	80.0	38.0	34.0%	$134,182
Harrisburg	52,376	1975	14.2	38.4	9.6	36.0%	$2,533,689
Lock Haven	9,230	1991	17.5	52.1	13.6	61.8%	$117,963
McKeesport	26,016	1980	36.4	100.0	19.0	59.0%	$865,637
New Castle	28,334	1982	33.8	87.28	22.0	46.6%	$1,192,131
Oil City	11,949	1989	37.8	85.50	26.8	42.4%	$478,190
Pittsburgh	369,379	1913	60.9	184.5	32.0	57.4%	$73,739,859
Pittsburgh Improve. Dist.	369,379	1997	N/A	11.5	None	100.0%	$1,100,000
Scranton	81,805	1913	26.1	66.0	12.0	66.0%	$3,997,371
Titusville	6,434	1990	20.0	61.3	15.0	33.0%	$308,773
Washington	15,791	1985	48.2	177.2	17.7	70.3%	$1,495,562

(Source: Center for The Study Of Economics**,** 1997a)

Although there is little argument that the tax had negative effects, there is some debate as to how much benefit the tax has yielded and to what degree LVT is the source of the benefit. Several of these communities were severely distressed prior to the institution of the tax, and remain largely so. Many have instituted LVT only recently, leaving no time to gauge the long-term impact.

Nonetheless, a number of studies have documented a rise in the building construction activity in the years immediately following implementation of the LVT, both in the municipality and in comparable, nearby single-rate municipalities (Center for Study of Economics, 1997b; Incentive Taxation, 1993b and 1997). Data comparing growth rates for the dollar value of taxable building permits between the three-year periods before and after the institution or expansion of LVT in the municipalities of Aliquippa, Connellsville, McKeesport, New Castle and Washington have documented increases ranging from 38% to 70% to 97%. Declines or significantly lower increases in building-permit values in nearby and comparable municipalities during these same periods suggest that the LVT has been a key factor in these increases.

An in-depth analysis of the effect of LVT in Pittsburgh was published in the National Tax Journal (Oates and Schwab, 1997). The authors compared the increase in Pittsburgh commercial building construction rates from 1980-89 with rates in 14 comparable cities in the East and Midwest. Pittsburgh's average annual rate of increase, in constant dollars, was 70%, larger than the other cities, many of which experienced declines. It was also noted that the increase in Pittsburgh far out-paced construction in Allegheny County and region as a whole. Others contend that it was the shortage of office space in the late seventies as well as the Renaissance II initiative that spurred the development, rather than LVT (Weir and Peters, 1986). Oates and Schwab conducted a complex regression analysis with dummy variables in an attempt to control for these other factors. They found that after controlling for this significant effect, "the dummy variable for the regime change remains large and statistically significant." They concluded that while the tax was not the only reason for the increase in construction activity, it played a major supporting role, by "provid[ing] city officials with a tax instrument that generates revenues but has no damaging side effects on the urban economy" (Oates and Schwab, 1997).

The LVT –Brownfields Connection

The LVT could be an important option in brownfields revitalization . By penalizing underdeveloped property instead, LVT encourages the regeneration of existing parcels, including brownfields, rather than the development of new ones.

An increase in the land tax would make it more unprofitable for companies to hold land vacant year after year. According to Alana Hartzok, a local LVT advocate, when Aliquippa and the Aliquippa School District instituted LVT (with land taxed at 16 times that of buildings) the owner soon after decided to sell the vacant 7½ mile long former Jones and Laughlin steel mill site, partially to developers who continue to sit on the land, but also to an employee group that has reopened part of the old mill. This worker-owned mill has since become one of the few successful mini-mills in the region.

The main benefit of LVT, however, is its ability to ease fiscal disincentives in distressed, highly taxed communities where many brownfields are located. While LVT is not a panacea, particularly given the limited role taxes play in investment decisions, it appears to be a promising and too little discussed part of the solution to urban redevelopment dilemmas.[1] If implemented regionally and more intensively, it could be a promising part of an overall regional strategy to advance the goals of more efficient and intensive use of existing land and decreased suburban sprawl.

Regional Tax-Base Sharing: An Option for Southwestern Pennsylvania?

Another regional proposal currently popular in the development and public finance literature (Orfield, 1997; Rusk, 1993) is known as tax-base sharing. This involves redistributing a portion of revenues from wealthy communities to distressed older communities. As stated above, the challenge of brownfields can be viewed as an endeavor to redistribute scarce private capital investment from greenfield and urban fringe development to brownfields. Regional tax-based sharing has a related agenda: to redistribute scarce ***public*** investment from more affluent communities within a region to the more distressed ones.

Regional tax-based sharing has been instituted in parts of the country with some degree of success, most notably the Twin Cities region of Minnesota (Orfield, 1997). In Allegheny County, the Regional Asset District (RAD) is a form of tax-based sharing, although only for a single county. More, recently the ill-fated Regional Renaissance Initiative (RRI) was an attempt to raise a large pot of money regionally for the development of a hodgepodge of "regional assets." The defeat of the initiative, and the subsequent lack of political courage regarding regional taxation, is a source of major disappointment to most area tax-based sharing advocates. Some of its strongest advocates concede that it is an idea whose time has not yet come to southwestern Pennsylvania (Miller, 1998). If implementation were attempted on a *multi-county* basis, the political opposition from outlying suburbs and rural areas would likely be overwhelming. Strong opposition would be likely if the proposal was limited to Allegheny County, with the added objection that such a plan could hasten the development of new suburbs just beyond the county border. The defeat of the RRI has been cited as showing that people outside the central county have marginal connections to the region's central city Pittsburgh.

Others have argued that it was the disappointing specifics of the plan, with its weak economic development initiatives which doomed it (Deitrick, 1997). There is merit to this more optimistic perspective. It can be argued that the creation of a relatively small but substantial pool of money, through a regional tax of some sort, for the purposes of assisting with the renewal of brownfield sites, would have resonance with and be acceptable to a large proportion of people who opposed a "stadium tax." Although the RRI went down in defeat, the region needs to

[1] Interest in land value taxation appears to be on the increase. In 1997, the Lincoln Institute of Land Policy published Land Use and Taxation: Applying the Insights of Henry George, edited by H. James Brown. The Center for the Study of Economics publishes a booklet containing formulas for converting from a 1-rate to a 2-rate property tax. It is available free of charge to any city official. Contact C.S.E., 2000 Century Plaza (#238), Columbia, MD 21044, Tel. (410) 740-1177.

encourage the development of a pool of funds and specifically targeted to brownfields redevelopment.

Economic and Community Cooperation Organizational Issues

In the above section, we examined tax and finance policies that can aid brownfields redevelopment. Further problems arise, however, since brownfields do not follow municipal boundaries and are subject to interests of multiple governing bodies. (The example of the Homestead site, which covers four municipalities, is reviewed in Chapter 4.) With 130 municipalities, Allegheny County has high levels of opportunity for conflict or cooperation. Here we consider the extent to which an effective brownfield redevelopment strategy depends largely on the cooperative efforts of governing bodies and the degree to which communities can act collectively.

Agility Program

Agility is a form of management practiced by the Pennsylvania Department of Transportation (PennDOT) as a common sense approach to government. It is a bartering for services. PA DOT enters into temporary Agreements with individual municipalities, or other governmental bodies, to give taxpayers "the biggest bang for their buck." That is, the work should be done by whomever can do it for the least cost. Local municipalities, for instance, can generally cut grass for less cost than what PA DOT outsources this service. And PA DOT can sealcoat roads and lay pipe for less than what local municipalities usually can. So the municipality cuts grass along specified state roads, and PA DOT can sealcoat local roads.

But what does Agility have to do with brownfields? This bartering for services could be greatly beneficial for brownfield revitalization. Many brownfields are located in communities that are not able to provide economic assistance to prospective developers. And some of these brownfields, such as prior steel mill sites, are located across several municipalities. If these communities were to join forces economically, as well as with planning and marketing resources, their strength as a whole would be significantly greater than any one standing alone.
So why have the principles of Agility not been applied to brownfield revitalization? In order for Agility to be successfully applied to brownfield redevelopment, cooperation amongst local municipalities would be necessary. Leadership and vision are crucial elements in Agility and are currently lacking between communities faced with the challenge of brownfield revitalization. This leadership and vision void must be filled before cooperation among affected communities can help resolve the brownfield issue.

A significant obstacle in the redevelopment of brownfields has been the lack of coordination at the local level of government. Historically, municipalities have viewed each other as competitors for tax revenues, prospective business and service delivery. In that regard, projects which require a coordinated effort not only in terms of zoning and infrastructure, but also in cleanup financing and business attraction present a significant challenge to localities which, individually, may not have the resources available. In many cases, this consolidation of efforts would not occur without the Urban Redevelopment Authority (URA). Established in the post World-War II Renaissance era in Pittsburgh, the URA has assumed a leadership role in financing the cleanup and marketing of city sites, by acting on behalf of municipalities when they cannot. Because current development in Pittsburgh is an complex web of comprehensive planning, detailed financial and environmental analysis, and public participation, they URA acts in the public realm when the private market fails to (Urban Redevelopment Authority, 1996: 4). In some cases, a lack of feasibility or regional impact cause the URA to focus its attention elsewhere. Sites that do not attract the attention of the private market or the URA require innovative municipal intervention or face continued under-utilization.

Regional Framework

In a larger sense, the Pittsburgh region competes with similarly-sized markets both nationally and internationally. As already stated, the brownfield problem is concentrated largely in the center cities and their inner suburbs. If the city of Pittsburgh is to be the engine that drives regional economic growth, then brownfields are an issue of regional proportion. More productive utilization of these sites places the entire region in a more competitive position with respect to markets elsewhere. The question of authority in maintaining a regional framework for realizing this opportunity remains unanswered. Perhaps the idea of regional governance in a strict sense is impractical for the Pittsburgh-extended area, but it makes perfect sense in the context of a brownfield redevelopment strategy. If the social, environmental, and economic costs of urban sprawl are indeed the problem being addressed, then logic dictates that the region extract the maximum development potential from land already under some degree of settlement. As discussed previously in this chapter, leaving a skeleton behind as development pushes further from the urban core results in an inefficient regional economy. These inefficiencies impede the competitive advantage of Pittsburgh in the global marketplace. Certainly, increasing the viability of the regional economy is a goal that all constituencies can agree upon.

The box below describes some policy options being pursued locally and nationally, which attempt to establish a more regional framework for decision-making.

Table 3.2: Regional Governance Alternatives

Policy Alternative	*Example*
Regional Multipurpose District A regional agency which coordinates regional service delivery while local Governments act in autonomy.	Portland's Metropolitan Service District performs regional planning and administration of solid waste removal, transportation, economic development, housing, and environmental functions. *(www.multnomah.lib.or.us)*
Regional Special-Purpose Government An Authority initiated to handle specific regional functions.	Port Authority Transit in Pittsburgh handles transportation issues for the county (trfn.clpgh.org/patransit).
Regional Governance Network Establishes a formal avenue for regional Problem-solving which can be lead by a Public agency, civic group or other public Organization which strives to identify Regional issues and address them in a Public setting.	Charlotte's Carolinas Partnership is comprised of fifteen counties which has been instrumental in developing a regional vision to market to outside business prospects. It is funded through a public / private partnership. *(http://charlotteregion.com)*

We would be remiss in not mentioning the upcoming referendum vote on the form of Allegheny County government in the 21st Century. If passed, the home rule provision of the charter would allow administrative decisions to be made locally rather than in the state

legislature. While implementation options remain to be seen, it could prove to be a useful tool in galvanizing support throughout the county in relationship to brownfields place in the public policy arena. Certainly, it is not the purpose of this report to attempt to predict the future. However, one intended result of this report is the enumeration of available policy alternatives.

Managing Stakeholders in Redevelopment Projects in Pittsburgh

An added complication in brownfield redevelopment is the fragmented nature of the stakeholder groups involved. Not only are there a wide variety of stakeholders, but their goals regarding brownfield redevelopment as well as their familiarity with and knowledge of the subject are widely divergent.

The range of stakeholders can be seen in a sampling of brownfield redevelopment projects in the city of Pittsburgh. Below is a sampling of stakeholders identified in case studies provided by the CMU brownfields site. Stakeholders involved in local site projects include, but are not limited to, the following organizations:

Washington's Landing (funding sources only):

- U.S. Economic Development Administration
- PA Department of Community Affairs
- PA Department of Commerce
- PA Department of Environmental Resources
- Appalachian Regional Commission
- City of Pittsburgh CDBG Funds
- Urban Redevelopment Authority
- City of Pittsburgh Bond Funds
- Port Authority Transit
- Pittsburgh Water and Sewer Authority
- PA Strategy 21 Funding (park and open spaces)

***Nine Mile Run*:**

- Urban Redevelopment Authority (URA) of Pittsburgh
- Nine Mile Run Associates
- Cooper Robertson & Partners
- Rubinoff Co.
- Montgomery & Rust Inc
- Cooper Robertson & Partners
- Glunt Development Co.
- Pennrose, Falbo, Halliday Associates of Pittsburgh (specialize in rental housing
- LaQuatra Bonci & Associates (landscape architects)
- National City Community Development Corp., (an arm of National City Bank)
- Pepper Hamilton & Sheetz
- Chester Environmental
- Allegheny County Sanitary Authority (ALCOSAN)
- The STUDIO for Creative Inquiry
- The Western Regional office of the Pennsylvania Resource Council
- Friends of the Riverfront:
- Pennsylvania Environmental Council
- Western Pennsylvania Conservancy
- The Pittsburgh Children's Museum

The success of a redevelopment project is often at least partially related to the effectiveness with which stakeholder groups are managed. An important first step in brownfield redevelopment projects is identifying and planning an approach to relevant stakeholders. Also, while stakeholders may occasionally hinder a proposed redevelopment plan, often times they can be an unforeseen source of assistance or funding.

While this is a seemingly endless list of organizations involved in brownfield redevelopment, there are some broad categories of stakeholder groups. A familiarity with these categories should enhance a developer's ability to seek out stakeholder groups. As an initial segmentation, stakeholder groups usually fall into one of five categories:

- Property Owners
- Property Owner Support Groups
- Community Groups
- Non-owner Governmental Entities
- Information Providers

Property Owners

Property owners include both public and private entities. Private entities consist of private developers and/or Realtors. Public entities are the governmental bodies which may own land, such as municipalities, or quasi governmental entities such as the Urban Redevelopment Authority (URA), or the Regional Industrial Development Corporation (RIDC). The property owners have been subcategorized in this manner because in many ways, their goals and fears are different. The primary goal of a private developer is to make a profit, although secondary goals may be more altruistic. Their fears involve anything that may impact their profit making ability. One of the major difficulties encountered by organizations attempting to market brownfield sites are the fears of property owners that listing their sites on "brownfield site inventories" might "stigmatize" their property.

For governmental and quasi-governmental entities, the goals are much broader. Their aim is to return brownfield areas to productive use, in order to regain the tax revenue and jobs that accompany thriving property. They also want to improve the area for local residents, by removing contaminants and restoring vitality. Their fears are generally about the "political" impact of a proposed redevelopment. Often, other fears arise from jurisdictional conflicts when properties span more than one governmental entity, as mentioned earlier.

P*roperty Owner Support Groups*

Property Owner Support Groups (POSG's) include private lenders, insurers, lawyers and remediation firms. The property owner and POSG's are the most easily identifiable and manageable stakeholder groups involved in brownfield redevelopment. Public lenders, such as the EPA, while also acting as a support to property owners, have multiple agendas, and differ from other groups within this category. For our purposes, public lenders, which supply money as either grants or loans to property developers, are reclassified under "Non-Owner Governmental Entities". POSG's all essentially intend to provide a service for a fee. Most of

their fears in brownfield redevelopment projects revolve around liability issues. Managing these liability concerns, and the hindrance they cause for redevelopment projects are addressed in Chapter 2.

Community Groups

Community Groups encompass a wide range of organizations, from environmental groups to neighborhood groups, to museums and historical societies. These groups vary in their level of experience with brownfields, and can vary significantly in their goals are fears regarding brownfields. Community groups can often be subcategorized into one of the following groups:

- Groups with environmental concerns
- Groups with community/property concerns that hinder development
- Groups with preservation concerns
- Groups promoting urban redevelopment

Groups with environmental concerns include organizations such as the Sierra Club, which has a prepared stand on Brownfield redevelopment, the Pennsylvania Environmental Council, The Nature Conservancy and Friends of the Riverfront. These organizations walk a fine line between advancing environmental protection and preservation, and advocating brownfield redevelopment to reduce urban sprawl.

Groups with community/property concerns that hinder development can include neighborhood groups that are concerned with the traffic or property value impact of adjacent redevelopment projects. They may be concerned about contaminant exposure during the redevelopment process. Local residents' may fear the effect of redevelopment in their community on public health and safety. They may fear that cleanup work will be minimal and that future industrial activity will exacerbate existing problems. As advocates of environmental justice suggest, urban communities do not want to achieve urban renewal and job creation at the expense of becoming environmental "second-class" citizens.

Community involvement in brownfield initiatives is crucial so that local residents understand the environmental issues and the actions being taken to minimize or eliminate any potential risks.

Groups with preservation concerns include historical organizations such at the Steel Industry Heritage Group. These organizations, while working to preserve historical sites and artifacts, can often be instrumental in assisting in research for the project, in locating additional sources of funding, or in assisting with advancing a development project.

Groups promoting urban redevelopment include organizations such as the Heinz Endowment - Environmental Program, Friends of the Riverfront, the Pennsylvania Environmental Council, and the Western Pennsylvania Conservancy. These organizations are concerned with making the region more “livable”, to enhance the quality of living for current residents, to encourage the growth of new residents, and to reduce the effects of urban sprawl. Collectively, they can be sources of information, funding, and ideas.

While these groups may have different knowledge levels and agendas, they can all, to varying degrees, either help or hinder a redevelopment process, depending upon how they are managed. An effective brownfield redevelopment plan should include an identification of relevant stakeholders, and open lines of communication with them to allow for the most positive outcome possible.

Non-Owner Governmental Entities

This category includes entities that may be difficult for a developer to readily identify. Stakeholders in this group include regulatory bodies and related services bodies. Regulatory bodies include entities at the Federal, State and Local level. At the federal level, the major regulatory body is the EPA, managing property under the auspices of RCRA and CERCLA. State entities are more numerous. These range in Pennsylvania from the Department of Environmental Protection to the Department of Transportation, or other agencies from whom permits may be required. At the local level, these agencies include zoning and planning commissions, and sanitary authorities, among others. These organizations are mainly concerned with fulfilling their "mission". These organizations want to be involved in effective projects, and their concerns are generally related to the feasibility of a project.

Independent Information Providers

This group includes the authors of this document, along with other academic organizations including, but not limited to, the STUDIO for Creative Inquiry, and the CMU Brownfield project. There are also other organizations such as redevelopment authorities, the EPA pilot projects, etc. that sponsor, fund and/or maintain sources of information relevant to the redevelopment process. The media also plays a role, as a major provider of information to the public at large.

These organizations are significant players in advocating public policy changes to improve the process of brownfield redevelopment.

Marketing Brownfield Properties on the World Wide Web

Marketing of brownfield properties is a complex and difficult process. The inherent nature of a brownfield makes it a marketing challenge, while other difficulties arise because there are few consistent places where a property owner can list a property, or where potential tenants can go to seek a property. Where such lists exist, property owners may avoid listing their property, for fear that being considered a brownfield will "stigmatize" their property, possibly hindering the sale or rental, or reducing the monetary value of the property.

Several areas and types of groups have made efforts to improve the marketing process for brownfields. The focus is on learning about opportunities as well as pitfalls faced in the attempt to market brownfield properties. One is a successful on-line program called Clean Start, at www.cleanstart.com, a corporate sponsored project. Another is a contrasting program EnviroFlex, also with corporate sponsorship. The third is the Salem Economic Development Corporation (SEDCOR) in Oregon, a non-profit membership organization involved in generating

economic growth and benefiting their member firms. They promote "Industrial Buildings & Sites" many of which would qualify as brownfields. Finally, the fourth on-line listing is the BRIMS program, the Brownfields Redevelopment Information Management System, which was initially planned as a listing for potential brownfield redevelopment, but which became an database of examples of successful remediation projects.

Clean Start

From their web page (www.cleanstart.com), Clean Start Properties Unlimited describe themselves as, " a worldwide means of linking available real estate with interested developers and related support services. Clean Start is a New England-based free listing service for underutilized properties that are prime opportunities for recycling/reuse."

Clean Start is owned by a company called L&A Associates, L.L.C., also based in New England, that acts as a real estate holding company. As participants in the real estate business, they are interested in providing a place for potential buyers and sellers to interact to locate relevant information and to "find and close good real estate opportunities" (Cleanstart, 1997)

The on-line listing service was created in March of 1997. It currently covers a six state region including Maine, New Hampshire, Vermont, Massachusetts, Connecticut and Rhode Island, although they currently only have listed properties in Massachusetts, Connecticut and Rhode Island. They currently list 32 properties, of which 3 have been sold since inception of the web page (see Appendix IIIC).

Brownfields "Multi-List" Marketing in Pittsburgh

Regional real estate agencies and Community Development Corporations (CDCs) that market "brownfields" properties in the region were contacted to study the feasibility of a "multi-listing" directory of industrial properties. This type of directory would be like the *Pittsburgh Homes Guide*, a multi-listing of residential properties in Allegheny County that is used as marketing tool by various interests.

Time and again our efforts were met with apprehension and, unfortunately, an unwillingness to provide this information. This reaction could be expected, and is perhaps indicative of the competitiveness in marketing industrial properties.

A regional strategic vision must be developed in order to change the culture relating to marketing of brownfield properties. Steps are being taken by community and regional leaders and local academics to nurture this cultural change and develop a regional strategic vision for brownfields development.

One vehicle for this already exists. The *Regional Industrial Site Evaluation System (RISES),* a joint effort between the University of Pittsburgh and Carnegie Mellon University, aims "to promote economic development and showcase the region's competitive advantage" with respect to brownfields redevelopment**.** RISES is a Geographical Information System (GIS) based project, which has made strides to list its inventory of brownfields on the internet (http://zeus.ucsur.pitt.edu). Their purpose is threefold:

- *enhance access to information on marketing industrial properties*
- *develop a GIS display of this information*
- *provide worldwide exposure via the INTERNET*

RISES has taken the first steps toward the development of a multi-listing of brownfields properties in the region. The Lawrenceville Development Corp., a local CDC, has led in developing an inventory of industrial sites and providing the information to RISES. With the advent of RISES-Internet, these properties now have worldwide exposure, providing a competitive edge in marketing. As local real estate agencies and CDCs become aware of the potential marketing capabilities of RISES, we hope the existing culture of marketing these properties changes and a more regional strategic vision will be adopted.

In addition to their property listings, the clean start web page also contains links to state redevelopment programs, a discussion group, and a marketplace for classified ads for sites or related services. There is extensive information on Brownfields and related programs in New

England, with contact information, as well as special reports where particular issues addressed by Clean Start staff. They also provide links to related brownfield pages in the Web, and a reference library.

The benefits of this type of program are that it is well funded, and there are employees who actively seek brownfield properties for the listing. They are making every effort to limit the site to "problematic" properties, and to avoid having prime real estate use this free vehicle. Another advantage is that the site creator has a significant number of years experience in industrial real estate in New England, so he has an extensive contact list and familiarity with federal, state and local redevelopment programs in this region.

While it is encouraging that three sites have been sold, this is essentially a reactive process. Because this site is not linked to a redevelopment plan, it is difficult to market proactively. The site tries to provide as much information as possible, to attract potential buyers to the site, but ultimately, they are in a "wait for a bite" position.

EnviroFlex

In 1996, Enviroflex, a remediation consulting firm in Indiana, established a site listing at www.brownfields.com. There are currently no properties listed in the site, although the spokesperson there indicated that a renewed effort was being undertaken in regards to the web page, and he believed that there would be several properties listed by the end of this year.

Their purpose in establishing the site was to promote the buying and selling of industrial properties, and also as a way to sell secondary services. This site is strictly limited to site listings, containing no ancillary data, unlike the Clean Start web page. It is also a fee service to post site listings, although again the spokesperson indicated that this may change. The costs are $150 to list a site for 6 months. It appears that the major problems with this site are related to the fee nature of the service, and the lack of related data to provide a context.

The Enviroflex spokesperson indicated that the rationale for a fee service was two- fold. One of their basic economic precepts is that people will not take full advantage of services for which they do not pay. They felt that the fee was large enough for people to consider this a legitimate service, while also being so low as to not limit participation. However, give that fact that owners may be somewhat reluctant to attach the tag of brownfield to their property, it appears that the fee is an added disincentive to use the site. Also, the lack of attendant brownfield information does nothing to educate potential buyers.

Salem Economic Development Corporation (SEDCOR)

On their web site (www.open.org/sedcor), SEDCOR describes themselves at the "lead economic agency for the tri-county area of Marion, Polk, and Yamhill, a non-profit organization composed of over 250 business and government leaders concerned about how the greater Salem metropolitan area develops economically". While this organization is not specifically brownfield focused, as an economic development organization, brownfields have become part of

their mission. SEDCOR is essentially a one-stop shop for economic development. They provide, among other services, the following:

- Business Retention and Expansion
- Industrial Recruitment - Foreign and Domestic
- Databases: Research and Maintenance
- Publications and forums
- International Trade Promotion
- Enterprise Zone Locator Service
- Manufacturing Advocacy and Agency Coordination

The databases SEDCOR maintains includes their Inventories of Available Industrial Buildings and Lands, as well as databases on population and economic statistics, investment information on local companies, and development and utilities costs for the region.

In addition, SEDCOR has an extensive listing of publications, provides a service that links prospective clients with properties in enterprise zones in the region, and acts as a advocate and agency coordinator for manufacturing industries in the region. Finally, they also operate a one-stop permit application center, where most approvals required for commercial or industrial development can be obtained.

This Inventory, is a free listing for both members and non-members. It currently has 42 properties listed, and while the listings are less detailed than the above on-line databases, they do include eligibility for enterprise zone programs, available infrastructure, accessibility, and contact information.

While this in not strictly a brownfields-related program, there is much to learn from the SEDCOR program. The comprehensive nature, and the integration with overall economic growth strategies creates a cohesive program, that can address most issues facing manufacturing and industrial companies relocating to the region. It is proactive in nature, making efforts to recruit both domestic and foreign manufacturers, and to recruit industries that will enhance their region. SEDCOR considers itself a success, with a growing manufacturing base in the region, as well as consistent growth in their membership.

Brownfields Redevelopment Information Management System (BRIMS)

The BRIMS program began initially as an EPA-sponsored attempt at a listing of brownfield properties for redevelopment using LandView software provided by the Census Bureau. However, according to Ann Grimes, of the City of Dallas Economic Department, the focus of the program was changed due to legal issues in Texas.

According to Ms. Grimes, Texans are very protective of their property. Under Texas property law, any effort by a governmental entity that lowered the value of property could potentially be viewed as an unconstitutional takings. The perceived stigma of the term "brownfield" was considered enough to impact the value of the property. Thus, listing properties

as potential brownfield redevelopment opportunities was perceived as lowering the value of industrial land (www.epa.gov/earth1r6/6sf/bfpages/brims.htm).

In order to avoid any problems with takings legislation, the BRIMS program now contains only information on sites already remediated. It has shifted from being a listing of potential redevelopment sites, to being a listing of cleaned sites ready for use. The current stated purpose of the BRIMS program, from Malcolm Bender of the EPA Region 6 office is, "BRIMS is being developed to encourage cities to use LandView to document site specific information about properties being considered as possible brownfields sites." The project has thus become a showcase for the LandView software provided by the Census Bureau.

There have been 16 successful brownfield remediation projects in Dallas. Of that 16, eight property owners have given permission for their site to be listed in the BRIMS database. According to Ms. Grimes, ours was the second request for information regarding the program that they had received.

The BRIMS program highlights the sensitive nature of brownfields redevelopment, and may explain why property owners are reluctant to take advantage of opportunities for advertising their site.

Recommendations

1. Address the "brownfield problem" at the regional level including representatives from affected counties. Because of the inherent competition between these sites and green sites, the structure of the regional governance alternative is not nearly as important as the scope of the stakeholders represented.
2. This regional body should have a multi-faceted approach to the brownfield issue. There must be an "idea" branch, which will create a comprehensive development plan for the county. The second branch should act as a clearinghouse, collecting information and tracking interested community groups. It can be the "one-stop shop" both for developers to obtain information ranging from funding to permitting agencies, to community groups that should be approached. It will also act as a source of information for community groups, so that there is one place to go to learn about relevant developments in your area. Finally, the third branch should be the "marketing" branch. It will assist in seeing the comprehensive plan carried out. This branch will market the region to outsiders, but may also assist developers to market their development plan within the region.
3. A special service district like the Regional Asset District should fund the beginnings of a revolving loan program. Such a fund, which would hopefully expand at some point into the other counties, could provide be administered by representatives from different municipalities, each of them with brownfields they wish to redevelop. Such an institution could make loans available at very favorable rates to investors in brownfield development.
4. All taxing bodies in southwestern Pennsylvania should be encouraged to adopt the two-tiered property tax. Enabling legislation to this end should be introduced in the state legislature.

Theory and evidence indicates that it can be effective, particularly if implemented regionally and by all taxing bodies. The county executive to be elected in 2000 as well as other stakeholders should take the lead in promoting LVT.

5. The abundance and variety of stakeholder groups involved in brownfield redevelopment definitely requires a structured approach in order to take advantage of the benefits these groups can provide, and to avoid the pitfalls that might result if not they are not properly managed.
6. Marketing brownfields requires sensitivity and creativity. Marketing industrial property on the World Wide Web is one tool in the marketing package, but it cannot be the sole effort in order to have a successful development program. The ancillary services provided by both Clean Start and SEDCOR and prime examples of the way economic development programs and educational efforts go hand in hand with the marketing effort.

Case Study in Regional Organization and Brownfields Redevelopment: CASTLO, a Community Improvement Corporation for the Mahoning River Corridor

The CASTLO Community Improvement Corporation (CASTLO) is a nonprofit organization formed to market the development of brownfield sites in the communities of Campbell, Struthers, and Lowellville and the Townships of Coitsville and Poland, all in Mahoning County, Ohio. These communities are located along what is known as the Mahoning River corridor, located southeast of Youngstown, Ohio, and traversing Mahoning County along the southeast to the Ohio – Pennsylvania border.

With an abundance of natural resources, the area has a rich history of steel production. The Hopewell furnace, built on Yellow Creek near Struthers, was the first blast furnace built west of the Alleghenies. The area grew into a significant steel-producing center., with Youngstown Sheet and Tube Company becoming one of the largest steel companies in the country, rivaling the major Pittsburgh steel firms.

Like Pittsburgh, this area was devastated by the steel mill closings in the late 1970's. Youngstown Sheet and Tube Company, the Mahoning Valley's largest employer, closed and left a series of abandoned steel mills.

The aftermath of this economic misfortune led the area's community leaders to form CASTLO in 1978. The acronym represents the first two letters of the three cities represented by CASTLO, Campbell, Struthers, and Lowellville. CASTLO's purpose is to develop a marketing strategy for the economic revitalization of brownfields left abandoned after the demise of the steel industry. The first of these efforts is known as the CASTLO Industrial Park.

CASTLO Industrial Park: This 120-acre Industrial Park is located in Struthers on the former Youngstown Sheet and Tube's Struthers Works. The site had 11 abandoned buildings, which collectively total approximately 605,000 square feet. The Mahoning River bound the site on the North, State Route 616 to the west, a series of CONRAIL tracks to the south, and Panther Run to the east. Also, Yellow Creek bisects the western portion of the site. The existing buildings were structurally sound despite their age dating back to 1902.

Fortunately this site did not have extensive environmental contamination typically found at other sites along the Mahoning Valley. But the Struthers Works as a series of finishing mills did have several "hotspots." These were remedied with the help and funding from the USEPA.
Mr. Bill DeCicco, Executive Director of CASTLO, envisioned creating a park like setting on the site in order to maximize marketing capabilities. He along with the Board of Directors employed Mr. John A. Sybrant, a landscape architect from Youngstown to undertake this project.

Extensive planning and research went into the initial phases of the project. Environmental concerns were remedied. Existing roads were rebuilt and new roads and parking lots added. Instead of razing the existing 11 buildings they were rehabilitated. The structural soundness of these buildings could not be duplicated today and they were noted as being a cultural asset to the Industrial Park setting. They give the site its character. The next step was to place a foot of topsoil over 70 of the 120-acre site, the first phase of development. Mr. Sybrant personally oversaw the planting of trees and shrubs and planting of grasses. The completed project transformed this brownfield area into a park-like campus setting giving it a competitive edge with respect to marketability.

Mr. DeCicco illustrates the transformation of the site, "*On a recent afternoon, one of his employees came upon a family enjoying a picnic along the banks of the Yellow Creek. The employee asked if they knew they were on CASTLO grounds, private property. "The sign out front said CASTLO Park" was the response."*(LaRue, 1997). The family was allowed to finish their picnic that day. The transformation of the site was complete.

This Industrial Park, formerly an unused brownfield site, offers a "campus like setting" and is now boasting an almost a 90 percent occupancy level with future development of the remaining 50 acres planned for the near future. This initial project was a great success and promoted CASTLO into a leadership role in the development and marketing of brownfields throughout the Mahoning Valley.

Leadership in Marketing Initiatives: With the success of the CASTLO Industrial Park the Community Improvement Corporation has taken a leadership role in establishing a regional strategy for brownfields in the Mahoning Valley. CASTLO has been instrumental in forming partnerships between the local and state government entities, Youngstown State University, and the local business community. They have recently applied for a brownfield pilot project grant from the USEPA to enhance the development and marketability of a 500-acre site straddling Youngstown, Campbell, and Struthers.

CASTLO works with the state agency Eastgate Development & Transportation Agency (EDATA), which lends support to local communities on infrastructure improvements in northeast Ohio. EDATA provides technical and financial expertise to local governments and are a catalyst for marketing state programs for infrastructure improvements. CASTLO and EDATA have joined to obtain infrastructure improvement grants for brownfields development and marketing initiatives.

Youngstown State University Center for Urban Studies (YSU) has developed reports which emphasize the potential economic development goals of the Mahoning River corridor. One study focuses on CASTLO communities and emphasizes the reuse of brownfield sites (YSU, 1993).

Local utility companies, who see the potential for new businesses using their existing infrastructure, have provided grants for production of high quality general informational brochures highlighting the various brownfield properties. A short video has also been produced. The informational brochures highlight the extensive roadway and railway system, business activities within the area, amenities of the communities and townships, as well as site specific brochures for individual brownfield sites (CASTLO, 1997). Highlighting development opportunities is the theme of all their marketing brochures.

Conclusions: CASTLO shows how a nonprofit organization can develop and market brownfields properties. They have shown how to develop a *strategic and regional approach* to marketing and revitalizing brownfields. Enhancing the environmental value of brownfields and creating a park-like setting for new businesses has given them a competitive advantage for attracting new industries. Their example and leadership role is a fine example for other areas to follow, including the Pittsburgh region.

CHAPTER IV: BROWNFIELD REDEVELOPMENT IN THE MON VALLEY: A COMPREHENSIVE OUTLOOK FOR THREE SITES

A person who is unfamiliar with the history and current conditions of the communities of the Lower Monongahela Valley region can actually learn a great deal simply by taking a 20 minute drive along the south side of the Mon River. One such tour would begin on 8th Avenue- Route 837- in West Homestead, and continue by following the Mon River in an easterly direction through the other Steel Valley communities of Homestead, Munhall, Whitaker, West Mifflin and Duquesne. After crossing the Mon River into McKeesport, the tour would end at the confluence of the Monongahela and Youghiogheny Rivers (see Map 4.1).

One can easily piece together a general picture of the region's history by taking this drive. Through the huge tracts of vacant land and the many remnants of once mighty industrial plants, it becomes clear that industry - steel and related manufacturing - once dominated the Lower Mon Valley. In fact, The Homestead Works, Duquesne Works and National Tube/Christy Park Works of McKeesport combined to employ over 30,000 people in the 1940's (Carlino, 1997). Over 55 percent of Steel Valley workers in 1950 were employed in manufacturing jobs (Steel Valley Plan, 1964).

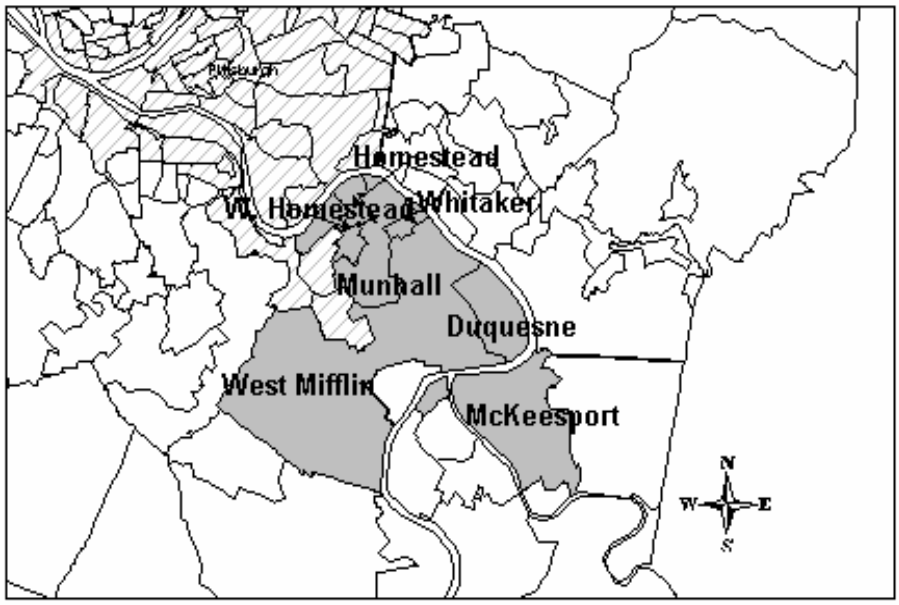
Yet it also is visibly evident that industry has been long gone. Several smokestacks stand together without factories as a monument of the region's past. Enormous industrial structures, their smokestacks churning out no smoke, ominously lie unused between railroad tracks and the Mon River. Fences that warn of hazardous materials enclose buildings hundreds of feet long. Hundreds of acres of land lie cleared and undeveloped alongside the river, save for the occasional giant loading crane. A once vibrant main street now seems to have as many vacant spaces as it does in-use storefronts. Many houses are empty; still many others lie in deteriorating conditions. The steel industry has left, and much of the population and supporting commercial uses have also gone with it.

It is with a sense of irony that one views the Mon Valley brownfield sites - the sites of the demolished or unused steel plants. The once vibrant communities of the Lower Mon Valley were directly linked to the steel industry, and the present conditions are clearly linked to the departure of steel. Now, the future of these communities is linked to the redevelopment of what the steel companies have left behind. And look at what has been left behind! The Homestead site, with its 500 acres of *cleared and cleaned* land within the political boundaries of Homestead, West Homestead, Whitaker and Munhall, is virtually *double* the size of Pittsburgh's 255 acre Golden Triangle Central Business District. The 250 acres of the Duquesne City Center site literally dwarf the Washington's Landing redevelopment site's 42 acres of townhouses, offices and parks. Five Industrial Center of McKeesport buildings sit on 28 acres of land by themselves (RISES; Toker, 1986, p. 20).

Redevelopment represents a unique opportunity to address both local problems, such as the need for community development, and regional problems, such as sprawl and a declining economy. But for any redevelopment efforts to successfully address the region's or the communities' problems, the redevelopment process must involve all stakeholders, including

MAP 4.1

Location of Lower Mon Valley Communities



community residents. A comprehensive planning approach is required to link business development strategies with community development goals. A regional approach to the redevelopment should be pushed that can bring the impacted communities together, not drive them farther apart through harmful competition f r the few available economic development opportunities. This requires a single group or agency to assume the role of leader in the Mon Valley. It also means developing a grand but pragmatic vision of how redevelopment of the brownfield sites can be a first but critical step in changing the physical, economic and social nature of all the relevant Lower Mon Valley communities.

The Sites

This chapter will focus on the redevelopment of three brownfield sites within seven communities. All three sites lie along the Monongahela River on a flat, even plain and have both river and rail access (see Map 4.2).

- The former ***Homestead Works site*** lies on 500 acres within the political boundaries of West Homestead, Homestead, Munhall, Whitaker and West Mifflin. The site spans the Mon River for more than 1.5 miles. An off-ramp from the Homestead High Level Bridge on the site's

western portion leads to a paved road that loops under the bridge and connects to an on-ramp on the other side of the bridge. The smokestack monument and a loading crane are the only structures on the site's western portion. Three 400,000 square foot new but vacant warehouses lie on the site's eastern portion, as does a partially demolished warehouse and a building commemorating the Pinkerton Strike of the late 19th century. Water and gas lines are in place.

- The ***City Center of Duquesne site***, home to the former Duquesne Works, is more than 250 acres. Four warehouse buildings, ranging in size from 18,000 to 110,000 square feet lie vacant and fenced off. Several buildings on the eastern portion have already been renovated and are currently occupied by various businesses. Further to the east lie several giant industrial relics, including a blast furnace. Some materials, not necessarily hazardous, lie buried under portions of this site. A paved road is in place that connects the renovated buildings with each other. All utilities except for sewage are currently in place.

- The ***McKeesport site*** is actually a combination of several adjacent sites that occupy all of McKeesport's Mon River riverfront. Lying in the middle of the riverfront are five Industrial Center of McKeesport buildings, which sit on 28 acres of land. These buildings range in footprint size from 26,000 to 840,000 square feet. Electric, water, sewer and gas lines are currently in place. Land to the north of the Industrial Center is devoted almost entirely to railroad tracks. Land to the south has other warehouse - style industrial buildings on the Mon waterfront and has a marina and park on the Youghiogheny waterfront.

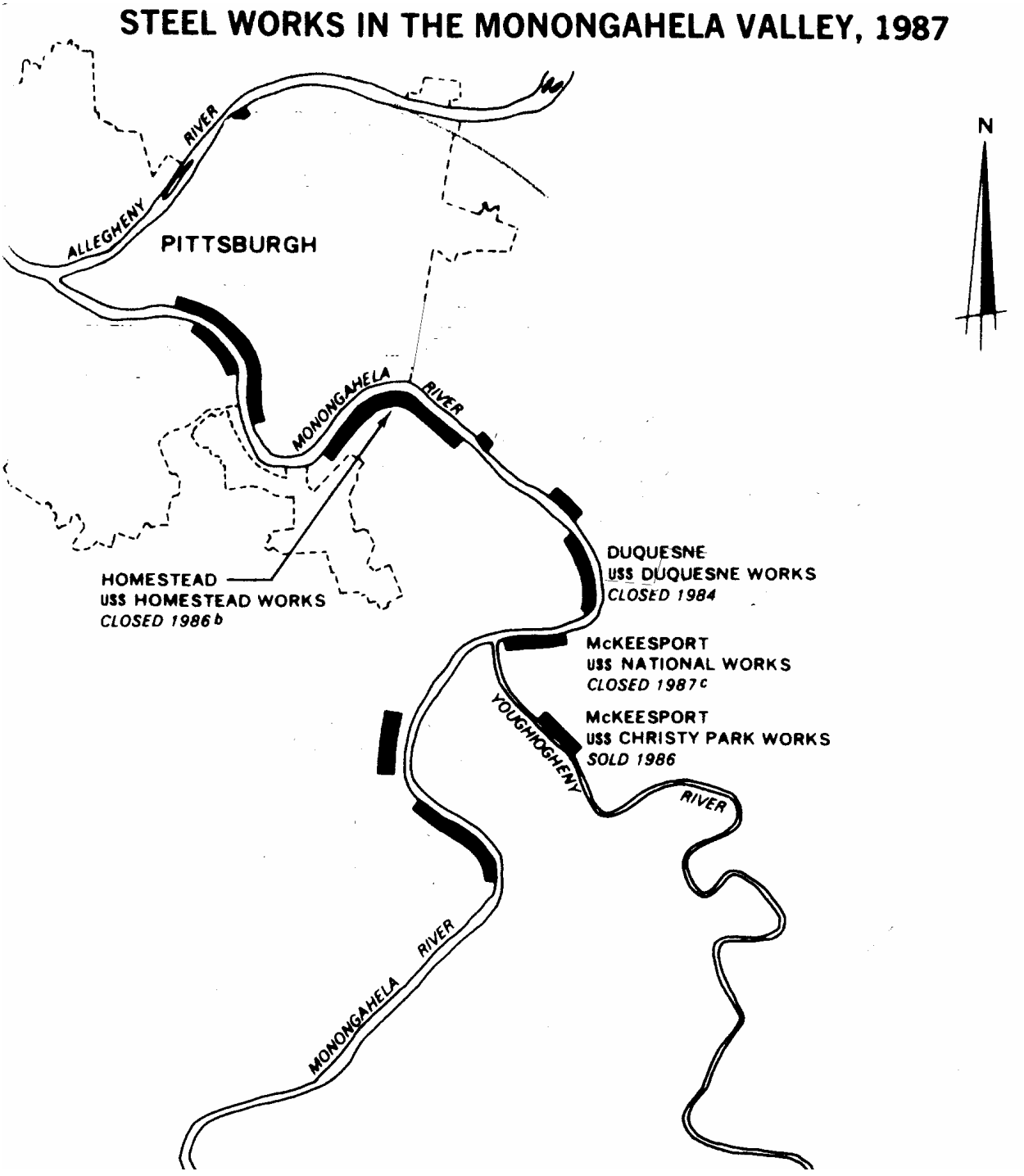
History of Sites

Many people still share memories of the massive milling, pumping, and churning steel plants operating twenty-four hours a day and seven days a week, with billows of smoke rising up along the river. This vibrant, albeit polluted, image has drastically changed over the past 20 years as many of these steel producing giants have been closed down and vacated. Many sites look like exactly what they are now called, "brownfields," with large, rusting, decrepit, and obsolete structures rising out of whatever vegetation can grow over them. It is hard to believe that these large tracts along the river began amidst "a vast hardwood forest stretched across rolling hills and plunging valleys (Hoerr 1988, p. 162)."

From the first settlements following the British defeat of the French, farmers began to use the regions' abundance of coal to heat their homes. By the 1850s, boatbuilding, the region's first large-scale industry, had begun to aid in the shipment of coal. "Nourished by mining and boat-building, smaller industries came to life: saw mills, planing mills, gristmills, tanneries, liveries, and brick yards (Hoerr 1988, p. 164)." The valley's first iron rolling mill, later to become part of US Steel, was established in McKeesport in 1851. In the 1860s, industrial development in the Mon Valley was primarily limited to what is now the Southside of Pittsburgh.

With the introduction and improvement of the Bessemer steel-making process in the 1860s, steel was ready for large-scale production. "Making steel on such a scale, however, required raw materials, investment capital, entrepreneurial genius, a large reserve of labor, and a place where these elements could be brought together to form a new form of capitalist organization (Hoerr 1988, p. 84)." With an influx of thousands of workers looking for jobs,

Map 4.2


STEEL WORKS IN THE MONONGAHELA VALLEY, 1987
N
ALLEGHENY RIVER
PITTSBURGH
MONONGAHELA RIVER
HOMESTEAD
USS HOMESTEAD WORKS
CLOSED 1986 b
DUQUESNE
USS DUQUESNE WORKS
CLOSED 1984
McKEESPORT
USS NATIONAL WORKS
CLOSED 1987 c
McKEESPORT
USS CHRISTY PARK WORKS
SOLD 1986
YOUGHIOGHENY RIVER
MONONGAHELA RIVER

Pittsburgh and the Mon Valley had all of these necessary characteristics. Once industry arrived in the Mon Valley, its development spread quickly down the river.

USX Homestead Works

In 1879, ground was broken for a huge Pittsburgh Bessemer Steel enterprise. In less than 15 months, a new plant was built that included a rail mill, two Universal mills, a sixteen-inch bar rail train, and a muck train all contained within one 684 foot long building. On the land adjoining this complex was a large converting works and blooming mill. Once completed, the plant produced fifty thousand tons of steel rails and 30,000 tons of structural steel products annually. Located just up the river from his Edgar Thompson mills, this site provided Carnegie with his first intense competition.

Problems began to arise for the Homestead Works early on. Many of the families that had invested in the works as a challenge to Carnegie realized that the operation was still less efficient than Carnegie's. The owners of the plant, weary of the labor disputes and falling rail prices, sold it to Carnegie and his growing steel empire. With Carnegie's leadership, the plant switched solely to producing heavy products and structural shapes. Other industry innovations, most notably the Holley innovations, were brought in under Carnegie's leadership as well. The plant played a strong role in the development of American sea power and in the use of machinery such as hydraulic and electric cranes to reduce labor and increase production tonnage. World War II brought the most significant changes to the mill since Carnegie had taken over the plant in 1883. An 89 million-dollar expansion of the mill by the Defense Plant Corporation increased the size of the mill by a third and required the evacuation of 8,000 people (for a map of the site in 1965, see Appendix IV-A). The plant was closed during 1986 and many of the structures were demolished between 1990 and 1993.

City Center of Duquesne

In 1886, the Duquesne Steel Company was founded on the Mon River approximately halfway between Homestead and McKeesport. After reorganization, the Allegheny Bessemer Plant contained a converting and blooming house, a rail mill, and a finishing plant. This plant's most important innovation was the revolutionary continuous process, which involves taking the steel ingots directly from the soaking pits without further heating through the roller that presses them into billets and rails. At the time, Duquesne was the most modern and efficient plant in the industry. Although determined to "beat Carnegie this time (Ingham 1991, p. 70)," labor problems arose in the Duquesne plant when Carnegie spread word of a defect in the rails produced by the continuous process. The plant could not obtain sufficient orders to keep the mill operating and in 1890, Carnegie bought out the plant for $1 million in bonds. "This purchase became a legend among steel manufacturers everywhere as the greatest bargain in the history of the steel industry (Ingham 1991, p. 72)." By the time the bonds were due in 1895, the plant had paid for itself six times over.

Between 1890 and 1910, major expansion occurred at the Duquesne Plant with the addition of six blast furnaces, two open hearth shops, blooming and billet mills, and five bar mills. By March of 1901, Carnegie had sold the Duquesne Plant, as well as his other holdings, to J.P. Morgan, who created the United States Steel Corporation (USS). A second major expansion phase began with US involvement in World War II. The federal Defense Plant Corporation

established an electric furnace shop as well as heat treating and finishing shops. Expansion on the site continued after the war with the construction of the primary mills, the expansion of exiting furnaces, the construction of two large furnaces, including "Dorothy Six", and the addition of two basic oxygen furnaces. This expansion displaced an existing residential neighborhood. Throughout the 1970s and 1980s, as the market for steel products weakened while foreign competition intensified, operations were slowly closed down. The last operations at the plant were shut down in 1984 (for a map of the site in 1984, see Appendix IV-B).

Industrial Center of McKeesport

The history of the McKeesport site begins in 1870 when the Flagler Company purchased the partially rebuilt Fulton-Bolman Company in the City of McKeesport, a small community of only 200 people. Within in the next few years, the Flagler company became incorporated as the National Tube Works. In 1899, along with thirteen other tube and pipe producers, the National Tube Works was consolidated and named the National Tube Company. In March of 1901, the National Tube company was also sold and became part of the United States Steel Corporation. The site served as the major plant for the USS Eastern Steel Operations tubular products section for the next 80 years. The National Plant produced steel tube and pipe of varying sizes and characteristics. The Seamless Mill produced pipes ranging in size form 4-1/2" outside diameter to 24" outside diameter. The Submerged Arc Weld Mill met the demands for larger diameter pipe ranging from 24" to 36" pipe in 41 foot lengths. In 1969, the National Plant was merged with the USS Duquesne Plant many of its operations were shut down. This included the closing of the Blast Furnaces, the Open Hearth, Blooming Mill and Rolling Mill. The #1 Blast Furnace was left in operation and was used in the production of ferro-manganese steel. Eventually all operations at the site were ceased and the mill was closed down by USX in 1987.

Current Status of Sites

Since the shutdowns, the sites under study have undergone changes in ownership. In 1989, the Homestead site was sold to a private development firm, Park Corporation, which has managed and partly redeveloped the site since. Also in 1989, the Duquesne and McKeesport sites were transferred to Allegheny County. In 1990, the sites were passed to the Regional Industrial Development Corporation (RIDC). Currently, the three sites have various levels of contamination and redevelopment. The sites also vary with regards to important factors like transportation access and zoning.

Environmental Status of Sites

As with any brownfield site, the level of environmental contamination, if any, that currently resides on the site is a critical first question for all stakeholders. The abandoned sites under study are no different. However, their sheer size makes environmental remediation more costly and time-consuming. Of the three sites in the Lower Mon Valley, the City Center of Duquesne site and the Industrial Center of McKeesport still face environmental concerns. The former USX Homestead works was completely demolished and remediated in the early 1990s by the Park Corporation. RIDC has completed extensive environmental sampling on both.

The Pennsylvania Land Recycling and Environmental Remediation Standards Act of 1995, contains special provisions to encourage the redevelopment of special industrial sites. Under Act 2, both sites are considered "special industrial areas" which must meet one of the two criteria set

up by the act:

- The property was used for industrial activities where there is no financially viable responsible person to clean up contamination; or
- The land is located within Enterprise Zones designated by the Department of Community Affairs

Additionally, the owner of the property must not have caused or contributed to the releases of contaminants on the property. The first step in recycling a special industrial site is to conduct a remedial investigation of the property. This first report must show existing contamination on the site and describe proposed cleanup measures.

According to Act 2, the redeveloper of the site is responsible only for "mediating any immediate, direct, or imminent threats to public health or the environmental that would prevent the property form being used". The cleanup of these threats has been undertaken over the past seven years at both the Duquesne and McKeesport sites by RIDC. Major pollutants at the sites included PCBs, barrels of PCB contaminated oil, transformers, and open asbestos areas. All of these immediate, direct, or imminent threats have been removed at both the Duquesne and McKeesport sites. Also under this law, after the removal of imminently dangerous substances, the property owner is responsible for characterizing what is left in the soils and the water. Both the Duquesne and McKeesport site contamination levels have been characterized along a continuum: residential to nonresidential to hazardous. All contaminants left have been found below hazardous yet above a residential level of contamination. All contaminates for both sites have been found around the non-residential levels which is approximately 7 parts of contamination per million.

The groundwater at the sites is contaminated with lead but public water lines have been brought to both the sites. As long as groundwater is not being used, the sites are considered safe. Under the special industrial area classification, soil that may come in direct contact must meet human health protection goals. As of now, not all of the soils present at the sites are being remediated to that level. Thus, regulations for the sites prohibit direct contact with the soil. Requirements for redevelopment include no basements for human use and limited human and soil contact. Ways to limit human contact with the soil include building structures over the contaminated soil, groundcover (uncontaminated soil, vegetation, or landscaping), or parking areas. This sites have not been listed on the EPA's National Priorities List. RIDC has completed all cleanup standards under the special industrial district classification and has provided approximately half of the needed infrastructure to support development. Under Act 2, the consent order to sign off on the Duquesne property is imminent, and a consent order is also expected for the McKeesport site. Hence, at the state level, RIDC is relieved for further cleanup liability of the site's contamination since the remediation has been attained.

Proposed and Current Reuses for Sites

RIDC is actively marketing both of its sites. RIDC has partially redeveloped the Duquesne site by building a small industrial park. There are two permanent tenants in the park, and approximately three more prospective tenants. The park contains a Business Incubation Center (BIC), located in the old mill general office, which temporarily houses start-up firms. The BIC currently has seven residents. At the McKeesport site, there are currently six tenants.

According to a government official and community development actor, both the main portion of the McKeesport and Duquesne sites will be redeveloped for industrial uses. The portion of the RIDC-owned McKeesport site south of the Industrial Center of McKeesport will be redeveloped as a marina that will feature commercial uses, restaurants and walking trails. This will be connected to a smaller existing marina. Although buildings in McKeesport can be renovated and reused, this is not the case for the Duquesne site, which requires further demolition and remediation. Blast furnaces have not been removed and several items, not necessarily environmentally hazardous, lie buried under some buildings.

Park Corporation recently had public announcements for their latest plan for the Homestead Site. The plan calls for a mixed - use development that includes recreational and entertainment uses on the western end of the site, commercial and residential uses in the middle of the site, and light industrial on the eastern part. They are currently negotiating with potential tenants, including Sony (for a multiplex theater) and Eat N' Park.

Park Corporation has already redeveloped a portion of the Homestead site. Included in this redevelopment is a Shop N' Save supermarket, a Rite Aid drug store and a Wendy's. This redevelopment sits along 8th Avenue and starts just at the eastern end of the street's commercial area. Eighth Avenue is a

The Emscher Park International Building Exhibition: "Workshop for the Future of Old Industrial Areas"

The Ruhr region in Germany is one of the densest industrial landscapes in Europe. Like Pittsburgh, industrialization brought environmental problems, and with the collapse of its core industries, social and economic ones, as well.

In 1989, the North-Rhine-Westphalia began the International Building Exhibition (IBA) project in the Emscher Park subregion of the Ruhr: 1) To address social and economic decline in the Emscher area and improve its environmental conditions; and 2) To develop one continuous landscape park, linking open space and rehabilitating industrial lands. The theory behind the IBA "is that widespread ecological renewal must precede any lasting economic perspective" (IBA, 1996, p. 1).

The IBA represents a strategy for renewal through "comprehensive, long-term cooperation of government, business and professional organizations (IBA, 1989, p. 6). IBA requested single proposals from towns and cities, drawn up by partnerships of public officials, citizens' groups, industry, and nonprofit associations, for specific projects in their locales. It ultimately funded approximately 100 projects, locally developed around five major themes (IBA, 1996):

- *Emscher Landscape Park*: Linking, protecting and regenerating 300 square km. of the region with new paths and ecological connections.
- *Ecological Regeneration of the Emscher River System*: Transforming the region's river through construction of sewage treatment plants and redevelopment.
- *Working in the Park*: Creating attractive locations for business and service development through landscape, urban development and architectural quality.
- *Housing Construction and Integrated Urban District Development*: Regenerating contaminated lands and reviving and preserving established residential and urban districts.
- *New Uses for Industrial Buildings*: Preserving and transforming industrial sites to new uses; retaining connections to the history of the industrial landscape.

IBA developed an experimental process to revitalization. It eschewed top-down approaches for social mobilization at the community level. It explicitly viewed the restructuring process as so complex that no one group of actors or leaders can create solutions on their own, but paradoxically put the regional restructuring process back in the hands of those actors and institutions who created the existing political and social structures (Kilper and Wood, 1995, p. 206).

What can Pittsburgh -- and the Mon Valley -- learn from the IBA? First, though cannot be translated between countries, the Emscher region does share a number of common traits with the Mon Valley: industrial heritage, decline, one party rule, and patriarchal forms of policies stemming from the dominant firms and industry. By providing carrots -- funding for specific projects within a comprehensive framework and established goals -- public, private and nonprofit actors worked together to develop common projects. Second, the North-Rhine Westphalia government learned the lesson of restructuring -- developing long term approaches and not relying on external large investors for "mega-projects" (Kilper and Wood, 1995). Third, the IBA was conceived and dedicated to experimentation in redeveloping an older industrial region: new forms of cooperation, new citizens' involvement, new uses and reuses. Given the magnitude and complexities of the Emscher's problems, it was "very questionable whether the problems of the Ruhr district could be solved" within the limitations of existing programs and policies (Kilper and Wood, 1994, p. 229). Perhaps the latter is the best lesson for Pittsburgh's brownfields renewal and regeneration: experimentation outside current constraints.

small, compact, walkable main-street/commercial strip with on-street parking in Homestead. In contrast, the new commercial development is built as a suburban, automobile-oriented strip. The vacant warehouses owned by Georgia Pacific are rumored to be the potential site for a relocating Italian steel firm.

Transportation and Access

As a legacy of the traditional modes of transportation for the steel mills, all sites currently have rail and water access, although the quality of this access is in question. PAT Transit buses serve all communities. While PAT service connects the communities to downtown Pittsburgh, no line runs directly into downtown. Nor does any line connect to Pittsburgh's South Side. As for pedestrian and automobile accessibility, The Homestead and Duquesne sites have very limited access points.

The Homestead site is most easily accessed from the Homestead High Level Bridge; access from any of its border communities is severely limited. A sharp right turn to get from the bridge onto the access ramp may be difficult for trucks, buses or other large vehicles. The Homestead site has only one access point into the city of Homestead, which crosses over railroad tracks and Route 837 on Amity Street. The eastern portion can be accessed by another winding, narrow ramp off of Route 837. This ramp actually bridges over the railroad tracks but does not offer pedestrian access. All bus routes along 8th Avenue run adjacent to the site. Future development should cause more traffic congestion on the bridge going into the site and into Homestead

The eastern portion of the site can be accessed by another winding, narrow ramp off of Route 837. The turn onto this ramp from 837 involves an unsignalized dedicated turn lane. The ramp does bridge over the railroad tracks but does not offer pedestrian access. Further, the sharp curve in the ramp would make free flow access for large trucks difficult. All public bus routes along 8th Avenue run adjacent to the entire site.

Despite a signalized dedicated left turn lane from Route 837 onto the Duquesne site (the RIDC entrance), auto and pedestrian access is poor and limited. This access point crosses active railroad tracks. A narrow Route 837 westbound off-ramp provides an additional entry point. This too crosses railroad tracks and is not accessible for pedestrians. As is the case with the Homestead, buses running on Route 837 run adjacent to the City Center site.

The Industrial Center of McKeesport has auto and pedestrian access at multiple points through the continuation of the city's street pattern onto the site. These access points do cross railroad tracks though. The city's major PAT bus depot on Lysle Boulevard is adjacent to the site as well. The northern portion of the Mon waterfront has limited access because the city's street pattern is not extended into it. The Youghiogheny portion has good automobile and pedestrian access through Lysle Boulevard and 5th, 6th, 7th, 8th and 9th Avenues.

Traffic Analysis

The closing of the steel plants and the subsequent population decline of the Mon Valley have reduced traffic on Route 837. Despite this, high traffic volumes still exist during AM rush hours in a westbound direction and during the PM rush hour in an eastbound direction. Traffic

off and onto the Homestead High Level Bridge at 8th Avenue is significantly slowed by a signal with 4 minutes of red time and a 30 second green time. Even during non - peak periods, large queues form that sometimes block the Homestead Bridge off ramp onto the Homestead site. A traffic signal is currently located at the on and off ramps for the Homestead site.

Future trips generated by redevelopment may pose significant traffic problems on 837 and the Homestead High Level Bridge if not mitigated. More access points into the Duquesne and Homestead sites are required. At these new access points, a lane could be added to 837 to allow for turns and or bus stops. Alternate modes of transportation, including public transit, bikeways and walkways, should be encouraged to reduce the number of cars added by new development. Arterial roads need to be improved so that site-related traffic can be easily distributed into the communities and bridges into Pittsburgh. A particular focus should be placed upon minimizing any disruption increased traffic flows might have on Route 837, especially within the Homestead business district. This can at least partially be achieved through synchronizing traffic signals and re-timing poorly timed cycles.

The Mon-Fayette Expressway

A wild card in the future of transportation and access for the sites and the communities is the proposed Mon-Fayette Expressway. In its entirety, this massive project intends to create a beltway system for the City of Pittsburgh. With regards to the Lower Mon Valley, the critical element is the proposed highway that would connect Route 51 with I-376 in Monroeville and in the Oakland neighborhood of Pittsburgh. The current proposal includes an interchange in Duquesne.

The Mon-Fayette Expressway proposal has been lauded by a number of community stakeholders as a means of revitalizing the area. The primary attraction of the northern section of Mon-Fayette Expressway is the access it would provide to the brownfield sites. A well-designed system of roads similar to a true beltway would easily connect the sites to Pittsburgh and the airport, both critical advantages for business development. Current access points in the Lower Mon Valley to brownfield sites are inadequate, including the Rankin Bridge, which has restrictive weight limits, and Route 837.

However, not all stakeholders believe the Mon-Fayette Expressway is the means of saving the area. A number of issues cloud the potential positive impacts of the proposed Expressway. First, it is not clear if and when the stretch of road will actually be built. The northern segment of the Mon-Fayette Expressway is currently the third priority out of four within the entire proposal. The section is currently 2-3 years away from just the construction approval. Costs for the entire project have soared, and it is unclear whether the PA Turnpike Commission will have enough funds to compete the entire project. Another contentious issue -the side of the Mon River on which the road will run - could severely delay construction of the northern segment. The most logical spot would be the northern side in the City of Pittsburgh. However, Mayor Murphy and other city officials have balked at this idea, because such a placement could interfere with the proposed Nine Mile Run development. Yet, locating the road on the southern side would run the road right through the Homestead site, which is currently completely remediated and ready for redevelopment. Not only would this waste the significant dollars which have gone into cleaning the site, the acquisition costs would be prohibitive.

Second, a number of opponents have argued that another expressway only makes it easier to leave the Pittsburgh and its inner suburbs. Pointing to the high-growth areas that have accompanied the construction I-279 and I-376, these opponents fear that further flight from the central city and its inner suburbs will occur. In particular, the Lower Mon Valley communities will be placed in direct competition with abandoned sites all the way down the river. Peter Kostmayer, executive director of a non-profit think tank called Zero Population Growth, has argued that the Mon-Fayette Expressway could cost a municipality like Homestead more jobs than it provides (Hosek, 1996: B1).

Third, the impact on the communities through which the highway will run is in question. There is the question of whether the arterial roads system can handle the increased traffic flow that might be caused by the Expressway. Related to this point, access to the highway might hurt local, community-based businesses, as shoppers would gain easier access to suburban mega-shopping centers. Further, the original proposal for the northern segment of the highway is projected to displace 166 residential, 82 commercial and six industrial properties. However, Mayor Murphy's office has made the apparently contradictory argument that the placements of the highway should not imitate past mistakes and divide and disrupt neighborhoods, as the construction of Route 65 did to Manchester and I-279 did to the East Street Valley (Barnes, 1998). The placing of the Expressway onto the brownfield sites on the south shore would diminish the chances that these sites could be meaningfully developed to help the communities. In the end, it is clear that the Mon-Fayette Expressway does not have the outright support of the entire community. A number of stakeholders have good reasons for being cautious. On the other hand, the potential positive impacts of the proposed transportation can not be ignored.

Zoning

When used effectively, zoning can be used as a powerful tool to attract investment and shape development (see Appendix IV-C) for more detailed description of zoning ordinances). However, when zoning regulations become outdated or especially cumbersome, they can often drive away potential investors or allow for development that is outside the community's ideals.

With regards to the Homestead site, coordinated zoning can be seen through Munhall's Riverfront Development District (RDD) and Homestead's Planned Economic Reuse District (PERD). Although worded differently, the two redevelopment districts are almost identical. Their primary objective is to facilitate brownfield development that is sensitive to the needs of the communities. Due to the special nature of the PERD, all principle uses are authorized only as conditional uses. Many of the PERD conditional uses overlap with RDD permitted and conditional uses. Both districts allow a diverse range of uses, including some industrial, residential, commercial, institutional and recreational uses. The West Mifflin portion of the site does not follow this pattern. The West Mifflin portion is zoned under the I-1 designation, which allows exclusively for heavy industrial and general commercial uses.

For the Duquesne City Center site, the City of Duquesne has designated the City Center Development Districts (CCD), which permits a number of manufacturing uses. Conditional uses include other industrial, transportation, recreational and commercial uses.

The McKeesport site is divided into three specific zoning districts. The northern portion is zoned RDM (Monongahela Riverfront District), the Industrial Center portion is zoned I-1 (General Industrial District) and the southern portion is zoned RDY (Youghiogheny Riverfront District). Manufacturing and transportation are permitted uses for both the I-1 and the RDM districts. Conditional uses for I-1 districts are exclusively manufacturing related, while conditional uses for the RDM district are manufacturing, commercial and recreation. RDY permits only recreational uses. Residential, commercial and institutional uses are allowed as conditional uses.

Description of the Communities

The redevelopment of brownfields can not be viewed solely as the challenge of redeveloping a particular physical space. The communities which inhabit the area do have a tremendous impact on how (and if) certain sites will be developed. The situation becomes especially difficult for development practitioners when the impediments associated with contaminated sites are combined with the challenges of promoting investment in a distressed community. This section will analyze the demographic data of the seven communities under investigation in this study. The section will conclude with a discussion on some of the issues to consider when promoting economic development in distressed communities.

Demographic Analysis and the Impact on the Local Governments

The seven municipalities under study in this chapter have undergone dramatic shifts in demographics and employment in the recent decades. The decline of heavy industry in the region not only meant the abandonment of large industrial sites, but also, more critically, the loss of jobs and wealth for the areas and populations which were highly dependent on those heavy industries. This loss in population and jobs has, in turn had a dramatic impact on the solvency of the local governments. This section will outline some of the major demographic shifts and their impacts on the particular local governments. (More specific demographic data can be found in the tables in Appendix IV-D).

Table 4.1: Demographic Data

	Seven Communities	Allegheny County
Percent change in population, 1960-1990	-33.0	-7.8
Percent minority, 1990	14.5	12.5
Change in unemployment rate, 1970-1990	5.2	2.2
Percent change in manufacturing employment, 1970-1990	-78.6	-35.6
Percent of families in poverty, 1990	14.6	8.7
Percent change in crime rates, 1981-1995	2.1	-26.7

- **Population Loss:** The seven communities combined lost 33% o their population (39,493 residents) between 1960-1990. Heaviest hit with regards to absolute and percentage loss during this era was the City of McKeesport (19,473 residents, 43%). Munhall experienced the least significant population loss at 13% (3,645 residents). These losses and population were well above and beyond the population loss experienced in Allegheny County.
- **Racial Composition:** The total percentage of minorities living in the seven

communities grew from 8.9% to 14.5% from 1970 to 1990. In 1990, this percentage was 2 points over the Allegheny County percentage of minority residents**.** Most of the minority population is concentrated in three communities - McKeesport, Duquesne and Homestead.

- **Unemployment:** In 1970, many communities were enjoying relatively low rates of unemployment: Munhall, 2.9%; West Mifflin, 3.9%; McKeesport, 5.5%. Total unemployment for the seven communities stood at a respectable 4.7%, only .6% above Allegheny County as a whole. However, by 1980, unemployment in these communities had shot up to 9.5%, and increased further to 9.9% by 1990, while Allegheny County's unemployment rate stood at 6.3%. A number of communities were hit especially hard: in 1990, the unemployment rate was 14.7% in Duquesne, 11.3% in Homestead, and 13.7% in McKeesport.
- **Employment in Manufacturing:** From 1970-1990, employment in manufacturing declined by 78.6% in the seven communities, including declines of 86.7% in Duquesne, 81.7% in McKeesport, 80.8% in Homestead, and 76.6% in Munhall. The result of this shift in employment trends was that by 1990 all the communities, except Whitaker, had a lower percentage of residents working in manufacturing than both Allegheny County and the nation..
- **Poverty:** The percentage of families in poverty in the seven communities jumped from 8.2% in 1969 to 14.6% in 1989 (the percentage of families in poverty in 1989 for all of Allegheny County was 8.7%). Three communities had a family poverty rate over 20% in 1989: Homestead (25.2%), Duquesne (24.1%), and McKeesport (20.6%). The data for persons in poverty showed similar results.
- **Crime:** The rate for serious crime increased in all but one of the communities (McKeesport, which was already at a relatively high level). During the 1980's, the total crime rate for the seven communities was well below that of the City of Pittsburgh, and approximately equal to that of Allegheny County. In the 1990's, rates for Allegheny County dropped and rates increase slightly in the seven communities, thus pushing the total community crime rate above the county's. Yet, in all the years shown in the table only Duquesne in 1995 had a crime rate greater than the City of Pittsburgh.

These demographic shifts were accompanied by real drops in property values in the comunities. Each of the seven community experienced declines of 20% or more (corrected for inflation) in median housing values between 1980 and 1990. Although Allegheny County as a whole also experienced a significant decline in median housing value (17%), communities such as Duquesne, Homestead, McKeesport and West Homestead experienced far deeper cuts. The decline in property values obviously impacts the amount of available taxable property. Just between 1970 and 1984 the seven communities lost approximately $3366 million dollars in taxable property, a decline of more than 62%. Homestead (-76.7%), West Homestead (-73.3%), McKeesport (-69.1%), Duquesne (-66.6%) and Munhall (-64.3%) were hit especially hard.

A decreasing revenue and higher costs and quantity of services associated with growing poverty in a community can put tremendous fiscal strain on local governments. At its worst, the shortfall between revenues and expenditures reaches the point where local governments are no longer able to provide basic governmental services. Two communities out of the seven -

Homestead and Duquesne - have reached this point, and were forced in the late 1980's to declare themselves fiscally distressed under the Pennsylvania Municipalities Financial Recovery Act (Act 47).

The level of fiscal stress can be determined quantitatively by looking at both tax effort (the tax rate) and tax yield (the tax revenues). High fiscal stress communities would have high tax efforts but low tax yields, while fiscally strong municipalities would show the opposite. Table 4.2 shows how the seven communities ranked relative to the other 123 municipalities in Allegheny County (the lower the number the greater the level of fiscal stress). Only Whitaker showed any improvement in its rankings from 1981-1993, although it began from a very low level. West Mifflin, although dropping in ranking slightly from 1981-1993, had a very low degree of fiscal distress in comparison to the other municipalities, and West Homestead maintained a moderate level of fiscal health although dropping during this period. By 1993, Duquesne, Homestead and McKeesport were experiencing severe levels of fiscal stress.

Table 4.2: Fiscal Stress Rankings

Municipality	1981	1991	1993
Duquesne	20	6	5
Homestead	49	3	2
McKeesport	12	7	7
Munhall	29	18	18
West Homestead	68	44	46
West Mifflin	99	83	87
Whitaker	7	20	23

Source: Miller et al, 1995

The communities under study do represent a varied sample. Some communities, such as Duquesne, Homestead and McKeesport have clearly been hit hard by the overall decline in the Lower Mon Valley. In contrast, West Mifflin, and to a certain extent West Homestead, have not suffered as much distress. However, receiving a lesser share of suffering does not constitute prosperity. A community like West Mifflin can not prosper in the long-term within the overall context of decline. It is clear then that the shared community of these seven municipalities does face serious challenges in the future. Jobs and income are desperately needed for many of the citizens, and revitalization and a larger tax base are desperately needed for the local governments. In this sense, the seven communities as a whole will be termed distressed.

Redevelopment in the Mon Valley

It is clear that the challenge of redeveloping brownfields in distressed communities lies not only in site-related factors (contamination, demolition costs, access, etc.), but also in community-related factors. Promoting investment and development in distressed communities certainly poses its own set of challenges to development practitioners. The previous discussion has shown that a number of the communities exhibit some of the attributes of a distressed

community. This section will provide some insight on how redevelopment efforts must be shaped so that the dual goals of physical redevelopment and community revitalization can be met.

Much has been written on how distressed inner city neighborhoods can begin to revitalize their economic and social communities. The history of such development efforts has produced only limited success. Michael Porter (1995; 1997) has argued that most economic development efforts directed at the inner city have failed to use the competitive advantages of inner city neighborhoods to promote market-based economic development. The two advantages that are commonly cited - low costs for real estate and labor - are often not present, and such factors are no longer the key to competition in the global economy. Porter notes that the inner city neighborhoods do possess a number of real advantages, including strategic location, local market demand, integration with regional clusters, and human resources. Admittedly, a number of disadvantages also exist: lack of land, construction costs, infrastructure, lack of management skills, and lack of capital. If inner city neighborhoods are to be effectively revived, these advantages must be identified and strengthened, so that they outweigh the disadvantages, and government activity must compliment, not stifle, market-driven business activity. Only through such a process can the perceptions about doing business in the inner city that currently limit investment be overcome.

Business development strategies alone, however, will not revitalize a distressed community. Bendick and Egan (1993) have argued that the most effective strategy for revitalizing inner cities is to link business development strategies to community development activities. The two activities are clearly intertwined. One the one hand, business growth secures a number of community development objectives: jobs, servicing the inner city consumer, creating opportunities for secondary job growth, reducing physical blight, and creating role models and community leaders. On the other hand, community development strategies can support business growth by focusing on lowering business operating costs and creating market demand.

The primary lesson to be taken from the above discussion is that revitalizing distressed areas is not an impossible task if all the advantages and strengths of the area are utilized. This requires that all community actors, from the local government to community advocates to business leaders, work together towards a common goal. This requires informal networking so that community ideals and innovative ways to reach them are easily disseminated among all stakeholders. However, it also requires a certain level of formal cooperation. Examples of formal cooperation include a common business and community development action plan, an umbrella organization which takes a lead in economic and community development issues, and/or shared governmental responsibilities in crucial areas such as land use and transportation planning and tax policy.

Stakeholders in the Mon Valley

The redevelopment of brownfields usually requires the interaction of a number of actors. All the actors are undoubtedly stakeholders in the project - a failed redevelopment helps no one. Further, the above discussion concludes that all actors must work towards a common goal of business and community development if redevelopment is to succeed. This section will discuss

some the primary stakeholders involved in developing the three sites under study. The section will also discuss the important roles that specially-targeted funding sources and inter-municipal cooperation can play in the redevelopment of brownfield sites.

- ***Developers***: RIDC is the current owner of the City Center of Duquesne and the Industrial Center of McKeesport. The Park Corporation owns the great majority of the Homestead site. Also involved is Georgia Pacific, which purchased the three warehouses on the Homestead site's eastern portion from Park. Georgia Pacific is currently negotiating with an Italian industrial firm for the use of these buildings.

- ***Governing and Taxing Bodies***: In working on behalf of their respective communities, local governments can channel redevelopment through land use and taxing policies. Homestead, West Homestead and Munhall have designated their portions of the Homestead site a TIF district. Creating the TIF district also brings the county and the Steel Valley school district into play, since they, in addition each community, are willing to forego taxes to help spur redevelopment.

- ***Redevelopment Authorities***: The City of McKeesport has its own redevelopment authority. The Steel Valley Authority, which has recently received CDBG funds for a Mon Valley brownfield site inventory, acts as a redevelopment authority for several Mon Valley communities. The Pittsburgh Urban Redevelopment Authority has been merged with the Allegheny County URA to play the role of a regional redevelopment authority.

- ***Commonwealth of Pennsylvania:*** both Homestead and Duquesne are listed as distressed communities under the Pennsylvania Municipalities Financial Recovery Act (Act 47). The provisions of Act 47 require distressed communities to either receive state approval of their own plans or implement a state officer's plan to ensure fiscal integrity. Thus, redevelopment measures in Homestead and Duquesne must be in accordance with state approved or state provided plans. Furthermore, the communities lie within the State Enterprise Zone.

- ***Metropolitan planning organization*** (MPO): The Southwestern Pennsylvania Regional Planning Commission (SPRPC) responsible for long and short term transportation improvement programs and major investment studies and traffic forecasting. Thus, SPRPC is concerned over the traffic impacts generated by new development. SPRPC has decision making authority over federally funded projects and is in charge of distributing federal transportation funds. Included among these funds is ISTEA (Intermodal Surface Transportation Efficiency Act), which provides money for projects that encourage alternative modes of transportation such as mass transit, biking and walking. SPRC is also involved in the planning of the Mon - Fayette Expressway.

- ***Steel Valley Council of Governments*** (COG) helps administer community development projects for nine Mon Valley communities, including West Homestead, Homestead, Munhall, Whitaker and Duquesne. These projects typically involve sewer, water and street improvements, in addition to recreation projects. The COG is also responsible for building code enforcement and occupancy permits.

- ***Steel Industry Heritage Corporation***: a non profit organization which is participating in the Rivers of Steel project, which combines river - and riverfront - based tourism with historical information to celebrate the significance of steel in the Pittsburgh region. Of primary concern is preservation of certain industrial related structures, waterfront reclamation and waterfront revitalization for tour boat landings and parks.

- ***Community Participation***:
  ⇒ Community participation can come from land use controls. Under the Pennsylvania Municipal Planning Code, public hearings must be held when zoning ordinances are in the process of being amended. Most recently, Homestead amended its ordinance in 1991 and Munhall did the same in 1997.

  ⇒ The Homestead Economic Revitalization Corporation (HERC) and the Duquesne Business Advisory Corporation (DBAC) are both members of the Mon Valley Initiative (MVI), a coalition of 17 CDC's that are working to renew the economic stability of the communities along the Mon River. HERC and MVI are continually pushing Park to better link their plans with the existing communities. Public access to the riverfront has already been negotiated. Other issues include improving pedestrian access from the communities onto the site, removing existing blighting influences and working with Park to stabilize already existing housing stock and commercial facilities. DBAC and the McKeesport Development Corporation sit in at board meetings with RIDC.

  ⇒ Community participation can be seen through the negotiating process for the Homestead site's TIF district. Park Corporation invited elected officials and their representatives to form working groups and committees that would meet with Park and negotiate terms of the TIF plan on behalf of the neighborhoods and taxing bodies. Committee meetings with Park are then reported on at school board and local council meetings.

  ⇒ Levels of community participation in redevelopment efforts vary from site to site. As is the case in many of the nation's inner city neighborhoods, there is a feeling that brownfield redevelopment is not very important to Lower Mon Valley residents. One MVI official explained that residents are too concerned with other problems - unemployment, crime and violence, poor public education and child care - to be overly concerned with redevelopment issues.

The Role of External Sources of Funding

Oftentimes, additional incentives for development are necessary in order to make brownfield reuse a viable option for development. It is quite apparent with the complicated cleanup processes and legal obstacles facing redeveloping a brownfield, securing additional public funding sources for site redevelopment is necessary. (Appendix II) In addition to federal program discussed earlier such as Community Development Block Grants or Section 108 Loan Guarantees, several state programs are specifically targeted to the Mon Valley. Pennsylvania Industrial Development Authority (PIDA) loans can be used to purchase or renovate existing buildings or to construct new facilities. Projects located in certain Mon Valley communities are eligible for 60 percent and 50 percent participation at a 3 percent interest rate. The Pennsylvania Machinery and Equipment Loan Fund loan fund can provide up to $500,000

or 50% of project cost to acquire, install an upgrade machinery and equipment. Eligible projects include manufacturing and industrial operations, agricultural processors and mining operations. The interest rate on these loans is currently 4.5 percent in Pennsylvania except for projects located in certain Mon Valley communities or designated "Advanced Technology" firms that will receive a 3 percent interest rate. The loan recipients must generate or preserve one net new full time equivalent job for each $25,000 loaned.

Incentives and Impediments for Redevelopment

The previous sections have attempted to lay out the current status of the three brownfield sites and the related communities. Throughout these sections a number of positive and negative aspects of the sites have been outlined. The redevelopment of the three sites under study will require first and foremost a detailed analysis of these incentives and impediments that the sites provide to potential developers. The following incentives for development have been identified:

- *Large Sites*: The mere size of the sites should make development more attractive to private and non-profit investors. The size allows for greater flexibility in the development concept, potentially greater return on investment, and the chances that significant public support will accompany any development plan.
- *Existing Infrastructure*: The existence of infrastructure cuts down the costs of developing a site. All the sites currently have access to transportation infrastructure, such as roads, rails and water. The Homestead Works site has gas and water lines in place, while the Duquesne site has all utilities except sewerage. The McKeesport site has electric, water, sewer and gas lines currently in place.
- *Riverfront*: A number of cities, such as Cleveland and Baltimore, have focused revitalizing efforts around their waterfronts. Pittsburgh has attempted to do the same. Thus, the access to the riverfront could become an increasingly important marketing tool when searching for potential investors in the sites. This is especially true if the redevelopment efforts focus on recreational and residential developments.
- *Proximity to Pittsburgh*: The sites under study are all only a river away from Pittsburgh. This should make the sites attractive to businesses, which wish to gain easy access to the Pittsburgh market but can not afford, or need more space than is available in, the city itself.
- *Funding Sources and Financial Incentives*: The communities of the Mon Valley have at their disposal a number of funding sources and development incentive programs. This should enable the communities to prepare a funding package to developers, which will make the redevelopment of the sites financially viable.
- *Growing Levels of Municipal Cooperation*: The parochial political culture of the Southwestern Pennsylvania region and the fragmentation of local government have often impeded cooperation between individual local governments. Redevelopment of any of the sites will impact all the communities under study. Cooperation minimizes the negative impact that competition for sparse economic development opportunities can have on a region. Thus, the individual municipalities should work towards the common goal of revitalizing the entire, shared community. It appears that movement towards greater levels of municipal cooperation is taking place. Recent innovations,

such as the multi-municipality TIF district, the informally coordinated amending of zoning ordinances, the MVI and the Steel Valley COG, are testaments to this change in the way local governments are working to solve community ills.

- *Historical Legacy*: The historical legacy of the sites is a true advantage for two reasons. First, historical tourism, especially when combined with other types of development is an attractive aspect of the site. The Steel Industry Heritage Corporation has already renovated a historic building on the Homestead site, and plans to use the building as a small museum. Other remnants of steel production, such as the large smokestacks, which still remain on the Homestead site, can also be used to add a unique touch to future developments. Second, the legacy of steel can still be leveraged to attract some industry to the area. While such an advantage might be limited, the rumored movement of an Italian steel company to one part of the Homestead site might be partly the result of Pittsburgh historical role as a world leader in steel production

These advantages, if leveraged and packaged correctly by development practitioners and the community, can be powerful incentives to potential investors. However, it would be naive to believe that certain aspects of the sites and the communities do not present real impediments to future redevelopment. The following is a list of the more powerful impediments:

- *Perceptions and Realities about Brownfields*: In the past, abandoned industrial sites were viewed as a hot potato. With strict Superfund regulations, which could result in large fines to site owners, any attempt to sell or develop sites that had any hint of environmental contamination was seen as a game of financial "Russian Roulette." Recent federal and state legislation has made the redevelopment of brownfield sites easier by limiting liability. While the perception is changing along with this reality, it is not changing nearly fast enough for the Mon Valley. Brownfield sites are still viewed by many developers as more financially risky and costly than greenfield sites. It must be noted, too, that not all this perception is mythical. Brownfield sites do place certain costs on developers that can often be tremendous disincentives to invest. Nonetheless, the number of public incentives available to Mon Valley developers may begin to level the playing field
- *Perceptions and Realities about Distressed Communities*: Much like brownfield sites, there is a common stigma about investing in distressed communities. Business owners often fear that crime will impose extra costs, and believe that a market for many goods and services might not exist in a poorer community. Studies of successful inner city business ventures have shown that these generalized perceptions are false. However, distressed communities can be real impediments to investment. Poor infrastructure, higher levels of crime and lack of a skilled labor force are certainly impediments; however, such impediments can be overcome. Community development linked with business development and recruitment can serve the dual purposes of breaking down false perceptions and improving the surrounding community so that it becomes an asset and not a liability.
- *Inadequate Access*: Access is a key aspect of competitiveness. For most businesses, the need to be close to markets is a key to success. This requires an effective and

efficient transportation network, especially roads and highways. The system of roads and bridges currently providing access to the three sites under study in this chapter are poor. Access onto the sites themselves is even worse, especially if redevelopment creates greater traffic flows. While all sites have rail and water access, the relevance of these modes of transportation to future uses is seemingly limited. This inadequate level of access presents a serious impediment to efforts to redevelop the sites.

- *Fragmentation*: The fragmentation of local governments is a well-deserved trademark of Southwestern Pennsylvania. This system of fragmentation is often defended on its ability to provide for high levels of local control. However, in the situation of the Mon Valley, this fragmentation has been crippling. The result of years of economic decline has been a number of small and weak local governments, which are unable to promote true economic growth. Further exacerbating the situation is the fact that even the quasi-governmental and community-based groups are fragmented and disorganized. Such fragmentation is an impediment to redevelopment in that it makes it virtually impossible to market a site, as potential investors must deal with numerous actors. Sites such as the Homestead Works, which is in the jurisdiction of a number of municipalities, has a number of different zoning regulations and tax rates. For the developer the process can become confusing. Even more of an impediment, however, is the extra costs such duplication places on developers.
- *Waiting for the Return of Steel*: The Pittsburgh region's historical legacy of steel is extremely strong. No where is this stronger than in the communities of the Mon Valley. The impediment this strong identification with the past can create is the sense that steel will someday return. Sites are left abandoned, in the constant belief that someday a steel (or other heavy industry) plant will come into the site and redevelop on its own. This belief is certainly not all-encompassing; certainly most development practitioners are now aware that hoping for a heavy industry return is a fruitless, and potential devastating strategy. However, unless all hopes of bringing the past back are purged from the collective community's psyche, the movement of the communities into a new future seems unlikely.
- *Subsidies for Greenfield Development*: Greenfield development is the mortal enemy of brownfield development. As long as development consumes undeveloped land in lieu of reusing abandoned sites, there will not be enough market demand for brownfield redevelopment. However, greenfield development is not merely the result of market-driven choices, as is commonly assumed. Large public dollars are spent to provide the adequate infrastructure for greenfield development, such as arterial roads and large highways, and utility lines. If brownfield sites are to be effectively developed in the Lower Mon Valley and throughout the regional core, then these subsidies must be limited, and greater market demand must be funneled into existing sites.

General Recommendations

It is the contention of this chapter that efforts to redevelop brownfield sites without linking these efforts to a comprehensive community development strategy are short-sighted and potentially fruitless. Further, such linkages must be formed with a focus on the entire Lower

Mon Valley community. This requires that contiguous communities with shared interests but distinct political boundaries must begin to work with one another to both redevelop brownfields and revitalize their communities. An effective redevelopment strategy must also strengthen and market the assets of the sites, while working vigorously to reduce the impact of the impediments and liabilities. We recommend:

- **Cooperation and coordination** - both between the jurisdictions involved with one specific brownfield site and between communities involved with different sites. Incompatible zoning ordinances between Homestead and West Mifflin may present a large obstacle to redevelopment. Likewise, the full benefits of a bike path along the Mon River at the Duquesne site, for instance, may not fully be realized if it is not liked to a similar path through the Homestead site. Further coordination could link Mon Valley brownfield redevelopment with that on Pittsburgh's Southside for a truly regional focus. This highlights the need for the emergence of a leader.

- **Emergence of a leader** - redevelopment of one relatively small brownfield is often difficult enough, given the tangled web of federal, state and local regulations and programs, in addition to other financing, environmental and community group issues. Coordinated redevelopment of three large brownfields therefore poses an even larger challenge. As recommended in the regional chapter, a leader is needed to push redevelopment towards the grand vision, to facilitate cooperation, to disseminate all relevant information to and act as a single point of contact for all participating parties. Due to the region's high level of political fragmentation, leadership efforts should be channeled through an already existing organization, such as the Allegheny County URA or the MVI. The efforts should also focus on existing strengths, such as the relative fiscal health of West

Workforce Development and Brownfields:

Redeveloping brownfields of any size requires a significant labor force - from demolition and construction laborers to trained technicians in environmental remediation. The EPA has funded some local efforts to link job training with brownfield remediation and redevelopment. One of the more ambitious pilot programs is the Hazardous Materials Training Research Institute (HMTRI). HMTRI is the umbrella organization of a number of programs sponsored by a number of community colleges in Eastern Iowa Community College District. Its goal is to guide local community colleges in their attempts to provide courses in environmental remediation. HMTRI also provides technical assistance to community colleges that which to tailor programs to specific market demands. Over 60 community colleges have benefited from the services. A sub-entity of HMTRI, the Brownfields-Leading to Environmental Solutions through Training (BLEST), maintains a web page which disseminates information on how local community colleges are teaming with brownfield redevelopment projects in all the national and regional pilot projects (http://www.hmtri.org/blest).

Other pilot programs which have attempted to make the linkage between workforce development and brownfields include:

- Bridgeport, CT, where the local development agency has marketed the potential job opportunities in environmental remediation to distressed communities, and worked with the local community college to develop appropriate curriculum (Bartsch & Collaton, 1997: 47-49; http://www. epa.gov/swerosps/bf/html-doc/bridgepo.htm).
- Cleveland, OH, where the City and Cuyahoga Community College (Tri-C) have worked with local high schools to develop curriculum and promote awareness in environmental issues and skills (http://www. epa.gov/swerosps/bf/html-doc/cleveland.htm).
- Whittier, CA, where the Ri Hondo Community College, located next to one of Los Angeles County's technologically-advanced landfills, has developed a training and apprenticeship program in environmental remediation and brownfield redevelopment. (http://www. epa.gov /swerosps/bf/html-doc/wrkforc2.htm).

Mifflin.

- **Site prioritization** – redevelopment will bring local and regional benefits. As opposed to ad hoc, piecemeal redevelopment efforts, prioritizing redevelopment on a site-by-site basis will allow for a more focused redevelopment effort in terms of funding, economic and community development initiatives, regional cooperation and community participation.

- **Community participation and linkage** - this is important simply because such massive redevelopment projects *absolutely must* be done to benefit Lower Mon Valley residents and their communities. Residents have needs, desires, ideas and concerns that cannot be ignored. Successful redevelopment cannot be achieved by ignoring the communities and their residents. Additionally, several funding sources, including ISTEA, require neighborhood participation.

- **Mixed - use development** - due to the amount of land available, there is ample space to put in a variety of reuses. The more ways there are to use the sites, the more people will use them. Additionally, just putting 7in a large residential project, for example, would not serve to meet all the needs of the communities. There is enough room to bring new housing, shopping, office, entertainment, cultural and recreational uses to the Lower Mon Valley. Among these uses, recreational uses, namely through waterfront reclamation, is a key aspect in improving the marketability of these sites to both potential residents and businesses.

- **Dense development** - automobile oriented sprawl development will exacerbate both local and regional problems. Dense development can reduce sprawl and can help link the new developments to their adjacent communities by emphasizing pedestrian access. Dense development can partially mitigate traffic concerns and may be more conducive to extended bus or even light rail service connections to Pittsburgh. Dense development compliments mixed - use development and allows more land to be available for recreational uses.

- **Incorporation of novel ideas** - certain tools, many of which were described in the regionalism chapter, can be employed that would help facilitate redevelopment, increase the marketability of the redevelopment projects and meet certain community needs at the same time. Worker retraining programs can provide community residents with skills they may lack, which in turn enhances the communities' positions to lure new businesses. A shuttle bus system can run between the new developments and the communities. Inclusionary zoning programs would ensure that new housing would not be only for the wealthy to enjoy (Low Income Housing Tax Credits, for example). Communities can use certain taxing tools as incentives for the private redevelopment. Active marketing strategies should also be employed to alter the (mis)perceptions that are often associated with distressed communities.

- **Comprehensive approach** - as should be evident, proper planning requires that several factors, including environmental factors, transportation, land use, community interests and long - range and regional focuses, should be included.

CHAPTER V: SITE EVALUATIONS IN PITTSBURGH

When one thinks of a brownfield property, the natural instinct is to envision a large abandoned industrial complex with extensive environmental problems. This perception stems from the fact that the large abandoned industrial sites are the most publicized at the local level. Typically throughout all cities, small single site properties left abandoned blight the cityscape. These properties can range in size from a single city lot to an entire city block or clusters of blocks. They can range in function from mid size manufacturing complexes to abandoned single family homes. In most instances they have their own unique site-specific set of environmental problems that need to be addressed. These smaller, discrete sites, which do not exhibit the notoriety associated with the reuse of larger brownfield sites, still offer an exciting variety of reuse opportunities.

The first step in marketing the development potential for any site is to conduct a Phase I Environmental Site Assessment (ESA). This is typical for large as well as small sites. The main purposes of a Phase I ESA is to identify potential areas and sources of contamination at a site no matter the size of the site. The Phase I ESA would be the first technical step in a voluntary investigation and potential cleanup for developers interested in the potential reuse alternatives. The State of Pennsylvania has adopted policies favorable to voluntary cleanup and development efforts.

Traditionally, Phase I ESAs have been used prior to property purchases. The future owner would be protected from CERCLA liability under the "innocent landowner defense" authority. Fear of liability may prevent activities at the sites that are relatively or completely environmentally acceptable. A Phase I ESA is a tool for screening out the properties that do not have a significant identifiable level of contamination, so that these properties can be reused without further delay. A Phase I ESA provides a rough idea of what type and level of contamination may exist, providing a guide for future development efforts.

The American Standards for Testing of Materials (ASTM) has developed standards to be followed for phases of environmental site assessments. Typically, States requirements mirror these standards as do Pennsylvania's (PaDEP, 1995). The ASTM designations are E 1527 – 93 and E 1528 – 93 (ASTM, 1993). (A summary of these requirements is shown as Appendix V-A, Environmental Site Assessment: The Process).

This chapter will investigate the Phase I ESAs pertaining to small sites. The first site is an idle Gulf gas station in the East Liberty neighborhood of the City of Pittsburgh. The second property is an idle manufacturing facility formerly known as American Electric/Electric Products Division located in the North Shore neighborhood of the City of Pittsburgh. Each of these sites is small in size relative to the abandoned industrial sites described elsewhere in this report, and especially in the previous chapter, yet the potential reuse opportunities are great in support of neighborhood development reuse and revitalization efforts. The main goals of this chapter are twofold: (1) to outline the Phase I ESA process, and (2) to provide two examples of Phase I ESAs and a hypothetical Phase II investigation.

Activities and Methodology Used

The Phase I ESA is mainly a records search and is a non-intrusive study, which consists primarily of obtaining existing information and data. Therefore, contamination within or beneath existing structural components or below the ground surface cannot be identified. The Phase II Investigation is an in-depth sampling and testing process hence a hypothetical case is investigated.

Activities and methodologies used in these ESAs are outlined in Appendix V-A according to the ASTM standards, ASTM E 1527, ASTM E 1528 (ASTM, 93), and the Pennsylvania Department of Environmental Protection (PaDEP), Environmental Investigation Guidelines (EIG), August 1995, (PaDEP, 1995).

In the following sections are the two site specific Phase I ESAs and a hypothetical Phase II ESA. These are provided as informational tools to familiarize the reader with the environmental site assessment process and typical document format.

Gulf Gas Station – Phase I Environmental Site Assessment

This Section presents the findings of a Transactional Phase I ESA conducted for the Gulf Gas Station *(Gulf Station) at 115 North Negley Avenue in the Eleventh Ward of the City of Pittsburgh, Pennsylvania, located at the northwestern corner of the North Negley Avenue and Penn Avenue.

Figure 5.1: Photo showing Gulf Station looking across North Negley Avenue

Site Description

The Gulf Station property is located in the Eleventh Ward of the City of Pittsburgh, known as the East Liberty neighborhood, Allegheny County, Pennsylvania. The gas station is located at the corner of North Negley Avenue and Penn Avenue (see Appendix V-B, Figure 1).

The Gulf Station is situated on a larger parcel of land designated as Block 83-N, Lot 281 recorded in the Allegheny County Registry of Deeds in Book 7844 at page 293. For brevity the deed is not included in the report but can be found in the Recorder of Deeds Office, Allegheny County Courthouse. The Gulf Station is one of three extant structures on the city lot. It occupies the southwest corner of the city plot and has approximately 96-foot frontage along Penn Avenue and 133-foot frontage along North Negley Avenue. The Gulf Station is a one-story building with a main office, an integral three bay garage, and lavatory addition. A retaining wall runs parallel to North Negley Avenue at the rear of the Gulf Station. The two remaining buildings, which occupy the city lot, are both one-story buildings housing a Speedy Muffler separated by parking lot to the north and the East End Community Health Center to the east.

***a) Topography*:** The property is located on the U.S. Geological Survey (USGS), Pittsburgh East Quadrangle with Latitude of 40° 27' 51" and Longitude of 79° 55' 51" (see Appendix V-B, Figure 2,) at an elevation of approximately 920 feet above mean sea level. The property is relatively level with a gentle slope uphill along Penn Avenue.

***b) Geology*:** In general, Western Pennsylvania is located in the "Appalachian Plateaus Province" where the rocks at the surface are almost flat lying and give the topography a generally level surface (Wagner, 1970). The geological stratification of the northern portion of the USGS quadrangle is dominated by red shell bedrock overlain with deposits of sands, silts, and gravels of river origin (Johnson, 1930).

Specifically, the Gulf Station is located in a broad flat valley, which represents an abandoned stream channel. The original streambed of the Monongahela River formed an oxbow through this region of Pittsburgh (Wagner, 1970) and is evident by the overburden features noted above. It is assumed that these materials would be present at the site.

***c) Hydrology*:** The climate in the study area is seasonal, with average daily high/low temperatures of 83/63 degrees in July and average daily high/low temperatures of 35/20 degrees in January and February. An average precipitation of approximately 36.85 inches falls annually, and is relatively consistent from month to month ranging from 2.2 inches to 4.0 inches per month. The winters are usually cold with moderate amounts of snow as early as September and as late in the year as May. Peak snowfall usually occurs in January and is on average 12 inches.

Specifically, the Gulf Station is concrete and bituminous paving, which covers approximately 50 percent of the site. The structure and canopy for the gas pumps cover the remaining 50 percent. It would be assumed that a large percentage of precipitation, in the range of 90 percent, would directly run-off the site into the City of Pittsburgh's storm drainage system.

***d) Ground Water*:** From interviews conducted with the former leasee of the property an underground spring was encountered while testing for contamination. A remedial action was conducted in approximately 1988 where contaminated soil was removed from the site and an

underground spring was encountered. The presence of this underground spring appears to be consistent with the aforementioned geological features. The sands and gravels of river origin coupled with relatively level bedrock would be a natural medium for a groundwater stream.

***e) Utilities*:** The following utilities are assumed to be used at the site; (1) Gas - Equitable Gas, (2) Water – City of Pittsburgh, (3) Electric – Duquesne Light, (4) sewage – City of Pittsburgh, and (5) Waste Disposal – unknown.

***f) Adjacent Land Uses*:** An aerial photograph of the existing and adjacent land uses, which are mainly commercial sites and apartment complexes, is shown as Appendix V-B on Figure 3.

g) Historic Usage of the Property: A records search of historic Sanborn Maps was conducted at Carnegie Mellon University Library. The 1893 Sanborn maps indicate that two dwellings occupied the property. The 1927 Sanborn map shows a store constructed between the two dwellings. The Sanborn maps of 1955 show the existing Gulf Station. The Gulf Station was constructed in the mid 1930's and is still an extant feature of the city lot.

Records Review

First we examined the regulatory agencies and standard environmental record sources, beginning with Federal information from the USEPA. Information was gathered from the files of various federal environmental regulatory agencies. They are used to identify possible on-site and off-site sources of hazardous substance that are likely to or are migrating onto the property. The following standard environmental databases were researched for entries within the ASTM standard distance of one and a half-mile radius of the site boundaries. These sites are depicted in the map at Appendix V-C, Figure 1, and at the table, below.

a) National Priority List: A search of the National Priorities (Superfund) List database, EPA's database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions (under the Superfund Program) revealed no sites within a one and a half-mile radius of the property.

b) CERCLIS: The CERCLIS list is a compilation of sites which EPA officials have investigated or are currently investigating for a release (or threatened release) of hazardous substances in reference to CERCLA. A search of the database revealed no sites within a one and a half-mile radius of the property.

c) Resource Conservation and Recovery Information System (RCRIS): RCRIS includes information on sites and facilities which generate, store, transport, treat, or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). A search of it revealed that there are twelve facilities within a one and a half-mile radius of the Gulf station. The facilities are shown in Appendix V-C on Figure 1.

d) Emergency Response Notification System List: The ERNS is a national database used to collect information on releases of oil and hazardous substances from spill reports made to federal authorities including the EPA, the U.S. Coast Guard, the National Response Center, and

the Department of Transportation. A search of the database revealed no releases at the subject property.

e) Toxic Chemical Release Information Systems (TRIS): TRIS identifies facilities that release toxic chemicals to the air, water, and land in reportable quantities under the Superfund Amendments and Reauthorization ACT, Title III, Section 3.1.3. A review of the database did not identify any subject properties.

f) Permit Compliance System (PCS): The PCS contains selected information regarding the National Pollutant Discharge Elimination System (NPDES) including non-compliance and enforcement actions. There is one PCS site listed within a one and a half-mile radius of the Gulf Station, which is: US Dept. of Energy - PETC

4800 Forbes Avenue

Pittsburgh, PA 15236

EPA Envirofacts Facility Database Information

EPA ID Number	Database	Facilities	Address	ZIP Code	Distance
PA0000562868	RCRIS	Matthews Intl Corp.	6515 Penn Ave.	15206	1
PAD014943906	RCRIS	Highland Cleaning & Repair	416 N Highland Ave.	15206	1
PAD055967548	RCRIS	Econo-Wash & Dry Cleaning	248-250 S Highland Ave.	15206	1
PAD101596399	RCRIS	Best Dry Cleaners	5744 Ellsworth	15232	1
PAD987289642	RCRIS	Shady Side Hospital	5230 Centre Ave	15224	1
PAD991297409	RCRIS	Cam II Tuneup CTR-Liberty Pitt	4900 Liberty Ave	15224	1
PAD001489790	RCRIS	Iron City Industrial Cleaning Up	6640 Franks Town Ave	15200	1.5
PAD002895526	RCRIS	Genuine Motor Parts	4925 Baum Blvd	15213	1.5
PAD010468445	RCRIS	Gladden, Dorothy Cleaners	6913 Franks Town Rd	15208	1.5
PAD041736316	RCRIS	Western Electric Co Inc	6855 Penn Ave	15206	1.5
PAD057819619	RCRIS	Smalis E Painting Co	4073 Liberty Ave	15224	1.5
PAD981105438	RCRIS	Port Authority of Allegheny	6831 5th st	15208	1.5
PAD004394276	TRIS	Nabisco Inc.	6425 Penn Ave	15206	1
PAD055542625	TRIS	Bearing Service Co	500 Dargan St	15224-1896	1.5
PAD037238011	TRIS	Beck / Arnley Corp	6905 Susquehana St	15208	1.5
PA8890031869	PCS	US Dept. of Energy - PETC	4800 Forbes Ave	15236	1.5

Source: EPA Geographic Information Queary System (Version 97.1.8)

Note:	RCRIS	RCRIS Program System Database
	TRIS	Toxics Release Inventory Program Systems Database
	PCS	Permit Compliance System

We then examined the State information from the PaDEP database records. These databases are used to identify potential sources of environmental impacts. The information found in the state databases is summarized below.

a) Underground Storage Tank List: A search of the records revealed that there is one site within a one-quarter mile radius of the subject property with registered underground storage tanks as noted:

Sunoco 0002 3903
121 North Negley Avenue
Pittsburgh, PA 15206.

b) Leaking Underground Storage Tank Sites List: A search for the leaking underground storage tanks revealed four sites as noted:

(1) Goodyear Auto Service Center
5913 Penn Circle North,
Pittsburgh, Pa 15206

(2) Instant Car Wash
KEHM, 5940 Penn Circle South
Pittsburgh, Pa 15206

(3) Sears #1054, 328
North Highland Avenue
Pittsburgh, Pa 15206
(structure razed 1998)

(4) BCM Engineers Inc.
5777 Baum Boulevard
Pittsburgh, Pa 15224

Site Reconnaissance

An on-site visual inspection of the Gulf station was conducted on Saturday, January 17, and February 7, 1998. The property and buildings were visually observed from the exterior. The purpose of the site visit was to identify the potential for any obvious adverse environmental conditions. The interior of the building was not accessible. Also, additional information about the underground storage tanks at the site was obtained from the Crompco Corporation, which had inspected the condition of them in June 1996. The records are provided in APPENDIX V-C, REGULATED FACILITIES.

***a) Appearance of the Property*:** The Gulf station is currently vacant. The structure has an office, lavatory facilities, an attached three bay garage, and two islands each containing three gas pumps. The structure appears to be in sound condition. There were only two obvious environmental concerns at the site; (1) a 55-gallon drum was noted on the right hand side of the building containing a substance, and (2) used tires were adjacent to the retaining wall in this same area. Some minor oil staining was noted on the site. No odors were noted.

Figure 5.2: Photo showing 55-gallon drum and used tires on side of building

***b) Underground Storage Tanks (USTs*):** Currently there are four underground storage tanks at the site. Three of them have an 8,000-gallon capacity, used for gasoline, and the other has a 550-gallon capacity, used for motor oil. The Crompco Corporation tested the USTs at the Gulf Station for leaks in June 1996. None were found. The Gulf Station received a PaDEP, Bureau of Water Quality Management, Storage Tank Certificate on November 12, 1996.

Interviews Conducted

As part of the Phase I ESA, interviews were conducted with the current owner, the former lessee, three local community development corporations, local and state government representatives, local business owners, and the project manager for the Pennley Park redevelopment project which is an adjacent property. For brevity they are not included in this report but will be furnished upon request.

Conclusions and Recommendations

Conclusions: Based upon the information gathered during the interviews, a review of available records, and two site visits, the following conclusions are made:

- The site has been known as a Gulf Station since the 1930's and is located in a primarily residential and light commercial area.
- There are four underground storage tanks located on the property.
- Two other gasoline filling stations (one currently vacant) are located on the same side of North Negley Avenue adjacent to the subject site.
- According to Sanborn Insurance Maps, the site housed dwellings, a storefront, and a restaurant prior to the 1930's when the Gulf Station was constructed.

- Stratigraphy for the area consists of sedimentary rock with overlay material consisting of sands, silts and gravels of river origin. An underground stream may be present.

- According to federal database records, twelve facilities located within a 1 ½-mile radius of the property are listed on the RCRIS – Small Quantity Generators Notifiers List. Due to the locations of the facilities, it is unlikely that they have impacted the subject site.

- According to state database records, four facilities located within a ¼-mile radius of the property operate underground storage tanks and have confirmed releases. Due to the locations of the facilities, it is unlikely that they have impacted the subject site.

- There are three existing hydraulic carlifts in the three bay garage. It is assumed that a hydraulic fluid reservoir tank is present and is noted.

- There are minor areas of oil stains on the existing concrete, typical for all gas stations.

Recommendations: Based on the data contained in this report, the following recommendations are made:

- If future development would consist of excavation for foundation construction, a subsurface investigation should be conducted.

- The building was not tested for the presence of radon gas. Due to the slab-on-grade construction of the building there is no obvious potential for the presence of radon gas. However testing would be prudent.

- The building was not tested for the presence of lead base paint. Due to the age of the structure, lead base paint may be present on the original coatings. Upon transfer of deed, the new owners should be notified of this potential condition.

- The building was not tested for the presence of asbestos. Due to the age of the structure, certain construction material may be asbestos based. Upon transfer of deed, the new owners should be notified of this potential condition.

- The conclusions of the Phase I ESA indicate that a Phase II investigation is not required provided any planned development does not require excavation.

Recommendations for Redevelopment

According to all interviewees, redevelopment of the site is highly desirable. The corner of North Negley and Penn Avenues, where the subject site is located, receives a significant amount of vehicular traffic. Numerous public busses stop at this corner, which creates considerable foot traffic, in addition to increasing the site's accessibility. Moreover, street violence in the area has apparently decreased, as has loitering, since several local bars have closed. Interviewees made the following suggestions for redevelopment:

· *Starbucks coffee house.* This idea was suggested by several interviewees. Starbucks is a

popular chain in the Pittsburgh and surrounding Allegheny County region. A market study should be completed to determine if the site is appropriate for a Starbucks or similar business venture.

- *Ben and Jerry's ice cream shop.* Ben and Jerry's has worked with CDC's in other states to locate their stores in neighborhoods experiencing negative economic effects. One interviewee commented that "everybody eats ice cream," no matter where they live. A market study should be completed to determine if the Gulf site is appropriate for such a business venture.

- *Three story office building with retail space on the first floor.* This idea was the plan of one CDC, who had bid on the site at auction. Said bid was declined by the owner Cumberland Farms. This idea, however, may still be viable if site purchase can occur for a CDC or other developer.

- *Convenience store, with or without gas pumps.* According to one CDC, the vacant Texaco site located one half block away from the subject site on North Negley Avenue is under consideration by a prospective buyer for a convenience store with gas pumps. A Sunoco station, without a convenience store, is still open for business and is located between the Gulf and Texaco sites. It may or may not be economically viable to have three gas stations and/or two convenience stores located within a half block of each other. Further, Cumberland Farms seems to be trying to sell the Gulf site, along with other of their sites to Sunoco in a multi-site deal. Sunoco will likely not maintain two of its filling stations within such close proximity to each other.

- *Housing.* An apartment building or townhouse-type of rental housing could fit on the Gulf station part of the lot. There is, however, a significant amount of rental housing already available at two of the other corners at the intersection of Penn and Negley Avenues. In fact, the Pennley Park apartment complex is currently undergoing redevelopment to enhance its aesthetic value. This effort will also include the addition of townhouse-type rental units. Housing, then, is not a needed, nor likely viable option for the vacant site in question.

  Parking lot. Often times, space within a brownfield is paved over and turned into a parking lot. Because the suggested site is relatively small, a parking lot may be a feasible option. There is, however, metered parking available on Penn Avenue, and the Pennley Park and Penn Plaza apartment complexes are both equipped with significant off-street parking for residents and their guests. Parking space may be needed for the East End Community Health Center located on the same lot as the Gulf site. It is worthy to note here that all interviewees stated that they would like some development on the suggested site; a parking lot may not be considered "development" by some individuals and/or groups.

- *Green space.* Urban areas can benefit from the aesthetic value of green space. Grass, trees, and/or flowerbeds can be planted and their care maintained by community residents, local businesses, and/or conservancy groups. Because the suggested site is

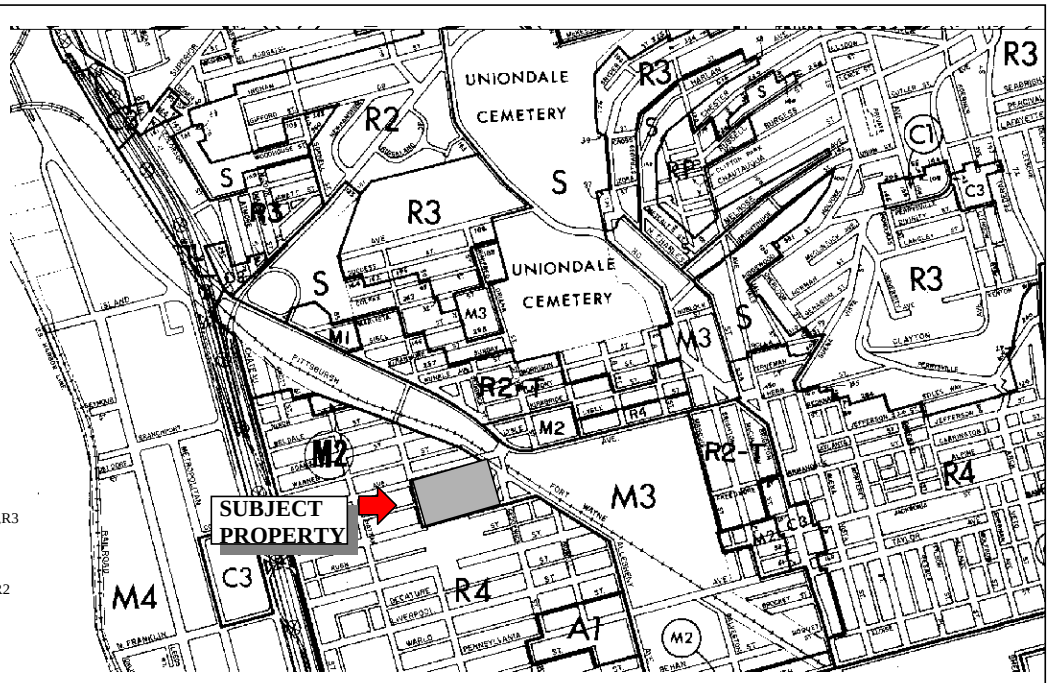
located at a busy intersection, which serves as a public bus stop for numerous routes, green space may be a welcome urban oasis, especially considering that the Pennley Park redevelopment includes beautification plans. Plants, however, need relatively clean soil in order to grow and flourish; the level of clean up of any present contamination may be greater for green space than for other redevelopment options.

· *Playground.* Playgrounds are almost always welcome in communities with a residential population. With several apartment complexes within a three block radius, the suggested site is well located for a children's playground. There is, however, a playground situated within one of the apartment complexes; children living in the general vicinity of the Gulf site can frequent the existing playground. Furthermore, like the green space option, the level of clean up of any present contamination may be greater for a children's playground than for other redevelopment options.

American Electric – Phase I Environmental Site Assessment

This section overviews the findings of a Phase I Environmental Site Assessment conducted at the former American Electric property at 21 Sedgewick Street in Manchester, Pittsburgh, Pennsylvania, located at Columbus Avenue and Sedgewick Street.

This site is listed as a brownfield, according to the URA. The site is currently not under state, federal, or private legal action and is not subject to RCRA regulations. It is privately owned, and the existing structure and good condition of the buildings (including offices and retail spaces) should make the site attractive for investors. The site is very accessible to railroads, highways, and rivers. There is potential for the community to greatly benefit from its redevelopment, given that the site is surrounded by residential property.



AMERICAN ELECTRIC

EPA ID: PAD004341715

Zoning Map

N.T.S.

N

Site Description

The American Electric Building is located in the Manchester neighborhood of the City of Pittsburgh, Allegheny County, Pennsylvania. It is located at the corner of Sedgewick Street and Columbus Avenue. A location map is shown in Appendix V-B, Figure 1.

The American Electric Building is situated on a 4-acre parcel. Site information can be found in the Allegheny County Registry of Deeds in Book 7571 at page 499-503. Copies of these documents can be found at the Allegheny County Courthouse.

a) Topography: The property is located on the U.S. Geological Survey (USGS), Pittsburgh East Quadrangle with Latitude of xx° xx' xx" and Longitude of xx° xx' xx" (see Appendix V-B, Figure 4,) at an elevation of approximately 880 feet above mean sea level. The property is relatively level. Figure 5 shows a detailed site plan of the property

b) Geology: The subject site's geologic characteristics are similar to those found at the Gulf site preciously mentioned.

c) Hydrology: The climatic description of the Pittsburgh area described in section 2.2.2.c also applies to the American electric site. In terms of the site's hydrologic conditions, the American Electric buildings and parking lot amount to approximately 50% impervious surface. All storm water runs off exists the site directly into the City of Pittsburgh's storm drainage system. In addition, the site is outside the flood plain elevation (FEMA Maps, 1995).

d) Utilities: The subject site's utility providers are the same to those found at the Gulf site.

e) Adjacent Land Uses: The site is located in an Industrial Zone, M3/Vacant Buildings. It is surrounded by residential properties. To the north is Columbus Avenue, and the railroad tracks only several yards from the parking lot. This area is residential, R2-T zoning, with housing in good condition. Additional housing construction is underway. Vacant buildings, zone M2, also are to the north of the site. To the immediate south of the site, bordered by Juniana and Sedgwick Streets is a residential zone, R4. This area contains an elementary school, houses, and historic, although delapidated buildings. To the immediate east of the site is also a residential area, including a church and a baseball field. Columbus Avenue at Fulton Street border the immediate west of the site, an R2-T zone. This area includes a church, daycare, and recreational facilities. The railroad tracks also pass through this area.

f) Property Zoning and Land Use Information -Refer to Zoning Map above

Uses by Right: Under the Industrial M3 classification, the following uses are permitted by right. A permitted use by right means that a developer could legally propose any of these uses without having to go through the special exception or conditional use processes. The steps required to develop a site under Uses by Right in the Pittsburgh area are outlined below. The uses are as noted:

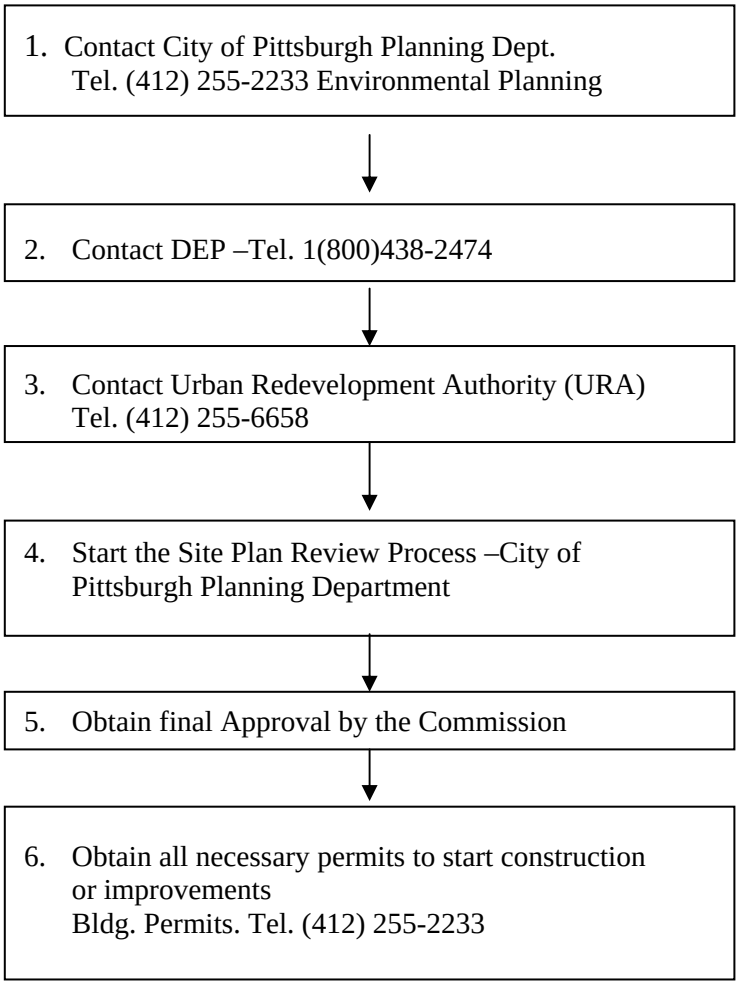
Airplane Factory or Hangar	Automobile Services	Blacksmith Shop
Boat-building	Box Factory	Building Materials
Building/Mover/Wrecker	Brewery	Dry Cleaning

Contractor's Equip. Stor.	Cooperage Works	Distribution
Feed Mixing Plants	Foundry-metal casting	Grain Elevator
Laboratories	Laundry	Lumber Storage
Machine Shop	Machinery Repair	Manufacturing
Planing Mill	Printing	Processing
Railroad	Repair Shop	Solid Fuel Storage
Stable	Stone Works	Storage
Veterinarian	Wholesale Business	Dispensary
Landscaping	Public Utilities Facilities	Schools
Accessory Uses	Killing-poultry, rabbits	

Fabrication: Iron/steel/metals

(For more detailed information, consult the City of Pittsburgh Planning Department)

Use By Right Basic Procedure/Steps:



Conditional Uses: Conditional uses are permitted after a public hearing, recommendation by the Commission, and approval by Council in conformity with the provisions of Chapter 993 of the City of Pittsburgh Zoning Ordinance.

Conditional Uses: Enlargement or reconstruction of non-conforming use or structure

Government use of structures
Unit group building development use
Atomic reactors
Major excavating
Grading, or filling
Heliports and helipads
Motor freight terminals

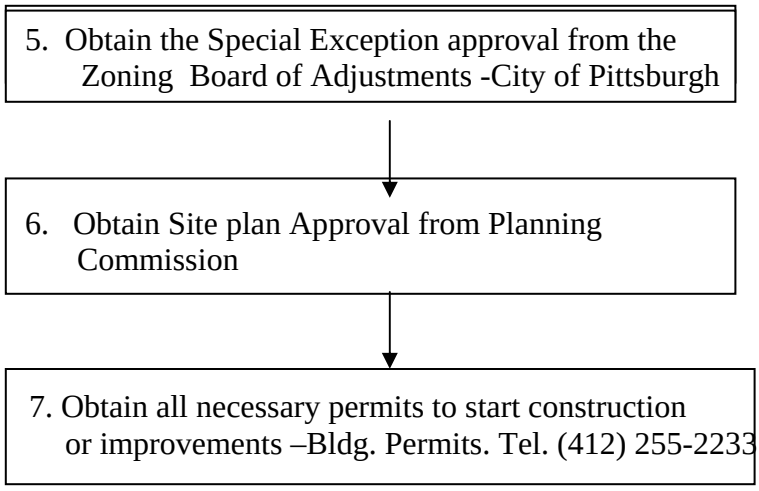
Conditional Use Basic Procedure: Follow steps outlined above for use by right basic procedures.

Uses Permitted by Special Exception: The following are uses permitted by Special Exception only. As seen in the previous section, the steps required to develop the site as a use by Special Exception are outlined below

Uses By Special Exception:

Churches, cathedrals or temples
Extension of a non-conforming use within a conforming structure
Enlargement or reconstruction of a public or nonprofit non-conforming use or non-conforming structure other than a conditional use
Moving of a non-conforming structure to a different location on the same lot
Rehabilitation, enlargement and extension of a Non-Conforming structure
Automobile and gas service station-when within 100 feet of a property zoned R or I
Beverage Distributor, and helistops.

Special Exception Basic Procedure: Follow steps 1-4 above, then:



g) Setback and Height Requirements in the M3 District

This area has certain setback, height, and bulk requirements according to its classification as an industrial zone. This information must be provided so investors and/or developers could use it when developing the property.

Front Yard Setback: a) None Required, except when side of lot abuts an R and I District within same frontage.

Rear Yard Setback: a) Does not abut a street or way or an R or I District –None Required

b) Abuts a street –None Required, except when side of lot abuts

c) Abuts a way –Sufficient to place the buildable area of the lot 25 feet from the centerline of the way.

d) Abuts and R of I District –15 feet when the rear of lot abuts side of lot in R or I District; 30 feet when rears of both lots abut.

Side Yard Setback: a) When side of lot abuts a street, none is required.

b) Abuts a street –None, except when rear of lot abuts an R or I District within the same frontage.

c) Abuts a way - Sufficient to place the buildable area of the lot 25 feet from the centerline of the way.

d) Abuts an R or I District –30 feet when side of lot abuts rear of lot in R or I District; 15 feet when sides of both lots abut.

h) Height of Structures in the M3 District: Any structure in this area may be up to 9 stories or 85 feet in height.

Historic Usage of the Property

The area of this site was not considered part of the City of Pittsburgh until this century. According to the Sanborn maps and city deed records, this site has always been used to manufacture electrical sites. Historically, the site also has "incidental" office and storage space. From the 1902 Sanborn maps, the site was owned by the Steel City Electric Company. According to these maps, the Steel City Electric Company owned and operated this site from 1902 - 1975. However, according to city permit documents, Midland Ross Corporation owned this site from 1966 - 1988. Permit documents also detail ownership of the site by American Electric Corporation from 1988-1994. While the site still displays the sign of American Electric, and it appears that storage on-site is by this firm, city permit documents indicate ownership of the site is by the MRC Acquisition Corporation once again. The site is currently on the market under auspices of Grubb & Ellis Commercial Real Estate Services.

Records Review

As outlined in the previous section, regulatory agencies and standard environmental record sources are outlined below:

a) Federal Information - U.S. Environmental Protection Agencies (EPA)
Refer to section 2.3.1.a for description of federal information. Refer to Appendix C, Figure 2 for inventory of sites shown on a 2-mile site plan.

National Priority List: There is no NPL site located within 2-mile radius from American Electric site.

Resource Conservation and Recovery Information System (RCRIS): According to the database, there are 50 site located within a 2-mile radius around American Electric. Of these sites, 21 are major TSD or LQG facility. The facilities are shown on Appendix V-C, Figure 2.

Toxic Chemical Release Information Systems (TRIS): There are 13 sites, which are listed in the TRIS, located within a 2-mile radius around the American Electric site.

Permit Compliance System (PCS): There are 4 facilities located within a 2-mile radius around American Electric site.

Air Emission Record (AER): Air release information is contained in the Aerometric Information Retrieval System (AIRS)/AIRS Facility Subsystem (AFS). This information maybe helpful where there is a RCRA generator adjacent to the property (Hess, 1993). There are 134 sites, which are listed in the AIRS/AFS, located within a 2-mile radius around the American Electric site.

b) State Information - PaDEP: Refer to above for a description of state information.

Underground Storage Tank List: There are no UST sites listed within a 2-mile radius around the American Electric site.

Site Reconnaissance

An on-site visual inspection of the American Electric Building was conducted on March 14, 1998. The property and surrounding area was visually observed from the exterior. The purpose of the site visit was to identify potential for any obvious adverse environmental conditions. The interior of the buildings was not accessible.

The site currently covers approximately 4 acres. It has two buildings: Building "A" is one story, 33,000 square feet with a dock. Building "B" is a two story, 100,000 square feet building, also with a dock. The second floor is designed for use as retail space. In addition, this site has 180 spaces in its parking lot and a guardhouse. The parking lot is presently being used to store heating units in temporary trailers.

Summary of Findings

This site is listed in the RCRIS Program System database of "General" Facility and the TRI (Toxic Release Inventory) Program System database. According to the Envirofacts TRI

Report, chromium compounds and zinc compounds were treated during the years of 1987-1989. The release of hydrochloric acid has not been reported since 1989. Only air emissions of toxic materials from this site were reported by 1989. Surface water, land, and underground injection were not recorded. In addition, the American Electric facility did not report the following activities: waste management activities, treatment and recycle of chemical waste; transfer of chemicals to public owned treatment works, and any non-production release of toxic waste.

The site is located in a predominately flat area, and no known underground storage tanks exist within at least 1.5 miles. No contamination of drinking water was reported. A more detailed determination of contamination of this site requires a Phase II analysis, which includes scientific examination of the soil. However, the possible environmental contaminants based on the uses of the site may include the following; (1) Acrylonitrile, (2) Arsenic, (3) Arsine, (4) Cadmium, (5) Carbon Disulfide, (6) Chromic Acid, (7) Chromium, (8) Cyanides, (9) Formic Acid, (10) Copper, (11) Hydrazine, (12) Nickel, (13) Nickel Carponyl, (14) Sodium Hydroxide, and (15) Zinc Chloride.

Interviews Conducted

A local real estate broker provided information about current site conditions, ownership, and physical circumstances surrounding the site. Also, City of Pittsburgh Planning and Zoning Department personnel provided guidance and information about this site and its importance to the City of Pittsburgh. Additional zoning and mapping information was obtained from city and county staff.

Conclusions and Recommendations

The redevelopment of brownfield sites requires leadership and vision. Leadership is essential to convince stakeholders and to generate consensus among the different social, political and economic actors about the basic goals and major tasks to be performed in order to achieve the objective of "redevelopment" of a brownfield. Vision, is also essential to identify major trends which bring new and old possibilities to the area under analysis. Visionary efforts need be taken into consideration in any redeveloping project in order to envision the future of a site or area.

In addition, a strategic approach is always a useful tool that can ease and make more efficient the redevelopment process. This approach entails the identification of the main competitive advantages of the area, which can be used as the pillars upon which to construct a "comprehensive strategy" for the area or site.

In order to find out these competitive advantages, it is necessary to identify which are the major strengths and weaknesses of the area under analysis, as well as the main opportunities and threats that it as a whole faces. The competitive advantages then, can be identified as the result of the contrast between the internal characteristics of the area (its strengths and weaknesses) and the external environment of it (opportunities and threats). Only after having made this analysis, it is possible to identify (at least broadly) which are those activities that can be develop based on these competitive advantages.

Therefore, this analysis approach was crucial in our analyses of the American Electric Company site. In other words, we made an attempt to identify the internal characteristics of the site as well as its external environment. Finally, we came across its competitive advantages.

In our analysis, we used the approach proposed by Peter Drucker (1995) for finding out the competitive advantage of the inner cities and John Bryson (1995).

The SWOT Analysis:

The Internal Environment

In the evaluation of the internal environment, it is necessary to monitor the type and availability of resources, which affect performance. The following is a tentative list of the main strengths and weaknesses identified with the American Electric site.

Strengths of the American Electric Site:

- *Accessibility*: The site is located 3-4 miles downtown Pittsburgh. It is near major highways and only several yards from an existing, operational rail system. These characteristics make the site readily accessible.
- *Location:* The site is located in a residential area which borders an industrial area. It is near community facilities such as the Manchester Park, and the Manchester Playground and Public School.
- *Level of Contamination:* Although a Phase II analysis have not been done, according to the information gather during the Phase I assessment, the site presents a potential low level of contamination.
- *Legal Situation:* The site is not under federal, state or private legal action and is not subject to RCRA regulations.
- *Property Improvements:* The existing buildings on the site are in good condition and contain useful features such as a sprinkler system, and office and retail space. Existing parking spaces provide 180 stalls. The good condition of the buildings implies no need for demolition and relatively few repair costs.

Weaknesses of the American Electric Site.

- *Level of Contamination:* Although the Phase I analysis indicates a potential level of contamination, the degree of contamination can not be determined without further analysis. It is possible that remediation costs can be significant. It is also possible such costs may be negligible. Further analysis is required.

External Environment surrounding the site.

External factors are those that are not under organizational control. In this case, organizational control is the control of the owners of the site. External factors, although not

under primary control, do strongly affect the success or failure of a venture and must be monitored and taken into consideration when planning projects. Attention to the external environment can be used to identify potential opportunities and threats to the project and the key success factors required capitalizing on opportunities or mitigating threats.

Opportunities.

- *Zoning Regulations:* According to the land use law, the site is located in an area defined as M3, reserved for industrial use. The range of activities included under M3 are very broad and our outlined on previous pages. This constitutes an opportunity for redevelopment or reuse of the site in that this and surrounding areas permit mixed uses and business opportunities which can be complementary.
- *State Law:* The State of Pennsylvania is one of the few innovative states in the country with regards to environmental regulation and brownfields. Pennsylvania legislation better encourages and facilitates the development of these contaminated sites.
- *Job Market:* The surrounding residential area provides with a very accessible labor market for any business utilizing this site.
- *Consumption Market:* The potential to find a niche of unsatisfied demand in the area is significant, and although the individual income level of the inhabitants is low, the compound purchasing power could be relatively high.
- *Taxes:* The existence of a two tier tax system in the City of Pittsburgh facilitates future expansions and improvements of the existing buildings.

Threats.

- *Security Issues:* The site is located in an area that has a significant percentage of people below poverty. This implies potential high levels of crime, which in turn implies higher security costs. We did not actually look at crime statistics for this area.
- *Labor skills:* The skills of the potential workers that live in the area may need to be further developed, depending on the jobs they would fill.

In conclusion, it is possible to say that the main competitive advantages of the site are:

- The site's good accessibility;
- Mixed land use of the area;
- A large labor market of the area;
- The unsatisfied demand of the area; and
- The good quality of the buildings and facilities in the site

If we take into account that "opportunities…both in the inner city and throughout the economy tend to be concentrated in flexible firms, often of modest size, serving specialized markets" (Bendick and Egan (1993: 5) and the "economic activity in and around inner cities will

take root if it enjoys a competitive advantage and occupied a niche that is hard to replicate elsewhere" (Druker (1995:56), then the competitive advantages of the American Electric site makes it attractive for development.

As Druker points out, "increasing importance of regional clusters and of such concepts as just-in time delivery, superior customer service, and close partnerships between customers and suppliers are making location more critical then ever before" (1995:58). This site is ideal for such development.

Among the permitted uses that are either by right, as conditional uses, or as uses by special exception, based on the site's surrounding neighborhood and physical, and social characteristics, we recommend the following:

1. Neighborhood Center -dry cleaners, repair shops, printing, doctors' offices, and etc - mixed use type.
2. Government use -offices, institutional
3. Expansion of adjacent school facilities
4. Manufacturing
5. Processing
6. Office use
7. Distribution -wholesale businesses
8. Brewery
9. Railroad related offices
10. Laboratories

Phase II, Environmental Site Assessment, Hypothetical Case

We have seen that a Phase I Environmental Site Assessment (ESA) provides useful information regarding a history of a site and the possibility of any contamination existing. If the Phase I indicates that there is a possibility that contamination exists, a more thorough site investigation will need to be performed. This is known as a Phase II Environmental Site Assessment (Phase II). A Phase II investigation is based on the results of the Phase I. The Phase II evaluates the various mediums of possible contamonation which may include an analysis of the of soil and soil gases, groundwater, surface water, and sediments. The migration pathways of contaminants also are examined during the Phase II, and a baseline risk assessment may be needed to calculate risk to human health and the environment per the requirements of Act 2. This will also determine what if any, remedial remedial alternatives are needed to halt the migration of the pollutant and to remove and/or treat the contaminants in the various media in which the contaminants are found. Through identification of what is known about the site and what possible corrective action and/or containment scenarios might be needed for cleanup, a work plan can be developed. As one can imagine, a Phase II investigation is more expensive and time consuming than the initial Phase I. Since the scope of the course is limited a hypothetical work plan associated with what one may encounter in a typical Phase II investigation will be developed in this section. The hypothetical plan presented is meant to detail the process of a Phase II study. It should be noted that this is a hypothetical work plan to be used for illustration purposes therefore all information, although typical, was fabricated.

Review of Previous Studies

This work plan has been prepared in accordance with typical PaDEP requirements and incorporates results of the Phase I assessment and other relevant studies and findings. These findings, having been identified, help the investigator develop an approach and required investigative methodologies best suited for acquiring relevant field data as part of the Phase II. Valid , reproducible field data is critical in establishing the degree and extent of the constituents of concern in soils and groundwater.

***Area of Concern - Soil Contamination*:**

The Phase I performed has been utilized to evaluate overall site conditions and ultimately establish "areas of concern." Areas of concern are defined as areas which historically contained constituents of concern, possessed visual indications of potential contamination, and/or had a reasonable potential for containing constituents of concern based on historical operations. Based on this information the investigator identified two known areas of concern (Areas A and B) and one area of potential concern (Area C). Theses areas are as follows:

- Area A - The area in the vicinity of the underground gasoline storage tanks situated in the western portion of the facility.
- Area B - The former drum storage area adjacent to the aforementioned underground storage tanks.
- Area C - The area south/southwest of the garage.

Area A indicated soil contamination by Petroleum hydrocarbons and metals chromium, lead, and nickel. Soils within Area B were noted to be "visually stained" during the site reconnaissance and initial surface sampling and analysis of these soils indicated the presence of petroleum hydrocarbons and PCBs. A relatively small area of "stained soils" was noted to exist surrounding the outside of the garage area. These areas of concern required further investigation and evaluation in order to define and delineate the potential extent of contamination by the constituents of concern in the site media.

Scope of Work

The following proposed Phase II at the subject facility will provide the information required to further delineate the extent of constituents of concern in site soils and groundwater and, if necessary, to determine the remedial methods best suited to site conditions. The investigatory activities will consist of the following three tasks:

- Task 1 - Soil sampling in and surrounding the areas of concern defined above for ultimate laboratory analysis.
- Task 2 - Installation and sampling of groundwater monitoring wells.
- Task 3 - Data evaluation and final report preparation.

Each of these work plan tasks is discussed in detail in subsequent sections of this chapter.

Task 1 - Soil Sampling Program

The following systematic investigatory approach is designed to determine the degree and extent (lateral and vertical) of constituents of concern in the soil within areas of concern. This systematic approach involves the layout of a sampling grid over each area of concern. As recommended by PaDEP, a grid system with 25-foot intervals will be utilized for soil sampling in known areas of concern. Potential areas of concern will be sampled utilizing a grid system with a 50-foot interval. Surficial samples (0 to 6 inches in depth) collected from Areas A through C will be analyzed for PCBs and petroleum hydrocarbons. A representative number of surficial grid sampling locations within each of these areas of concern will also be evaluated for characteristic Volitile Organic Compounds (VOCs) and other contaminants which are characteristic to sites with their use history. Based on field findings a limited number of subsurface soil samples may also be analyzed from each area of concern to evaluate the vertical extent of constituents of concern in the soil

a) Soil Sampling Activities: Sampling and analysis of soils in areas A, B, and C will occur in a phased sequence. During each phase, a sampling grid will be laid out with permanent field markers prior to sampling. The sampling grids are oversized to include sampling soils outside the areas of concern in order to estimate the areal extent of constituents of concern in the soil. Surficial soils samples with each area will be collected at each grid intersection point for PCB analysis. All samples will be scanned with an organic vapor analyzer (OVA) or equivalent for the presence of VOCs. Based upon OVA readings and/or noted field observations (color, odor, and composition) of each soil sample, some samples from each area will also be analyzed for select VOCs. and/or total concentrations of the metals chromium, lead, and nickel. This field evaluation scenario also holds true for subsurface samples collected from each area of concern. Initially subsurface soil samples will be collected at all grid-sampling points from a depth of 6 to 12 inches. If VOC conditions encountered during sampling warrant further investigation, samples may be collected at greater depth (i.e., 12 to 18 inches and 18 to 24 inches). A limited number of these subsurface samples may be analyzed in the laboratory to delineate the quantity and vertical extent of constituents of concern in the soil.

The samples will be collected utilizing a stainless steel hand auger or other hand-operated sampling equipment depending on the nature of the media being sampled. The soil sampling equipment will be decontaminated prior to each use to minimize potential cross contamination between locations. Collection of the soil samples will be in accordance with USEPA accepted protocols for sample collection. This approved protocol will be followed during sample collection, transport, and delivery to the laboratory. All soil samples will be placed in appropriately labeled containers to be provided by the laboratory and sealed in a cooler (4 degrees Celsius) for transport to the laboratory.

These soil samples will be submitted to an approved third party laboratory for analysis. Following receipt of the results of samples submitted for analysis, additional subsurface samples may be analyzed if needed in order to better define the extent of constituents of concern in the

soil. All field activities pertinent to all phases of the Phase II investigation will be recorded using the standard Field Activity Daily Log.

b) Background Soil Sampling: To establish background concentrations of constituents of concern in site soils, which have not been impacted by the gasoline station operations, two background soil samples will be collected at two proposed locations. The two sampling locations were visually inspected and reviewed to ensure that the soils have not been impacted by station operations but also are comprised of the same type of matrices as the soils to be evaluated. Background soil samples at each location well be collected at depths of 0 to 6 inches and 6 to 12 inches and analyzed for total concentrations of chromium, lead, nickel, and PCBs. Analytical results for the background soil samples collected from the two proposed locations will be utilized in conjunction with he background information previously obtained for the site to establish comparative levels for the constituents of concern

Task 2 - Groundwater Assessment Approach

The following investigatory approach is designed for obtaining information about subsurface conditions at the site and assessing groundwater quality. This approach involves the drilling of four borings to visually characterize soil conditions and possibly for the installation of groundwater monitoring wells. Subsequent to well development, groundwater samples from each well will be collected for laboratory analysis in order to assess groundwater quality.

a) Drilling of Borings: Four borings will be completed at the site to visually characterize subsurface conditions and ultimately for the installation of groundwater monitoring wells. Actual locations of these borings will be determined based on field conditions and information obtained from the soil investigation.

To minimize potential cross contamination, the drilling rig, drilling equipment, and hand tools will be decontaminated prior to and between successive boring locations using potable water in a heated high-pressure washer. All subsurface investigation by-products produced, such as decontamination water and soil cuttings, will be contained in U.S. Department of Transportation-approved drums, appropriately labeled, and stored on site. Appropriate steps will then be taken for the proper management and disposal of the decontamination waters and drummed soil cuttings. Drilling activities will be completed under the supervision of a qualified geologist. Descriptions of subsurface materials encountered during drilling will be noted on standard boring logs.

Soil borings will be advanced using a 4-1/4-inch inside diameter hollow-stem augers. If soil contamination is suspected then samples may be collected at each location to visually characterize soil conditions and/or for laboratory analysis. If utilized, the sampling equipment will be decontaminated prior to each use to minimize potential cross contamination of successive soil samples.

b) Monitoring Well Installation: Monitoring wells will provide information about shallow subsurface conditions, groundwater quality, and groundwater flow direction. Based on the topographic configuration of the site and results of a preliminary soil boring investigation, it is believed that the uppermost water-bearing zone occurs in unconsolidated deposits

approximately 6 to 8 feet below the ground surface and most likely flows south toward a unnamed tributary. Groundwater level measurements collected at the four wells will be used to construct a groundwater table map and verify the direction of groundwater flow (and possible subsurface contaminant migration) at the site. Prior to groundwater sampling, an interface probe and electronic water level probe (M-scope) will be used to determine depth to water and if any immiscible layers are present. An immisible layer would indicate floating contaminants.

All wells will be installed with approximately 3 feet of well screen above and 7 feet of well screen below the water bearing subsurface soils to allow the inflow of potential contaminants into the well screen. The well construction components are made of inert materials to avoid unwanted chemical reactions.

c) Monitoring Well Development and Groundwater Sampling: Monitoring wells will be developed using a water "surge and bail" method. This process will remove sediment and any materials introduced during drilling and well installation and encourage free water flow into the well. After the well water tubidity (cloudiness) minimuzes to acceptable levels, specific conductance and pH readings will be taken until three consecutive reading vary by less than 10 percent. Development water produced will be contained in drums and stored on site for proper disposal. Equipment utilized in developing the wells will be properly decontaminated prior to commencement and between successive well locations.

Following well development, groundwater sampling will be performed at all monitoring well locations. Specific conductance, pH, and temperature measurements will be taken immediately upon groundwater sample collection. Calibration of all field instruments will be in accordance with manufacturer's specifications and will be performed prior to sample collection. All groundwater samples will be placed into appropriate sample containers provided by the selected laboratory and properly labeled with sample location number, date, and other comments. The laboratory will provide the necessary preservatives with the sample containers if needed.

Following sampling, all groundwater samples will be placed and sealed into coolers containing ice or other cooling agents so that the samples are maintained at a constant 4 degree Celsius during shipment to the laboratory. The coolers will contain all the appropriate chain of custody procedure paperwork necessary to ensure the legitimacy of the samples collected when leaving the control of the investigator.

An approved independent laboratory will also analyze groundwater samples collected during this phase of the investigation.

d) Site Survey: After the initial sampling phase of the investigation is completed a licensed surveyor will be subcontracted to survey the locations of all surficial soil sampling and monitoring well locations. The horizontal and vertical position of each location will be referenced to a previously identified site grid and datum. Elevation measurements will be taken at the top of well casing and at ground surface at each monitoring well location. The survey point on the well casing will be permanently marked to ensure that consistent water level data relative to the casing are obtained.

Task 3 - Data Evaluation and Report Preparation

Since the investigatory work will be implemented in a phased approach, interim status reports will be prepared summarizing the activities and results of each completed phase. Upon completion of all field and analytical work, the final results of the additional environmental investigatory activities in conjunction with the data collected during previous investigations will be evaluated to define the extent of constituents of concern at the site. A final report documenting the field activities and discussion and evaluation of the analytical data will be prepared. Additionally, comments on the relevancy of the newly acquired data as it pertains to remedial activities will be noted. The following presents an outline of the anticipated contents of the final report:

- Introduction
- Site Setting Including Geologic and Hydrogeologic Conditions
- Field Activities
- Summary of Analytical Results
- Data Evaluation
- Conclusions
- Data Relevancy to Remedial Alternatives

In addition to the tentative outline presented above, data tables presenting groundwater and soil chemistry data and figures depicting the detailed site plan, potentiometric surface contours, and chemistry by sampling location will be included in the report. The appendices will present detailed boring logs and monitoring well installation details and will be included in the report.

Project Schedule

The aforementioned work plan tasks have been scheduled in such a fashion as to facilitate a phased approach for completion in order to accommodate regulatory requirements relative to the Client's financial viability. The start date of the schedule will be based on PaDEP's approval of this work plan and overall schedule is based on the number of weeks to accomplish a defined task. The soil sampling program, which involves the field layout of a systematic soil sampling scheme in each of the areas of concern, subsequent sampling in each areas of concern, laboratory analysis of the soil samples, and an evaluation of the resultant soil data for scoping the groundwater assessment will be completed in approximately 28 weeks. Approximately 12 weeks will be required to complete the groundwater assessment activities which include subcontractor mobilization, drilling and potential soil sampling activities, installation of groundwater monitoring wells, development and groundwater sampling of the wells, and laboratory analyses of the groundwater samples. A number of these activities will be conducted concurrently to reduce the total number of days required to complete the field assignments. The planning of these field activities will enable completion of the work tasks in a timely and cost-effective manner. After receipt of all laboratory data, approximately 6 weeks will be required to complete a final report detailing the results of the investigation. Total project time was estimated to be 46 weeks.

Summary

This chapter has explored the process of conducting a Phase I ESA for these smaller brownfield sites given two specific examples, (1) the Gulf Gas Station and, (2) the American Electric – Electrical Products Division manufacturing shop, and a hypothetical Phase II investigation of a gas station. The purpose of conducting these two Phase I ESAs and the Phase II ESA is to familiarize the layman with the process. The Phase I ESA is a tool to be used in identifying environmental factors so as to eliminate uncertainties and highlight potential opportunities. The Phase II is the tool to be used to specifically identify these contaminants and develop an environmental management plan.

CHAPTER VI - CONCLUSION AND RECOMMENDATIONS

The subject of brownfield redevelopment is wide ranging, and it is one that encourages research by people with a wide variety of interests and experiences. In this class, we each have been able to examine brownfield redevelopment through a lens of our own design. Our research ranged from big picture information providing background and context about brownfield redevelopment to a more specific focus on brownfield redevelopment in Pittsburgh, a place we have all called home for at least a little while.

In this report, we have discussed the results of our research and have shared what we have learned. We have covered broad-based issues such as the roots of the brownfield problem and the regulatory changes occurring at both the state and federal level as a result of increased awareness of the problem. We have examined the roles of stakeholders and looked at the efforts of groups in other states and other countries as they attempt to deal with the brownfield issue. Some of our research has been very practical, including the information on conducting Phase I and II analysis. Mainly, we have focused on the Pittsburgh region, as in Chapters III and IV.

Throughout all our research we learned that there is far more to brownfield redevelopment than might at first be obvious, and that this is a complex and far reaching issue for those regions grappling with redevelopment efforts. Several themes, however, have recurred throughout our studies:

- Brownfields can and should be viewed as an opportunity, rather than a problem. There are many examples of regions, which have been successful in taking advantage of their brownfield opportunities, and there are lessons that can be learned from their efforts.

- A significant amount of work already has been done to make redevelopment more viable and attractive. On the regulatory front, Pennsylvania has continued efforts by the federal government to clarify liability issues in brownfield redevelopment. Pennsylvania's Land Recycling Program was one of the top 25 contenders for the Innovations in American Government Awards, presented by the Ford Foundation and the John F. Kennedy School of Government.

- Brownfield redevelopment can be used as a catalyst to focus efforts to improve and enhance the Pittsburgh region.

- While there is a lot of optimism and energy around the opportunity, there is also concern that fragmentation and lack of vision will continue to hinder redevelopment in the Pittsburgh region.

As was stated earlier, it is clear that the challenge of redeveloping brownfields in distressed communities lies not only in site-related factors, but also in community-related factors. As we have found, the more tangible site-related factors have been the easiest to deal with, and are the areas where efforts have been most successful. Many strides have been made in clarifying liability issues, and there are well defined tools for assessing a site such as the Phase I and II analysis described earlier. Revisions in federal and state environmental laws have sought

to broaden cleanup options for developers, and many organizations have worked to make funding available for remediation of sites.

However, while many of the tangible factors have been addressed, there is still work to be done regarding the community-related factors, which are less easily grasped. Some of the less tangible impediments that need to be addressed for a successful redevelopment include:

- ***Perceptions and Realities***: As was pointed out in earlier chapters, while the realities surrounding brownfields and the communities they reside in may have changed for the better, perceptions about their status in many cases remain unchanged.

- ***Fragmentation***: Fragmentation exists in local government, is manifest in the myriad economic development organizations in the region, and is displayed through the many other stakeholder groups that become involved in redevelopment efforts. This fragmentation results in duplication of effort, straining already limited development money. Fragmentation also makes marketing sites difficult. It makes educating the public and community-based groups problematic. Finally, this fragmentation makes an already difficult project even less attractive to the developer who must deal with many different stakeholders with different agendas.

- ***Inconsistency of Vision***: Without an idea of what a region can become, the focus remains on what the region was. In the case of the Mon Valley, the lack of a vision for the future keeps people from moving beyond hoping for the return of the steel industry. Creative and innovative ideas for the use of the land are dismissed. Creative ideas are not what people are used to, and there is no plan for a defined future within which such ideas may fit. In addition, this lack of vision allows for the infringement of competing programs, such as subsidies for greenfield development.

Clearly the problems outlined above are nothing new. In a recent Pittsburgh Business Times article, the author noted efforts to mitigate the fragmentation of development organizations in the region by attempting to consolidate several of them under the umbrella of the Pittsburgh Regional Alliance. As the article states, the idea to consolidate these organizations originally grew out of the Working Together Consortium, an initiative of the Allegheny Conference on Community and Economic Development. That effort determined that fragmentation and duplication of economic development services hampered the region's ability to attract and retain business. This notion was reinforced by a McKinsey & Co. study of the region released by the PRA last November (Kovatch, 1998).

It is important that efforts in the Pittsburgh region be coordinated. In order to align the perceptions about brownfield redevelopment with the realities, redevelopment agencies need to be able to efficiently and effectively provide information to educate the public. They must also have a coherent vision of the future, in order to effectively market development projects to the public, and to attract business to this area.

There are signs that this cooperation is happening. One, the Mon Valley Initiative, is a consortium of 17 community development corporations (CDC) operating in 32 municipalities.

(Fitzpatrick, 1997). These organizations collectively raise operating and development funds, and work together to set organizational goals. Another coordinating body is the Steel Valley Authority, an intermunicipal CDC serving 11 municipalities in the Mon Valley and City of Pittsburgh. In addition, the merger of the Pittsburgh Urban Redevelopment Authority and the Allegheny County URA may bring a more regional perspective overall to redevelopment efforts in this area.

These efforts to improve the cohesiveness of redevelopment projects in the Pittsburgh region are very important and should continue to be the focal point of making brownfield redevelopment an effective tool for economic revitalization.

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APPENDIX II

BRIEF OVERVIEW OF KEY FEDERAL LAWS AFFECTING BROWNFIELD REDEVELOPMENT

Toxic Substances Control Act of 1976
This Act addresses the production, importing, distributing and processing of toxic chemicals. It requires that new chemicals are approved by the EPA prior to their entry into the market. The EPA will then determine whether the chemicals pose health or environmental threats. In addition, if a risk is deemed possible, the EPA may enact labeling requirements, production and concentration controls, and other restrictions. (Source: Document SS-FRE-25 by M. T. Olexa and Rebecca L. Trudeau, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. September 1994.)

Resource Conservation and Recovery Act (RCRA) of 1976
This Act requires that federal and state agencies receiving federal funding give priority to purchasing products containing recycled materials. (Source; EPA homepage)

Comprehensive Environmental Response, Compensation, and Liabilities Act
(CERCLA) of 1980 (SUPERFUND)
This Act placed the federal government responsible for the costs of cleanup of abandoned hazardous waste sites. (Bartsh & Collaton, 1997, p. 91). It provided for a $1.6 billion fund to be utilized for clean up if parties responsible for contamination cannot be located or cannot afford clean up. The Act expired in 1994. (Leigh and Hise, 1997, p. 38).

Superfund Amendments and Reauthorization Act (1986)
This Act authorized $8.5 billion for remediation of contaminated land. The Act requires industries to provide information on chemicals they use or dispose of. It also requires health aseessments at Superfund sites. The Act requires states or local governments to pay 10% of clean up costs for private sites, and 50% if the site was operated under a state contract. (Leigh and Hise, 1997, p. 40).

Community Environmental Response Facilitation Act (CERFA) of 1992
This Act requires federal agencies to identify clean sections of closed facilities which could be developed. . (Bartsh & Collaton, 1997, p. 42).

Public Right to Know
The Emergency Planning and Community Right-to-Know Act (EPCRA) was passed in 1986. It requires that local communities develop plans to handle emergencies relating to hazardous substances and allows public access to information regarding hazardous materials in their neighborhood. Reporting requirements outlined in this Act include inventory-related data on hazardous materials and annual reporting of the releases of listed toxic chemicals above threshold limits. ("OEPA Environmental Law Summary: Emergency Planning and Community Right-to-Know Act" DOE Office of Environmental Policy and Assistance.)

Light contamination cleanups
The 1997 draft Guidance for Developing Memoranda of Agreement Language Concerning State Voluntary Cleanup Programs assures owners of lightly contaminated property that the federal government will not be involved in cleaning up sites and will not pursue cleanup costs if the property is cleaned under an appropriate state voluntary cleanup program. Such state programs must involve the community in the cleanup, ensure that human health and the environment are protected, and ensure that the cleanup is properly implemented. The draft sets guidelines to identify the level of contamination and whether or not it poses a significant risk to humans and the environment. (Dept. of Justice, "EPA, Justice Department Propose Policy to Make it Easier for Investors to Cleanup and Redevelop Brownfields." August 1997)

Brownfields Tax Incentive
The 1997 Brownfields Tax Incentive provides tax incentives to expedite cleanup and redevelopment of brownfields in distressed areas. This initiative is effective only until January 1, 2001. Sites on EPA's National Priorities List are excluded.

Under this initiative, cleanup costs for properties in targeted areas are fully deductible in the year in which they are incurred. Historically, such costs were capitalized over time. Properties must meet specified use, geographic, and contamination requirements. The property must be held by the taxpayer incurring the eligible expenses for use in a trade or business or for the production of income, or the property must be properly included in the taxpayer's inventory. Hazardous substances must be potentially present, if not present, on the property. In addition, the property must be located in the one of the following areas:

- EPA Brownfields Pilot areas designated prior to February 1997;
- Census tracts where 20 percent or more of the population is below the poverty level;
- Census tracts that have a population under 2,000, have 75 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 20 percent or more; and
- Any Empowerment Zone or Enterprise Community and any supplemental zone designated on December 21, 1994. (Taken directly from EPA's Brownfields Fact Sheet, August 1997, "Brownfields Tax Incentive".)

National Partnership
The Brownfields National Partnership Action Agenda, announced in May 1997 by President Clinton, outlines a comprehensive approach to the assessment, cleanup, and sustainable reuse of brownfields, including specific commitments from 15 Federal agencies. $465 million is marked for investment in brownfield communities, including $165 million in loan guarantees. Agencies will provide funding for assessment, surveys, cleanup, job training, community development and housing programs, redevelopment of depressed areas, transportation needs, waterfront and coastal redevelopment, and public health policy development programs re: brownfields. In addition, a brownfields tax incentive is proposed as is the establishment of national guidelines for state voluntary cleanup programs. ("Brownfields National Partnership Action Agenda - Fact Sheet", USEPA, Office of Solid Waste and Emergency Response, May 1997)

The Asset Conservation, Lender Liability, and Deposit Insurance Protection Act of 1996
This law amends the CERCLA and Resource Conservation and Recovery Act laws. It clarifies that lenders may take certain actions concerning contaminated property on which they hold a security interest, without triggering CERCLA or RCRA liability. Permitted activities include: (1) Require the borrower to implement response actions or otherwise remedy the release or threatened release of substances that may be an environmental hazard; (2) Monitor activities or undertake inspections; (3) Insist that documents contain terms relating to environmental compliance when extending credit or entering into fiduciary agreements; (4) Conduct response actions to threatened and released hazardous substances; and (5) advise on ways to prevent the diminution of a property's value. (All or portions of this article may be downloaded or copied for private use or otherwise quoted, archived, and distributed without charge provided only that each copy so made or distributed includes the following attribution: Copyright) 1996 by Denise McClelland, Frost & Jacobs, 1100 Vine Center Tower, 333 West Vine Street, Lexington, Kentucky 40507-1634; Phone 606.254.1100; Fax: 606.253.2990)

Community Reinvestment Act (CRA)
This Act, enacted in 1977, requires banks and other lenders to make capital available in low- and moderate-income urban neighborhoods. In 1995, regulations were formatted that allow lenders to claim community development loan credits for loans made to help finance the environmental cleanup or redevelopment of an industrial site when it is part of an effort to revitalize the low- and moderate-income community in which the site is located. (EPA, "Brownfields Fact Sheet: Community Reinvestment Act (CRA)" April 1997)

1995 Superfund
This Act authorizes the establishment of Community Response Organizations (CROs) near sites on the National Priorities List (NPL), and near sites on State registries that are proposed for the NPL. These organizations will represent communities in the planning and remediation process. The Act also outlines the requirements and procedures for states to be delegated one of the categories under CERCLA.. The Act also authorizes technical and financial assistance to States to establish and expand voluntary response programs.

The Act outlines that buyers of property previously contaminated are protected from liability if they did not contribute to the contamination and had conducted inquiries on contamination prior to purchase. The Act limits liabilities of lenders or lessors that meet certain requirements. The Act does impose strict liability on a retroactive basis on owners and operators of the sites, transporters and those who arranged the transport of hazardous materials at the site. Costs of compensatory restoration are limited. (source: EPA homepage)

APPENDIX III-B

Land Value Taxation: The Basic Idea.

There are four basic resource factors in any economy: land, labor, capital (both human and physical), and entrepreneurial ability. The fundamental idea of land value taxation is that taxes should be shifted from the latter three resource factors toward the first one, land. The fundamental argument is a moral one. While the value of labor, capital and entrepreneurial ability comes from individuals and the actions they take which determine their level of productivity, the value of land itself is derived from conditions provided by nature as well as by the community as a whole. For instance, the value of a single land parcel in a busy downtown office district is sky-high, regardless of what is built upon it. This value, however, is derived from the natural scarcity of the land, coupled with the broad desire of a community to concentrate commercial and other activities in the area. Since this parcel derives its value from the investment decisions of the community as a whole, and not directly from the owner, it makes sense to return as much of this land value as possible back to the people who created it- in the form of a very high tax on the owner of the land in exchange for the privilege of developing the land and engaging in profit-making activities on it.

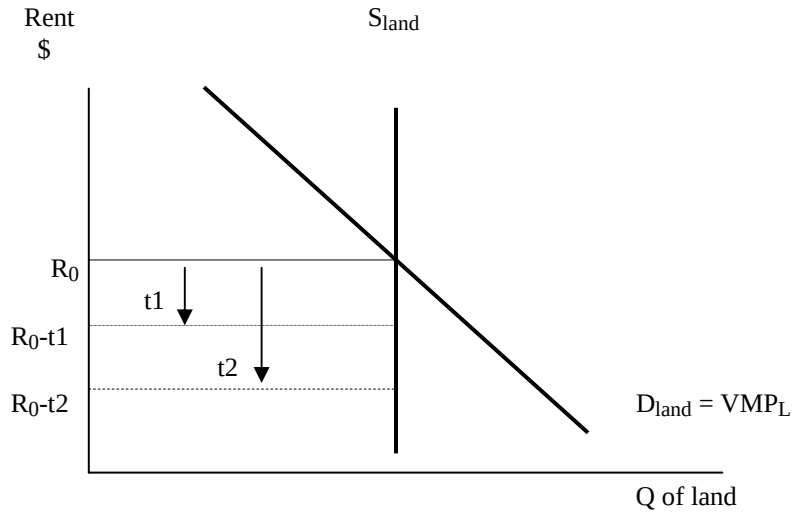
Potential Effects of a Two Tier Tax System in the Redevelopment of Brownfield Sites.

A differential property tax rate, with a higher tax on land than on buildings and other improvements, could play a significant role in encouraging the redevelopment of brownfield sites. The justification for this assertion can be illustrated using a partial equilibrium analysis. To do this, it is necessary to compare the market effect on the land portion with the market effect on the improvement (building) portion of the proposed tax system.

Market of Land.

The imposition of a higher tax rate t2 on land (t2 > t1), will not produce any change in the supply of land. This is due to the perfectly inelasticity of the supply of land. If landowners would try to shift the burden of tax to consumers, increasing the land rent to a value higher than R_0, this would produce an excess of supply, so some land would be vacant. This excess of supply would in turn makes landowners to cut prices to attract consumers. The cutting price would continue until the gap between supply and demand is eliminated. This implies that the landowner would absorb the whole increment of the tax rate of land. Figure 1 shows this impact.

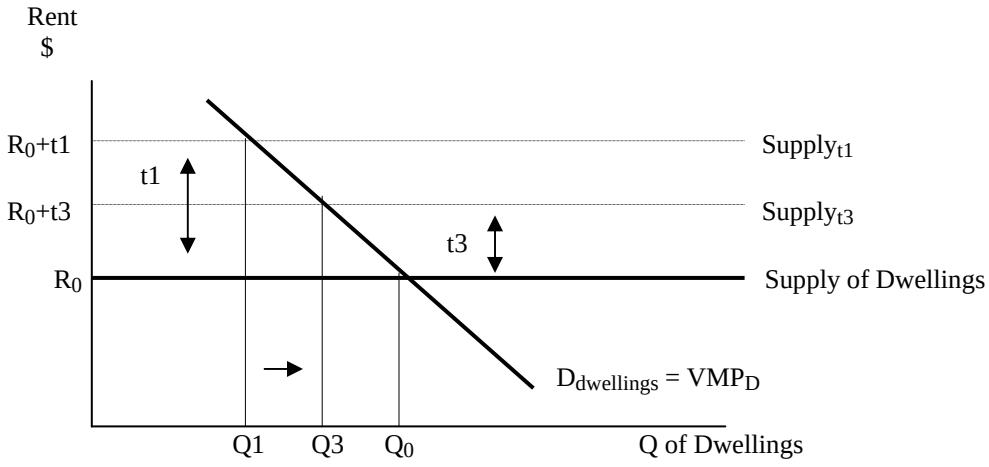
Figure 1 Market Effect of the Land Tax



Market of Dwellings.

The effect of the proposed tax system in the market of dwellings would be significantly different. It can be assumed that the supply of dwellings is perfectly elastic in the long run. Therefore, a reduction in the tax rate on dwellings (t3 < t1) would produce a shift in the supply curve of dwellings, reducing the equilibrium rent from R_0+t1 to R_0+t3, and increasing the amount of dwellings being offered from Q1 to Q3. The market value of dwellings would not change (R_0/r), since the consumer pays the total amount of taxes. Figure 2 shows this analysis.

Figure 2 Market Effects of the Improvement Tax

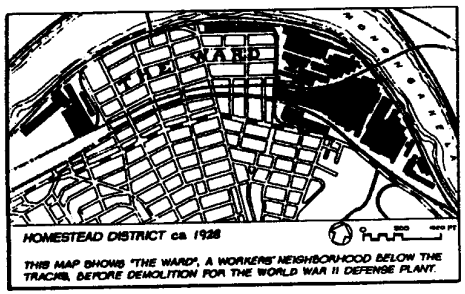


Thus, the market impact of a two tier tax system (with a higher tax rate for land and a lower tax rate for dwellings) would not produce any change neither in the rent nor in the supply of land. It would, however, reduce the rent and encourage an increase in the construction or improvement of dwellings. This development would occur on all vacant or underdeveloped land, including brownfields.

APPENDIX IV-A

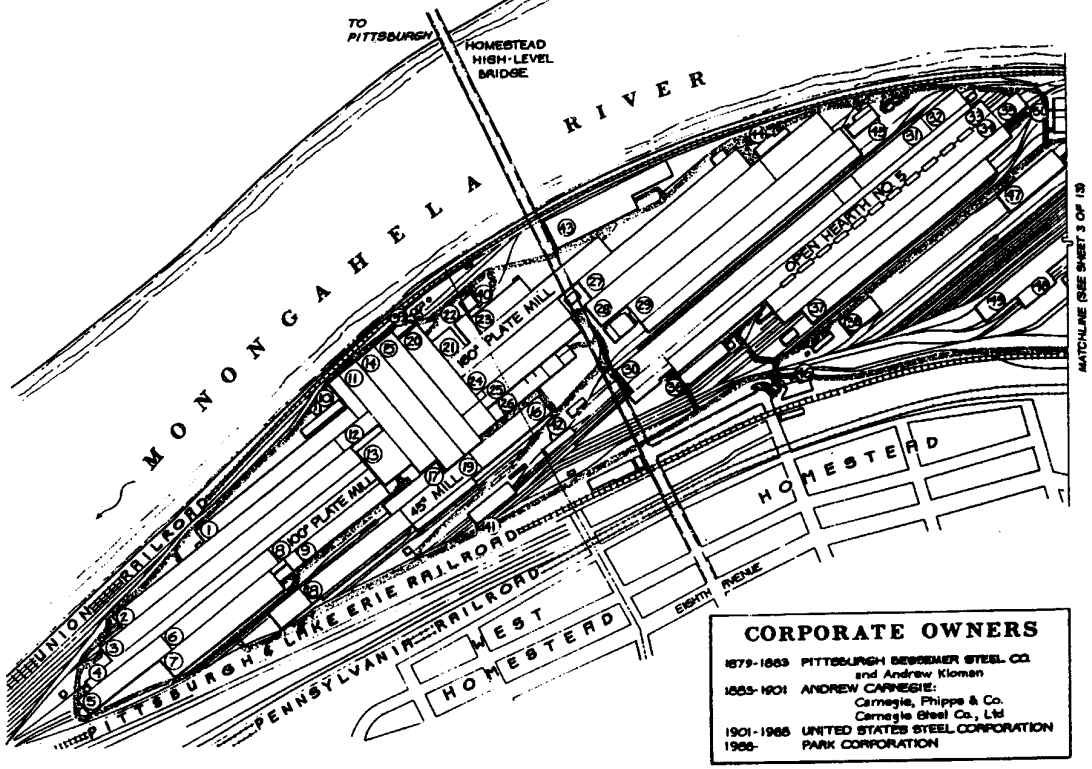
Historical Maps of Homestead Site

UNITED STATES STEEL CORPORATION
HOMESTEAD DISTRICT WORKS
1965



HOMESTEAD DISTRICT ca 1928

THIS MAP SHOWS "THE WARD", A WORKERS' NEIGHBORHOOD BELOW THE TRACKS, BEFORE DEMOLITION FOR THE WORLD WAR II DEFENSE PLANT.



CORPORATE OWNERS

1879-1883	PITTSBURGH BESSEMER STEEL CO. and Andrew Kloman
1883-1901	ANDREW CARNEGIE: Carnegie, Phipps & Co. Carnegie Steel Co., Ltd
1901-1988	UNITED STATES STEEL CORPORATION
1988-	PARK CORPORATION

HOMESTEAD WORKS

100" PLATE MILL BUILDINGS
1. NO.1 & NO.2 SHEAR
2. SHIPPING
3. SHIPPING
4. SHEAR BUILDING
5. NO.3 SHEAR
6. RUN OUT BUILDING
7. NO.4 SHEAR
8. 100" MILL
9. MOTOR ROOM
10. 100" MILL OFFICE
11. 100" MILL SLAB YARD
12. ROLL SHOP
13. CONTINUOUS FURNACE BUILDING

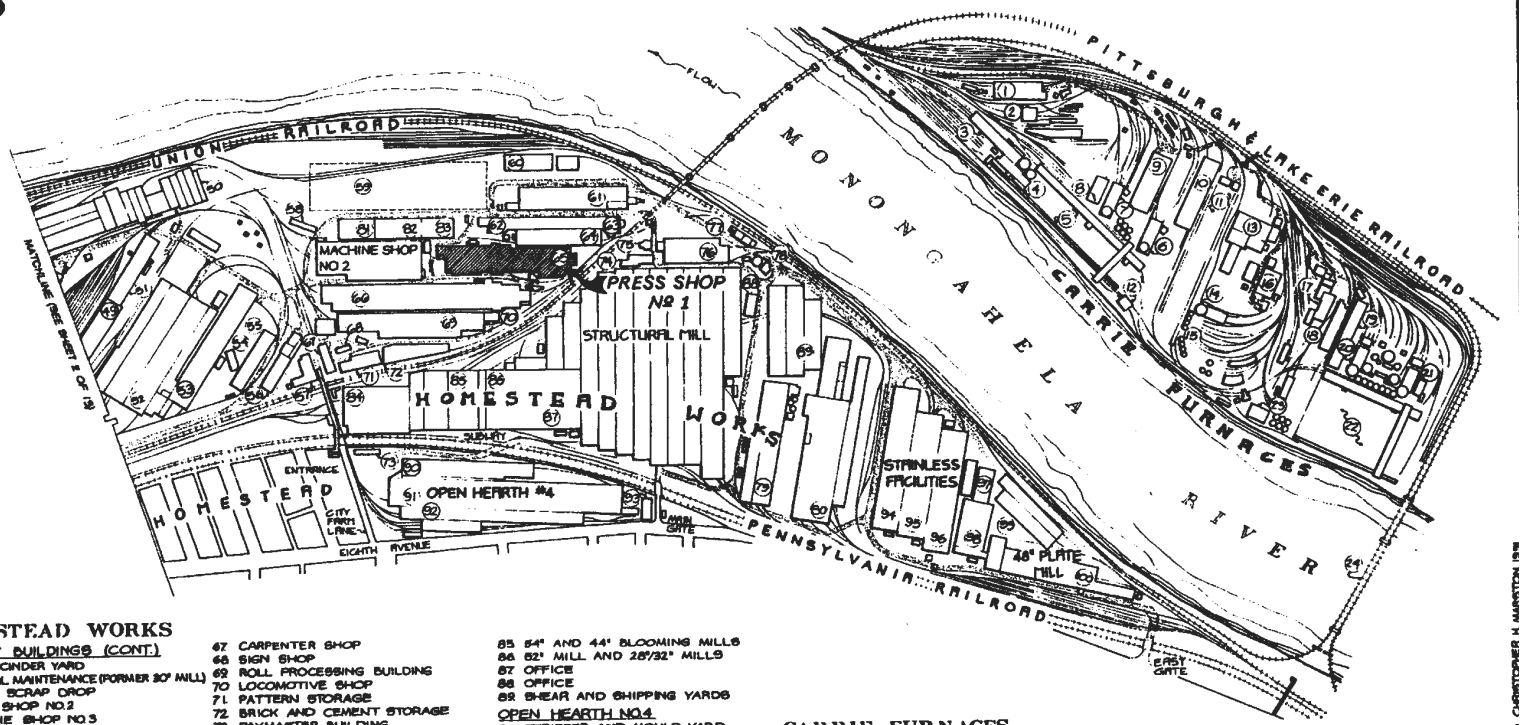
45" MILL BUILDINGS
14. SLAB YARD "A"
15. SLAB YARD "B"
16. SLAB YARD "C"
17. MOTOR ROOM
18. SOAKING PITS
19. 45" UNIVERSAL SLABBING MILL

160" PLATE MILL BUILDINGS
20. 160" MILL SLAB YARD
21. BATCH FURNACE BUILDING
22. RECIRCULATING PUMP HOUSE
23. MOTOR ROOM
24. FLAME CUTTING
25. GREEN INSPECTION BUILDING
26. 160"&45" ROLL SHOP & LOCOMOTIVE REPAIR
27. SHEAR BUILDING
28. SHIPPING
29. PLATE TREATING BUILDING

OPEN HEARTH NO.5
30. MOULD CONDITIONING
31. CINDER DROP
32. SCRAP DROP
33. TAPPING AISLE
34. CHARGING AISLE
35. MIXER BUILDING
36. FUEL TANKS
37. STOCK YARD
38. FUEL TANKS

AUXILIARY BUILDINGS
39. PUMP HOUSE NO.5
40. SLAB & PLATE MILL OFFICE
41. INGOT STRIPPER
42. MOULD SPRAY
43. FABRICATING SHOP
44. PHYSICAL TESTING LAB
45. PUMP HOUSE NO. 2
46. AMITY STREET GATE & HOSPITAL
47. NO.1 CONDITIONING BUILDING
48. INGOT STRIPPER
49. SOUTH CINDER YARD
50. CENTRAL MAINTENANCE (FORMER 30" MILL)

UNITED STATES STEEL CORPORATION
HOMESTEAD DISTRICT WORKS
1965



HOMESTEAD WORKS

AUXILIARY BUILDINGS (CONT.)
49 SOUTH CINDER YARD
50 CENTRAL MAINTENANCE (FORMER 20" MILL)
51 SOUTH SCRAP DROP
52 PRESS SHOP NO 2
53 MACHINE SHOP NO 3
54 RUBIN HALL
55 GENERAL OFFICE BUILDING
56 STORE ROOM NO 2
57 CONSTRUCTION WAREHOUSE
58 PAINT SHOP
59 SITE OF OPEN HEARTH NO 3
60 MACHINE SHOP NO 1 ANNEX, "1845 LITTLE SHOP"
61 MACHINE SHOP NO 1, "BIG SHOP"
62 ELECTRIC DEPARTMENT
63 BLACKSMITH SHOP
64 CHIPPING YARD
65 PRESS SHOP NO 1
66 HARVEY SHOP
67 CARPENTER SHOP
68 SIGN SHOP
69 ROLL PROCESSING BUILDING
70 LOCOMOTIVE SHOP
71 PATTERN STORAGE
72 BRICK AND CEMENT STORAGE
73 PAYMASTER BUILDING
74 ROLL STORAGE
75 CHEM LAB
76 MAIN ROLL SHOP
77 PUMP HOUSE NO 1
78 WATER TOWER
79 FLAME CUTTING & CONDITIONING
80 140" PLATE MILL BUILDING

MACHINE SHOP NO 2
81 VERTICAL FURNACE BUILDING
82 EXTENSION
83 EXTENSION NO 2

STRUCTURAL MILL
84 PIT FURNACES
85 54" AND 44" BLOOMING MILLS
86 32" MILL AND 28/32" MILLS
87 OFFICE
88 OFFICE
89 SHEAR AND SHIPPING YARDS

OPEN HEARTH NO 4
90 STRIPPER AND MOULD YARD
91 FURNACE BUILDING
92 STOCK YARD
93 INCLINE TRANSFER BUILDING

STAINLESS FACILITIES
94 ARMOR PLATE PROCESSING
95 SHIPPING
96 STAINLESS PROCESSING

48" PLATE MILL
97 SLAB YARD
98 FURNACE BUILDING
99 48" MILL BUILDING
100 SHEAR & SHIPPING BUILDING

CARRIE FURNACES

1 LADLE HOUSE
2 PIG CASTING
3 ORE THAWING SHED
4 SINTERING PLANT
5 ORE YARD
6 BLAST FURNACE NO 6
7 BLAST FURNACE NO 7
8 SLAG TREATMENT
9 BOILER SHOP
10 SPARE STORAGE
11 ORE YARD
12 CAR DUMPER
13 NO 3 POWER PLANT
14 BLAST FURNACE NO 1
15 SITE OF BLAST FURNACE NO 2
16 CARRIE MACHINE SHOP
17 PUMP HOUSE
18 TURBO-GENERATOR BUILDING
19 BOILER HOUSE
20 BLAST FURNACE NO 3
21 BLAST FURNACE NO 4
22 ORE YARD
23 WATER PLANT
24 HOT METAL BRIDGE

APPENDIX IV-B

Historical Map of Duquesne Site

UNITED STATES STEEL CORPORATION

DUQUESNE WORKS 1984 SITE PLAN

BLAST FURNACE PLANT
1. FERROMANGANESE CAR PREPARATION BUILDING
2. CAR DUMPER BUILDING
3. BRICK SHED NO. 1
4. BRICK SHED NO. 3
5. IRON DESULPHURIZATION BUILDING
6. NEW LADLE HOUSE
7. THICKENER NO. 1
8. THICKENER NO. 2
9. EVAPORATIVE WATER TREATMENT FACILITY
10. NONEVAPORATIVE WATER TREATMENT FACILITY
11. BLOW ENGINE HOUSE NO. 1
12. FERROMANGANESE GAS CLEANING PLANT
13. CAR REPAIR SHOP
14. BLOW ENGINE HOUSE NO. 2
15. BLOW ENGINE HOUSE NO. 3
16. BLAST FURNACE NO. 1
17. BLAST FURNACE NO. 2
18. BLAST FURNACE NO. 3
19. BLAST FURNACE NO. 4
20. DOROTHY SIX BLAST FURNACE
21. BLAST FURNACE OFFICE
22. ORE YARD
23. ORE BRIDGE NO. 3
24. ORE BRIDGE NO. 4
25. ORE, LIMESTONE AND COKE TRESTLE

OPEN HEARTH
26. MIXER BUILDING
27. FURNACE BUILDING
28. MOULD CONDITIONING BUILDING
29. MAIN OFFICE BUILDING
30. REMAINS OF GAS PRODUCER BUILDING

BASIC OXYGEN PLANT (BOP)
31. FLUX HANDLING AND STORAGE BUILDING
32. MOULD CONDITIONING BUILDING
33. HOT METAL SHED
34. CINDER YARD
35. SKULL CRACKER
36. CLEAN STEEL PRODUCTION BUILDING
37. INDOOR SUB STATION
38. SLAG SEPARATION BUILDING

ELECTRIC FURNACE PLANT
39. OFFICE BUILDING AND CHEMICAL LAB
40 OUTDOOR ELECTRICAL SUB STATION

PRIMARY ROLLING MILL
41. STRIPPER BUILDING
42. SOAKING PITS
43. BLOOM MOTOR ROOM
44. ROLL SHOP
45. SPARE ROLL SHED
46. BILLET MOTOR ROOM
47. SCALE AND SCRAP BUILDING
48. SHIPPING BUILDING
49. PRODUCTION PLANNING/BLOOMING MILL
50 STEEL CONDITIONING BUILDING
51. MAIN ROLL SHOP
52. 21" STEEL INSPECTION BUILDING
53. SHIPPERS AND INSPECTORS OFFICE
54. 21" MILL CONDITIONING BLDG
55. 40" MILL SHIPPING BLDG

TWENTY TWO-INCH BAR MILL
56 BLOOM YARD
57. FURNACE BUILDING
58 BAR STOCKING AND FINISHING BUILDING
59. SHIPPING BUILDING NO. 1
60. SHIPPING BUILDING NO. 2
61. SHIPPING BUILDING NO. 3
62. OFFICE BUILDING
63. GENERAL OFFICE BUILDING
64 SPARE PARTS STORAGE BUILDING
65. WATER TREATMENT FACILITIES

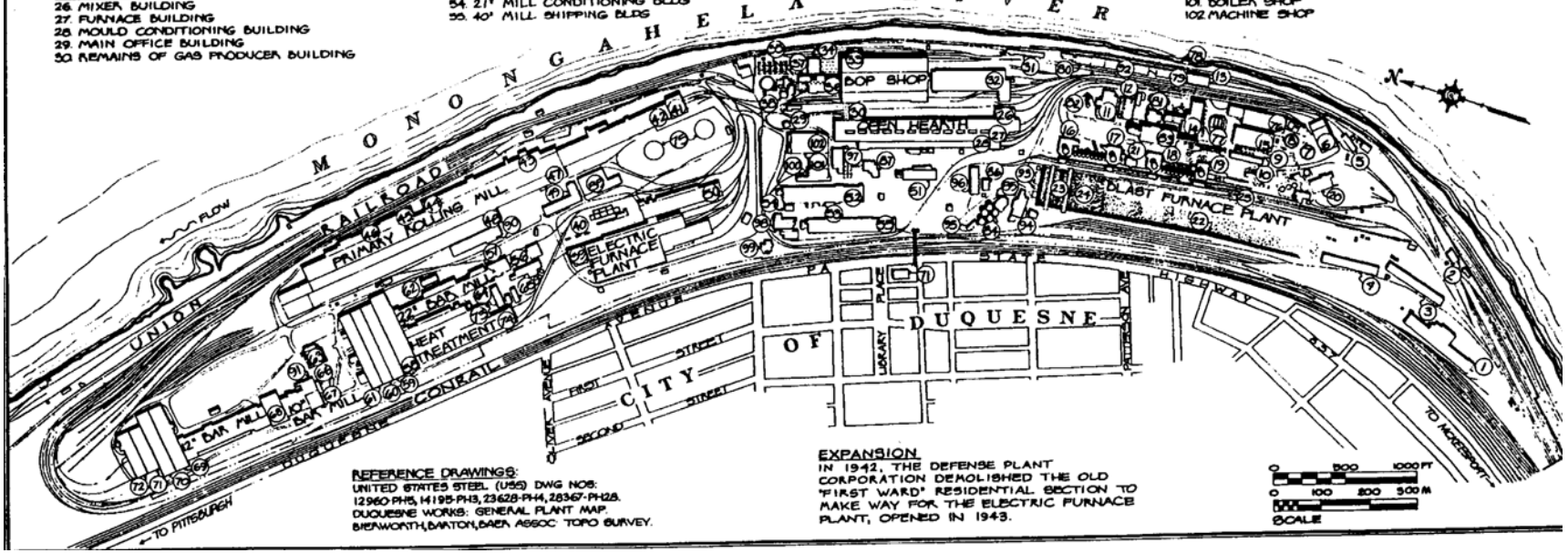
TEN INCH BAR MILL
66 INDOOR/OUTDOOR SUB STATION
67. BILLET STORAGE ROOM

TWELVE INCH BAR MILL
68 BILLET STORAGE BUILDING
69. SHIPPING BUILDING NO. 1
70 SHIPPING BUILDING NO. 2
71. SHIPPING BUILDING NO. 3
72. BAR BENDING BUILDING

HEAT TREATMENT PLANT
73. HEAT TREATING AND FINISHING BUILDING
74. WEST HEAT TREATING BUILDING

POWER, FUEL AND UTILITIES
75 4 MILLION GALLON FUEL OIL TANKS
76. ELECTRIC POWER HOUSE NO. 2
77. REMAINS OF BOILER HOUSE NO 5
78 RIVER INTAKE SCREEN HOUSE
79. GENERAL PUMP HOUSE
80 GENERAL UTILITIES OFFICE BUILDING
81. LINDE OXYGEN MAKING FACILITIES
82. LIQUID OXYGEN STORAGE FACILITY
83. CENTRAL BOILER HOUSE
84 BOILER WATER TREATMENT REACTION TANKS
85 BOILER WATER TREATMENT FILTER BUILDING
86 SUB STATION NO 3
87. AIR COMPRESSOR/RECEIVER BUILDING

AUXILIARY BUILDINGS
88 MAIN OFFICE BUILDING
89. METALLURGICAL LABORATORY
90 TRACTOR REPAIR SHOP
91. CRAFT APPRENTICE TRAINING CLASSROOM
92. ARMATURE AND WELDING SHOP
93. MILLWRIGHT AND INSPECTOR OFFICE BLDG
94. STORE HOUSE
95 GAS CYLINDER STORAGE BUILDING
96 TOOL SHED AND LOCKER ROOM
97. BLACKSMITH SHOP
98 PATTERN STORAGE/CARPENTER SHOP
99. MAIN GATE HOUSE AND HOSPITAL
100LOCOMOTIVE REPAIR SHOP
101 BOILER SHOP
102 MACHINE SHOP



REFERENCE DRAWINGS:
UNITED STATES STEEL (USS) DWG NOS:
12960-PH5, 14195-PH3, 23628-PH4, 28367-PH28.
DUQUESNE WORKS: GENERAL PLANT MAP.
BEAVORTH, BARTON, BAER ASSOC. TOPO SURVEY.

EXPANSION
IN 1942, THE DEFENSE PLANT CORPORATION DEMOLISHED THE OLD "FIRST WARD" RESIDENTIAL SECTION TO MAKE WAY FOR THE ELECTRIC FURNACE PLANT, OPENED IN 1943.

Appendix IV-C

Zoning

Homestead and Munhall

According to Section 606.1 of Homestead's zoning ordinance,

> The purpose of these regulations is to facilitate the development and redevelopment of large under-utilized or vacant former industrial sites which may be suitable for a variety of new uses if their arrangement and design are carefully planned. It is the intent of these provisions to allow considerable flexibility in uses and in the arrangement and intensity of uses in the PERD while assuring that:
>
> a) uses within the district are…compatible…;
> b) all necessary utilities…are provided in accordance of the Borough Subdivision and Land Development ordinance;
> c) negative impacts on the natural environment are avoided;
> d) provision is made for the safe movement of people, goods and vehicles without increasing congestion…;
> e) each building site has adequate space for parking, for safe pedestrian movement…;
> f) the improvement of land and land uses within the PERD does not adversely affect existing development in adjacent areas.

Other RDD and PERD regulations include:

- Community Development Objectives
  - physical integration with the larger community
  - the use of the river as a scenic and recreational resource
  - economic development ideas that provide employment to community residents and contribute to the creation of a diversified community job base.
  - preservation of significant historic structures

Summary of Current Homestead Site Zoning

	Homestead PERD	Munhall RDD	West Mifflin I - 1
Permitted Uses		• art, music or photographic studios • business services • department stores • eating and drinking establishments • essential public services • financial institutions • hospitals • hotels/motels • offices • passive recreation • public parking garages • retail business • shopping centers • theater	• any production, manufacturing, assembly, processing, cleaning, testing, repair, storage or distribution of materials, goods, food stuffs • rail freight terminal or switching yard • essential services • wholesale distribution or storage • any gasoline service station • commercial facility or use permitted in C-1 district
Conditional Uses	• manufacturing and assembly of products • printing • food processing • offices • building contracting and construction related businesses • general commercial establishments • transportation uses, excluding rail freight yards • public uses and buildings • libraries, museums • schools • hotels, motels • retail businesses • planned residential development	• distribution facilities • light industry • marinas • recreational facilities • residences - townhouse of garden apartments • telecommunications signal receiving, transmission or relay tower • storage and warehousing	
Uses by Special Exception		• automotive, mobile home, boat, camper or trailer sales or services	
Prohibited Uses	• acetylene gas manufacture • acid manufacture • aggregate processing • bulk storage • coke ovens • collection, processing or storage of waste materials • junk yards • stock yards • tire recycling • toxic or hazardous chemical plants • any use identified as producing hazardous waste of any kind pursuant to RCRA.	• heavy industrial uses and facilities • wholesale facilities • any use identified as producing hazardous waste of any kind pursuant to RCRA.	• automobile wrecking yards • manufacturing of acids, coke coal products, explosives • storage of explosives

Sources: Homestead, Munhall, West Mifflin Zoning Ordinances

Duquesne CCD permitted uses include:

- textile mills and products
- saw and planning mills
- furniture and fixtures
- rubber and plastic products
- fabricated metal products
- transportation equipment
- printing and publishing
- wholesale business, warehouse or storage facility
- building or administrative offices

CCD Conditional uses include:

- research and development
- testing laboratories
- marina
- railroad trackage, station, freight yards
- helicopter landing
- hotel/motel
- eating/drinking establishment
- public or non-profit recreation
- public/essential service

Summary of McKeesport Zoning

	RDM	I-1	RDY
Current description	• mostly rail uses • rail tracks • some small buildings • waterfront access • little or no vehicular access • little or no pedestrian access	• several huge industrial buildings • warehouses • waterfront access • rail access • vehicular access • pedestrian access	• marina • park • waterfront access • pedestrian access • vehicular access • commercial uses • residential uses?
Examples of Permitted uses	The following are authorized as permitted uses on lots within a PUD which has been approved in accordance with Section 307: Manufacturing activities including: • textile mills and products • saw mills • furniture and fixtures • costume jewelry • photographic, medical and optical goods • leather and leather products • glass and products made of purchased glass • industrial and commercial machinery • transportation equipment • printing and publishing • business or administrative offices • wholesale business, warehouse or storage facility (excluding scrap, waste or hazardous materials	• any manufacturing activity that complies with the ordinance's environmental performance standards • printing and publishing • wholesale business, warehouse or storage facility (excluding scrap, waste or hazardous materials) • railroad or truck terminal • public/essential service	• public or non-profit recreational facility • public building or use • public/essential service
Examples of conditional uses	• research and development • testing laboratories • primary metal industries • marina • communications tower • hotel/motel/inn • public or non-profit recreation • public use or building • eating/drinking establishment (except fast food)	• research and development • testing laboratory • salvage yard • wholesale business; warehouse or storage of hazardous materials • communications tower	• townhouse dwelling • mutifamily dwelling • retail establishment • eating/drinking establishment • business, professional, medical office • museum or art gallery • exhibition hall or conference center • theater • communications tower • hotel/motel • institutional facility • marinas • shopping center • street vendors • commercial recreation • parking lot/garage

Source: City of McKeesport Zoning Ordinance

Table 1 Population, 1960-1990						
Municipality	**1960**	**1970**	**1980**	**1990**	**Change, 1960-1990**	**% Change, 1960-90**
Duquesne	15019	11410	10094	8525	-6494	-43
Homestead	7502	6309	5092	4179	-3323	-44
McKeesport	45489	37977	31012	26016	-19473	-43
Munhall	17312	16674	14532	13158	-4154	-24
West Homestead	4155	3789	3128	2495	-1660	-40
West Mifflin	27289	28070	26279	23644	-3645	-13
Whitaker	2130	1697	1615	1416	-714	-34
TOTAL	**120826**	**107866**	**93702**	**81393**	**-39493**	**-33**
Allegheny County	1,628,587	1605,016	1,450,085	1,336,449	-113,636	-7.8

Source: United States Census

Table 2 Racial Composition									
	1970			**1980**			**1990**		
Municipality	**White**	**A-A**	**Minority, % of Pop**	**White**	**A-A**	**Minority, % of Pop**	**White**	**A-A**	**Minority, % of Pop**
Duquesne	9533	1847	16.5	7665	2352	24.1	5813	2624	31.8
Homestead	4550	1735	27.9	3173	1877	37.7	2277	1828	45.5
McKeesport	33973	3935	10.5	26586	4212	14.3	21310	4482	18.1
Munhall	16603	48	.4	14443	53	.6	12952	154	1.6
West Homestead	3674	109	3.0	2984	118	4.6	2357	111	5.5
West Mifflin	26478	1550	5.7	24560	1628	6.5	21793	1761	7.8
Whitaker	1690	7	.4	1602	12	.8	1387	27	2.0
TOTAL	**96501**	**9231**	**8.9**	**81013**	**10252**	**11.7**	**67889**	**10987**	**14.5**
Allegheny County	1455303	144545	9.3	1286603	150246	11.3	1169452	149550	12.5

Source: United States Census

Table 3
Age Composition

	Median Age				% Under 18				% 65+			
Municipality	**1970**	**1980**	**1990**	**% Chg, 1970-90**	**1970**	**1980**	**1990**	**Change 1970-90**	**1970**	**1980**	**1990**	**Change 1970-90**
Duquesne	38.6	34.7	36.6	-5.2	27.8	25.2	24.5	-3.3	14.3	18.2	22.8	8.5
Homestead	43.2	43.2	38.9	-11.1	25.0	20.1	21.1	-4.9	19.2	24.0	23.4	4.2
McKeesport	38.1	36.4	38.5	-5.2	28.4	23.4	22.4	-6.0	14.5	17.9	23.2	8.7
Munhall	37.6	39.5	40.8	8.5	28.0	20.3	19.3	-8.7	13.0	17.5	24.4	11.4
West Homestead	33.9	39.2	42.5	25.4	31.7	21.2	16.4	-15.3	8.1	13.1	20.9	12.8
West Mifflin	31.8	35.4	39.6	24.5	33.6	23.6	20.0	-13.6	6.6	11.6	19.9	13.3
Whitaker	36.1	36.6	39.0	8.0	28.6	22.8	19.8	-8.8	11.0	17.2	21.6	10.6
Allegheny County	32.1	35.7	36.7	14.3	31.8	23.9	21.1	-10.7	11.0	13.8	17.4	6.4

Source: United States Census

Table 4
Employment Status, 1970-1990

	Persons in Labor Force			% in Labor Force			% Unemployed		
Municipality	**1970**	**1980**	**1990**	**1970**	**1980**	**1990**	**1970**	**1980**	**1990**
Duquesne	4252	3800	3079	49.0	48.0	46.5	5.8	11.8	14.7
Homestead	2354	1903	1484	47.8	45.0	44.1	5.7	14.0	11.3
McKeesport	14119	12406	9964	49.3	50.0	47.5	5.5	12.0	13.7
Munhall	6398	6295	5577	50.8	52.4	51.2	2.9	6.4	5.7
West Homestead	568	1486	1159	50.8	57.7	57.5	7.9	8.1	8.0
West Mifflin	10708	11953	11054	54.1	57.0	57.1	3.9	7.5	7.4
Whitaker	630	624	621	47.2	48.0	53.4	6.7	6.1	7.2
TOTAL	**39029**	**38467**	**32938**	**50.6**	**52.1**	**51.2**	**4.7**	**9.5**	**9.9**
Allegheny County	618273	665467	647028	53.5	57.6	59.7	4.1	7.2	6.3

Source: United States Census

Table 5
Employment By Industry Group, 1970 and 1990

	Manufacturing				Wholesale & Retail				Professional & Related Services				All Others			
	1970	**1990**	**% Chg, 70-90**	**% Tot, 1990**	**1970**	**1990**	**% Chg, 70-90**	**% Tot, 1990**	**1970**	**1990**	**% Chg, 70-90**	**% Tot, 1990**	**1970**	**1990**	**% Chg, 70-90**	**% Tot, 1990**
Duquesne	1793	239	-86.7	9.1	702	670	-4.6	25.6	524	817	55.9	31.2	978	889	-9.5	34.0
Homestead	743	143	-80.8	10.9	419	245	-41.5	18.6	455	427	-6.1	32.4	602	502	-16.6	38.1
McKeesport	5081	932	-81.7	10.9	2881	2240	-22.2	26.2	2082	2509	20.5	29.3	3265	2872	-12.0	33.6
Munhall	2516	588	-76.6	11.2	1010	1380	36.6	26.4	880	1430	62.5	37.2	1795	1845	2.8	35.1
West Homestead	221	101	-54.3	9.5	117	280	139.3	26.3	56	306	446.4	28.7	129	379	193.7	35.6
West Mifflin	4645	1182	-74.6	11.6	1637	2483	51.7	24.4	1402	2956	110.8	29.0	2592	3567	37.6	35.0
Whitaker	265	81	-69.4	14.1	102	119	16.7	22.0	43	153	255.8	26.6	178	215	20.8	37.3
TOTAL	**15264**	**3266**	**-78.6**	**11.0**	**6868**	**7417**	**7.4**	**25.1**	**5442**	**8598**	**58.0**	**29.1**	**9539**	**10269**	**7.7**	**34.7**
Allegheny County	…	…	-35.6	12.2	…	…	1.7	23.1	…	…	33.9	29.5	…	…	3.0	35.2

Source: United States Census

Table 6
Place of Work, 1970-1990

	In Municipality			In Pittsburgh			Rest of County			Rest of Region			Other Areas		
	1970	**1990**	**% Tot, 1990**	**1970**	**1990**	**% Tot, 1990**	**1970**	**1990**	**% Tot, 1990**	**1970**	**1990**	**% Tot, 1990**	**1970**	**1990**	**% Tot, 1990**
Duquesne	...	461	17.9	649	1112	43.2	3011	920	35.7	119	36	1.4	10	47	1.8
Homestead	...	191	14.8	717	632	49.0	1352	354	27.5	15	27	2.1	11	61	4.7
McKeesport	...	3033	36.0	1292	4631	54.9	10150	339	4.0	297	321	3.8	76	107	1.3
Munhall	...	824	16.0	1685	2021	39.1	3918	2096	40.6	153	119	2.3	37	104	2.0
West Homestead	...	74	7.1	150	474	45.6	303	461	44.3	0	12	1.2	0	19	1.8
West Mifflin	...	2751	27.2	2382	3677	36.4	6736	3241	32.1	256	257	2.5	82	185	1.8
Whitaker	...	22	3.9	139	189	33.8	389	307	54.9	0	23	4.1	0	18	3.2
TOTAL	**...**	**7356**	**25.2**	**7014**	**12736**	**43.7**	**25859**	**7718**	**26.5**	**840**	**795**	**2.7**	**216**	**541**	**1.9**
Allegheny County	…	187927	31.6	271903	162580	27.3	247765	205259	34.5	18805	17972	3.0	8483	21667	3.6

Source: United States Census

Table 7
Income Measures
in 1996 dollars

	Median Family Income ($)				Per Capita Income ($)			
Municipality	**1969**	**1979**	**1989**	**% Change, 1969-89**	**1969**	**1979**	**1989**	**% Change, 1969-79**
Duquesne	32,406	36,922	26,922	-16.9	11,654	13,504	10,638	-8.7
Homestead	33,209	27,892	25,808	-22.3	11,017	12,478	9,574	-13.1
McKeesport	36,603	37,076	29,549	-19.3	12,021	13,924	11,423	-5.0
Munhall	41,726	47,937	37,677	-10.0	13,637	16,781	14,728	8.0
West Homestead	41,462	48,305	36,851	-11.1	13,487	16,799	14,908	10.5
West Mifflin	44,051	48,719	40,368	-8.4	12,889	16,532	16,046	24.5
Whitaker	37,850	41,381	34,052	-10.0	11,201	14,937	14,785	32.0
Allegheny County	...	46,486	44,732	-3.8	...	17,286	19,133	10.7

Source: United States Census

Table 8
Poverty Measures, 1969-1989

	Families In Poverty						Persons in Poverty					
	1969		**1979**		**1989**		**1969**		**1979**		**1989**	
Municipality	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**
Duquesne	342	11.0	367	13.5	545	24.1	1637	14.4	1809	17.9	2157	25.5
Homestead	225	13.7	224	17.2	257	25.2	1149	18.3	1156	22.7	1314	31.6
McKeesport	1129	11.2	929	11.1	1396	20.6	5720	15.0	4438	14.4	6018	24.2
Munhall	214	4.6	186	4.5	205	5.7	1092	6.6	924	6.4	1022	7.9
West Homestead	67	6.5	90	9.5	87	12.2	328	8.5	377	12.0	419	16.8
West Mifflin	342	4.5	415	5.4	603	8.5	1626	5.8	1727	6.6	2356	10.0
Whitaker	36	7.3	19	4.0	36	8.7	146	7.9	84	5.2	147	10.4
TOTAL	**2355**	**8.2**	**2230**	**8.7**	**3129**	**14.6**	**11698**	**10.8**	**10515**	**11.2**	**13433**	**16.5**
Allegheny County	…	…	25975	6.7	31320	8.7	…	…	130177	9.2	150713	11.5

Source: United States Census

Table 9
Rates for Reports of Serious Crimes[a]
per 1000 persons

Area	1981	1985	1988	1991	1995
Duquesne	49.53	32.66	63.62	64.87	70.85
Homestead	49.09	39.83	35.04	52.88	…
McKeesport	58.07	39.48	31.59	44.36	39.76
Munhall	14.52	12.07	13.85	24.09	27.40
West Homestead	18.22	17.06	24.44	32.06	29.83
West Mifflin	31.13	33.36	39.54	37.39	40.55
Whitaker	8.67	26.33	…	…	21.97
TOTAL	**39.79**	**31.64**	**34.65**	**41.13**	**40.64**
City of Pittsburgh	74.91	70.20	78.19	83.84	59.58
Allegheny County	40.57	35.18	36.46	39.00	29.73
Pennsylvania	36.76	30.21	32.60	34.78	31.35

A: Serious crimes include murder, manslaughter, rape, robbery, burglary, assault, larceny, vehicle theft and arson.
Source:

Table 10
Median Housing Value, 1980-1990
in 1990 dollars

Municipality	1980	1990	Change, 1980-1990	% Change, 1980-1990
Duquesne	$39,065	$27,000	-$12,065	-30.9
Homestead	$35,095	$25,300	-$9,795	-27.9
McKeesport	$39,382	$27,800	-$11,582	-29.4
Munhall	$57,803	$42,300	-$15,503	-26.8
West Homestead	$70,031	$50,500	-$19,531	-27.9
West Mifflin	$65,584	$49,100	-$16,484	-25.1
Whitaker	$45,893	$36,700	-$9,193	-20.0
Allegheny County	$69,078	$57,100	-$11,978	-17.3

Source: United States Census

Table 11 Fiscal Stress Rankings			
Municipality	**1981**	**1991**	**1993**
Duquesne	20	6	5
Homestead	49	3	2
McKeesport	12	7	7
Munhall	29	18	18
West Homestead	68	44	46
West Mifflin	99	83	87
Whitaker	7	20	23

Source: Miller et al