



*A partnership among Keystone College, King's College, Luzerne County Community College, Marywood University, Misericordia University, Penn State Wilkes-Barre, The Commonwealth Medical College, University of Scranton & Wilkes University*

**May 2013**

## **Brownfield Development**

### **Definition**

Brownfields development involves the expansion, redevelopment or potential reuse of real property that may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.<sup>1</sup> It is yet another way to combat urban sprawl and revitalize parts of a city. Developing Brownfields often has many environmental and economic benefits.

### **Description/Summary**

A clear benefit of Brownfields development is the cleanup of an abandoned or unused plot of land. While a study of Brownfield sites in Baltimore makes a connection between at-risk areas for respiratory illnesses and environmentally degraded Brownfield sites,<sup>2</sup> developing Brownfields can actually improve air quality. As demonstrated by case studies in Baltimore and Dallas, Brownfield reuse can reduce the number of vehicle miles traveled, which, in turn, reduces vehicle emissions.<sup>3</sup> By resisting the temptation to develop suburbs, cities can reap valuable environmental and health benefits.

It has been found that developing Brownfields can also reduce infrastructure and utility costs by utilizing existing resources in already developed areas. The Center for Neighborhood Technology published a study, which found that infrastructure costs at suburban or "Greenfield" sites are five to ten times higher than those at Brownfield sites. Another study conducted by the International Economic Development Council in 1999 reported that 45

---

<sup>1</sup> (2011). Brownfields and land revitalization. Environmental Protection Agency. Retrieved from <http://epa.gov/brownfields/overview/glossary.htm>

<sup>2</sup> Paul, Evans. "THE ENVIRONMENTAL AND ECONOMIC IMPACTS OF BROWNFIELDS REDEVELOPMENT." 2008.

<sup>3</sup> Ibid.

percent of Brownfield redevelopment projects had no infrastructure costs.<sup>4</sup> This type of development can be very appealing to municipalities, as it helps to use resources as efficiently as possible.

Brownfields development doesn't just save money, but can make money for a municipality. The Office of Solid Waste and Emergency Response studied 25 Brownfield sites and found that the median increase in property tax revenue realized from redevelopment was \$1 million. In one case, property tax revenue increased by more than \$20 million.<sup>5</sup> There is also the possibility that investment in Brownfield sites can stimulate more investment in the surrounding region, which could lead to higher property values and the revitalization of an area once plagued by the unpleasant sight of an abandoned industrial or commercial property. Increased land values can result in more money for schools, parks, transit, and other community services and amenities. As demonstrated by the diversity of Brownfield projects across the country, recycled Brownfields can transcend their prior uses. Former industrial properties, if properly remediated, can become prime locations for new housing, business incubators, or even productive green space, such as community gardens or urban farms.<sup>6</sup> Total savings on infrastructure costs, air quality and community health improvement, and increased tax revenue have made Brownfield development popular among cities trying to manage growth. Beyond employment opportunities created once a Brownfield has been restored to productive use, job creation begins at even earlier stages related to site investigation and cleanup.

### **Strategies/How to**

Community visioning is the first and most important part of the Brownfield redevelopment process. A community vision is a collective understanding among community residents and other stakeholders that leads to a broad agreement about a preferred future state. This, in turn, leads to implementation strategies involving changes in public policy and actions. Next, there must be a professional Brownfield team that will make use of people with technical expertise in Brownfield issues. With local technical expertise in assessment, cleanup, redevelopment planning, funding, permitting and other key issues, a community can facilitate both public and private sector revitalization. This approach can save time, money and uncertainty for the parties involved. In larger localities with greater resources and a number of Brownfield projects, this expertise can be brought on to the local staff. In smaller communities or areas with a more limited number of Brownfields, the locality can contract technical

---

<sup>4</sup> Ibid.

<sup>5</sup> Kris Wernstedt. (n.d.). Retrieved from [http://yosemite.epa.gov/EE/epa/eed.nsf/ec2c5e0aaed27ec385256b330056025c/ba22be2fe6866d5d85256eaf0053aee9/\\$FILE/2004-06.pdf](http://yosemite.epa.gov/EE/epa/eed.nsf/ec2c5e0aaed27ec385256b330056025c/ba22be2fe6866d5d85256eaf0053aee9/$FILE/2004-06.pdf)

<sup>6</sup> Emily Rice. (n.d.). Retrieved from <http://www.planning.org/research/brownfields/pdf/brownfieldsguide.pdf>

expertise with experience in local Brownfields revitalization; this could potentially be funded by EPA assessment grants.

Primary developers will likely begin the redevelopment process by identifying potential sites for redevelopment. One of the greatest barriers for any Brownfield redevelopment project is the threat of liability for contamination. In order to protect each other from liability, Brownfield developers must conduct an investigation into the property's background. This formal investigation consists of a two-part environmental site assessment. The first part, known as a Phase I environmental site assessment, is an investigation of the potential for contamination based on the property's historic use. If this assessment reveals a high probability of contamination, a Phase II environmental site assessment is necessary to confirm and evaluate such contamination's extent of contamination.<sup>7</sup> The goal of a Phase II assessment is to learn as much as possible about the site's suspected contamination. If initial sampling confirms that there is on-site contamination, additional testing is required to determine the types of contaminants, concentration levels, and the pollution boundaries. Developers use this information to estimate cleanup costs, which will likely determine whether to proceed with the real estate transaction.

Before investing in site cleanup, a CBO will want to perform a reuse, also known as end use, assessment to determine which redevelopment scenarios may be compatible with a given Brownfield property. Such assessment can help determine the constraints and opportunities presented by a specific site.<sup>8</sup> Also, local zoning regulations specify what uses are allowed for a given parcel of land. For example, if a Brownfield is currently zoned for commercial or industrial use, redevelopment options may be greater, from an economic perspective, than if the site is zoned exclusively for residential use. Zoning also controls the potential intensity of use by limiting the size and placement of structures or activities. If a site is not being used as intensely as permitted under current zoning, the future monetary value may be higher than if the site has already been developed to its maximum potential. City planning agencies also develop plans and zoning maps that define the boundaries and uses allowed in each of the city's zones. In some cases, zoning amendments are allowed for a given property.<sup>9</sup> Determining the "highest and best use" for a property can be helpful in understanding the economics of a particular site. This includes examining the value of the property before and after cleanup, the site's physical dimensions, the condition of any structures on the property, the site's current zoning, and the proximity of the Brownfield to local amenities and transportation networks. Once the CBO determines allowed uses under the zoning code, identifies goals and strategies in the city's

---

<sup>7</sup> Ibid

<sup>8</sup> Ibid

<sup>9</sup> Ibid

comprehensive plan, and assesses the suitable traditional and non-traditional uses for the city, it should consider how well these uses match the community's needs.

Lastly, depending on the results of the environmental investigations and intended reuse analysis, the CBO may have a range of cleanup options from which to choose. Choosing the appropriate option involves an analysis of legal liability, available financing, and compatibility with the end use of the property.<sup>10</sup> A cleanup plan should consider feasible cleanup goals, given the intended use, describe alternative cleanup strategies, such as removal, treatment, or containment of the contamination, provide a tentative schedule for remedial activities, and estimate the costs of the various alternatives to the extent possible. For example, a cleanup that relies on placing a clay cap on contaminated soil is likely to be much less expensive than one that involves hauling the contamination away to a landfill. This is particularly true when a CBO does not factor in the longer term costs of monitoring the clay cap, making sure it remains intact and protective by removing potential exposures to waste in place. The longer term costs of engineering controls, such as physical barriers and institutional controls like land use restrictions and deed notices, must be factored into this decision-making process and included in community decision-making. Costs, while important, may be only one factor among many in evaluating cleanup options.<sup>11</sup>

### **Case Studies**

South Side Works (LTV) was a steel plant that had operated in Texas since 1893 and housed open hearth furnaces and blooming and billet mills. In 1947, James J. Ling started an electrical construction and engineering firm in Dallas, Texas. Through a number of takeovers and mergers, Ling's company eventually became known as LingTemco-Vought (LTV). When LTV took over Republic Steel and combined with J&L to form LTV Steel Co., it became the nation's second largest steel producer. LTV was set to have a large station in Pittsburgh, Pa. All three of its manufacturing facilities were located there, including South Side Works. At its peak in the 1960s, J & L employed about 8,500 people. In 1968, LTV purchased J & L, and then merged with Republic Steel in 1985. One year later, Republic Steel was forced to close due to foreign competition. The site was purchased in 1993 by the Urban Redevelopment Authority (URA) of Pittsburgh, after the plant idled. From 1994 to 1996, the URA completed community consensus efforts related to development of the site. During 1996 and 1997, the URA continued environmental studies on the property, while completing major remediation and continued with the modeling and assessment of the groundwater on the site. By 1998, most of the site's assessments and minor environmental remediation were complete. No special conditions were

---

<sup>10</sup> Ibid

<sup>11</sup> Ibid

required for work on the site, with the exception of implementing a Health and Safety Plan and to clean up any contamination found during construction.<sup>12</sup>

During the initial stages of the project, these operations became a liability to the site's immediate development. During 1996 and 1997, the URA focused on several predevelopment efforts, including selecting a master developer to partner with, as well as completing several traffic, utility and geotechnical, and environmental remediation efforts. In 1997, the city designated special zoning for the plan, establishing the design and development goals, strategies and guidelines. The URA focused on accelerating traffic and access enhancements.<sup>13</sup> The city, county and school district adopted a Tax Increment Financing (TIF) Plan. The TIF is considered the centerpiece of public funding needed to allow development to proceed. Through the TIF, the URA generated up to \$25 million in financing proceeds to pay for public infrastructure on the \$300 million site. Such proceeds were used with other public funding to pay for and implement the project's road and infrastructure improvements and to fill funding gaps for parking structures.<sup>14</sup>

The results were a creation of mixed-use development, including office space, a sports medicine complex and practice fields, housing and retail. The site contains approximately 330,000 square feet of specialty retail, restaurants, a hotel, residential urban living units, and up to 700,000 square feet for office space. It capitalizes on the area's space by including multi-storied buildings for extra office or loft space and structured parking. In addition to the project's job creation and housing potential, public access to the riverfront will be created. A 38,000 square foot fitness center, a riverfront pavilion, a 200-room hotel, and 150-unit condominium complex are planned for the site. Also, Hofbräuhaus, a brewery, is planned to be constructed behind The Cheesecake Factory.<sup>15</sup> South Side Works is a first-class riverfront development utilizing a mix of office, medical, recreational, housing and retail space. It is a private investment of \$250 million, providing up to 5,400 employment opportunities and over 400 housing units. The project's initial development resulted in approximately 1,500 jobs.<sup>16</sup>

### **Definition of Frequently Used Terms**

*Tax Increment Financing (TIF)* is a public financing method that is used as a subsidy for redevelopment, infrastructure, and other community-improvement projects in many countries, including the United States. TIF is a method to use projected future gains in taxes to justify current improvements intended to create the conditions for the projected gains.

---

<sup>12</sup> Saavedera, Loreto. "SOUTHSIDE WORKS." 2007.

<sup>13</sup> Ibid

<sup>14</sup> Ibid

<sup>15</sup> Ibid

<sup>16</sup> Ibid

*Zoning* is any continuous area that differs in some respect, or is distinguished for some purpose, such as housing or shopping centers.

### **Sample Policies or Legislation**

The California Land Reuse and Revitalization Act of 2004 (Health and Safety Code Chapter 6.82 and 6.83) is an example of a very successful policy. Established on January 1, 2005, it provides liability protections to bona fide purchasers, innocent landowners and contiguous property owners that are intended to promote the cleanup and redevelopment of blighted, contaminated properties. The bill establishes a process for eligible property owners to obtain immunities, conduct a site assessment and implement a response action, if necessary, to ensure that the property is ready for reuse.

The sunset date for the original CLRRRA bill, Assembly Bill 389, was set to expire in 2010. Senate Bill 143 extended the repeal date to January 1, 2017. The bill also authorized a prospective purchaser who is in contract to acquire a site and who qualifies as a bona fide purchaser to enter into a CLRRRA Agreement. The qualified bona fide prospective purchaser who enters into an agreement receives immunity upon site acquisition. Senate Bill 989 outlines provisions for a bona fide ground tenant<sup>17</sup>.

### **Resources**

The U.S. Environmental Protection Agency (EPA) provides different sources of funding. For example, assessment grants provide funding for a grant recipient to inventory, characterize, assess, and conduct planning and community involvement related to Brownfield sites. An eligible entity may apply for up to \$200,000 to assess a site contaminated by hazardous substances, pollutants, or contaminants (including hazardous substances co-mingled with petroleum) and up to \$200,000 to address a site contaminated by petroleum. Applicants may seek a waiver of the \$200,000 limit and request up to \$350,000 for a site contaminated by hazardous substances, pollutants, or contaminants and up to \$350,000 to assess a site contaminated by petroleum. Such waivers must be based on the anticipated level of hazardous substances, pollutants, or contaminants (including hazardous substances co-mingled with petroleum) at a single site. A coalition of three or more eligible applicants can submit one grant proposal under the name of one of the coalition members for up to \$ 1 million. The performance period for these grants is three years<sup>18</sup>.

Similarly, the Cleanup grant provides funding for a grant recipient to carry out cleanup activities at Brownfield sites. An eligible entity may apply for up to \$200,000 per site. Due to

---

<sup>17</sup> "Brownfields Reuse." 2007. <http://www.dtsc.ca.gov/sitecleanup/brownfields/#CALRRRA>

<sup>18</sup> "Assesment Pilots/Grants." 2010. [http://www.epa.gov/brownfields/assessment\\_grants.htm](http://www.epa.gov/brownfields/assessment_grants.htm)

budget limitations, no entity can apply for funding cleanup activities at more than three sites. Such funds may be used to address sites contaminated by petroleum and hazardous substances, pollutants, or contaminants (including hazardous substances co-mingled with petroleum). Cleanup grants require a 20 percent cost share, which may be in the form of a contribution of money, labor, material, or services, and must be for eligible and allowable costs (the match must equal 20 percent of the amount of funding provided by EPA and cannot include administrative costs). A Cleanup grant applicant may request a waiver of the 20 percent cost share requirement based on hardship. An applicant must own the site for which he is requesting funding at time of application. The performance period for these grants is three years<sup>19</sup>.

An additional funding source is the Brownfields Revolving Loan Fund (RLF) grant. The EPA announced the availability of an estimated \$7 million in FY 2012 funds. Through this grant, projects that have been previously awarded competitively under Section 104(k)(3) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) or that have transitioned to Section 104(k)(3) of CERCLA, and subject to other identified criteria are eligible to request supplemental funds.<sup>20</sup>

Many states also offer incentives, such as tax credits, to encourage the community to volunteer for clean ups. In addition, the federal Brownfields Tax Incentive encourages the cleanup and reuse of Brownfields. Under the Brownfields Tax Incentive, environmental cleanup costs are fully deductible in the year incurred, rather than capitalized and spread over time; however, it has not been renewed by Congress since 2011.<sup>21</sup>

The U.S. Department of Housing and Urban Development (HUD) also offers many grants for Brownfield projects. For example, the Community Development Block Grant (CDBG) program is one of the first tools cities turn to when trying to revitalize distressed communities. HUD awards CDBG funds directly to metropolitan cities and urban counties, or to states, for distribution to non-entitlement communities. Any activity undertaken using CDBG funds must meet one of the program's three national objectives:

- Benefit low and moderate income persons,
- Prevent or eliminate slums or blight, or
- Address conditions that present a serious and immediate threat to the health and safety of the community.<sup>22</sup>

---

<sup>19</sup> "Cleanup Grants." 2011. [http://www.epa.gov/brownfields/cleanup\\_grants.htm](http://www.epa.gov/brownfields/cleanup_grants.htm)

<sup>20</sup> "Revolving Loan Fund Grants." 2013. <http://www.epa.gov/brownfields/rflst.htm>

<sup>21</sup> "Brownfield's Tax Incentive." 2013. <http://www.epa.gov/swerosps/bf/tax/index.htm>

<sup>22</sup> "Financing Brownfield's Redevelopment." 2009.

<http://www.hud.gov/offices/cpd/economicdevelopment/programs/bedi/bfieldfinance.cfm#cdbg>

To support economic development projects, local governments may use Section 108 Loan Guarantees. This economic development loan guarantee program provides a source of financing for economic development, public facilities and large scale physical development projects and other Brownfield redevelopment activities.

HUD also offers the Brownfields Economic Development Initiative (BEDI), which provides communities with funds for the clean-up and economic redevelopment of Brownfields. BEDI funds are used to support and enhance the financial viability of projects assisted with Section 108 loan guarantee funds by helping to ensure that the projects are financially successful and able to repay the related Section 108 loan guarantee.<sup>23</sup>

---

<sup>23</sup> Ibid