



Rural **RESEARCH REPORT**

Spring 2005
Volume 16, Issue 4

Published by the Illinois Institute for Rural Affairs

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Brownfield Redevelopment: Outcomes in Illinois

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Brownfield redevelopment initiatives have existed for many years because of the normal industrial restructuring process. Businesses that closed left vacant and abandoned buildings, some with serious contamination. In communities with little demand for industrial or commercial property, these buildings or properties have sat idle for many years. A result is that many local public officials are left with blighted properties and eyesores, sometimes with major contamination representing health and safety hazards.

To complicate matters even more, fear of potential liability from purchasing and/or redeveloping brownfield sites has caused business investors to avoid some of these properties.

The situation is even worse when local public officials, especially in small towns, do not have the technical knowledge or do not understand how to effectively manage the brownfield redevelopment process. A fairly common outcome is that, unless the brownfield site is an obvious health or safety hazard or unless an owner or private developer wishes to redevelop the property, it sits idle. The attitude and approaches toward brownfield remediation and redevelopment changed during the 1990s as a strong economy caused developers to seek potential sites in strategic locations. Because many industrial properties were among the first urban developments, they are often in downtown locations with infrastructure and high-density traffic. Thus, some brownfields are strategically located for development after remediation.

Consequently, municipal officials now see brownfields as more than a contamination removal concern; instead, they see them as viable properties for development. Local officials also realized, however, that development costs associated with brownfield sites can be substantially higher,

and these costs must be offset in some way if the sites are to compete with greenfield sites on the edge of the city.

The attitude of state and federal personnel toward brownfields also has changed. These sites are increasingly recognized for their job creation and investment potential, which are important motivators for remediation and redevelopment to remove health and safety hazards. Officials also acknowledged, however, that a fear of potential liability for owners of brownfields seriously disadvantaged these sites compared with greenfield properties. Thus, legislative changes and more aggressive technical assistance programs by state agencies are helping local public officials and business developers better navigate the brownfield redevelopment process.

This report examines experiences of Illinois municipalities with brownfield redevelopment projects based on a collaborative research effort involving the Illinois Environmental Protection Agency, the Illinois Municipal League, the Western Illinois Regional Council, and the Illinois Institute for Rural Affairs (IIRA). Special attention is paid to returns to public and private investments. This report concludes with a summary of factors common in cities with successful brownfield projects.

The data gathering initiative, which began in 2000, has involved a general survey of Illinois mayors, a more focused survey of mayors in Illinois cities that enrolled in brownfield redevelopment programs, a parcel-specific survey of properties in these enrolled cities, and case studies of municipalities with successful brownfield redevelopment efforts.

In 2004-2005, IIRA led an effort to quantify and document specific outcomes from brownfield redevelopment projects in

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Illinois. This research involved personal interviews and phone contacts with local public officials and administrators to verify job creation, investments, and changes in the city tax base resulting from brownfield redevelopment. Surveys conducted in previous studies clearly show that not all brownfield

projects are aimed at economic revitalization or even job creation. Nevertheless, in identifying measures or outcomes to use in quantifying results, job creation and investments are important considerations in many, if not most, communities and, therefore, are the focus of this report.

Difficulties in Measuring Outcomes

Documenting results from brownfield redevelopment projects and comparing them among municipalities can be complicated for several reasons. First, the projects typically take several years to complete, which makes tracking the outcomes more difficult. Many projects are not yet completed or have plans for expansion, so the numbers of jobs created or retained are early projections rather than final counts. Market conditions and business plans change over time, altering the initial goals of projects as they progress. Thus, evaluations of outcomes are not easy to undertake.

Second, a comprehensive central data source for brownfield investments and results does not exist; rather, state agencies have project information as do city departments and businesses. Thus, numerous groups must be contacted to compile the information needed to document outcomes. Personnel turnover in some cities complicated gathering the necessary information since organizational memory

about specific previous agreements and transactions had been lost. Additionally, businesses qualify for a variety of tax incentives provided by multiple state agencies, making tracking incentives difficult. Tracking and placing a value on these incentives over several years can be especially difficult given concerns for privacy in business dealings.

Third, the diversity of projects undertaken is both an advantage and a complication. The effects of housing and natural resource projects are especially difficult to quantify since the desired result is not measured by investment or job creation. At the same time, however, providing high-quality housing or an excellent park or open space can lead to investment in the surrounding area that would not have occurred without the brownfield project. The neighborhood data on assessments or land values required to document these effects over time is not readily available despite the potential usefulness of such data.

Outcomes from Brownfield Projects

Many indicators can show the outcomes of brownfield redevelopment projects and have been presented by various groups depending on specific interests and purposes. Investments and employment are among the most often used in previous analyses (CUED 1999), and several national studies were reviewed for comparison.

The W. K. Kellogg Foundation (2001) published a framework with guidelines that can be used in evaluating and/or describing public projects. Specifically, the Kellogg Foundation suggested indicators reflecting five major stages or efforts: (1) inputs, (2) activities, (3) outputs, (4) outcomes, and (5) impact. The first three types of indicators are relatively easy to conceptualize and document. The final two—outcomes and impact—are more difficult to measure but are also more important for evaluating project successes.

Measuring outcomes from brownfield investments by public agencies is especially difficult because many, if not most, of the projects involve actions by private agencies. Thus, a local or state government can provide funds

and work with a business to remediate and redevelop a brownfield project; however, businesses operate according to their own timelines over which cities have no control. The process involved with starting a business venture often takes several years, and tracking outcomes is quite difficult.

Measuring the overall impact of a brownfield's redevelopment process is even more difficult due to a spatial dimension. Public investments in one part of a city can improve the investment climate in other parts, but linking the investment with a specific impact is difficult. Likewise, removing contamination and improving a neighborhood may have positive, but unintended, social and economic impacts. Health risks may be reduced, leading to increased productivity in the workplace. Crime rates may fall in the neighborhood when a blighted area is improved. New and high-paying jobs from a brownfield redevelopment project can give a neighborhood entirely new opportunities to rebuild, including housing investment. This overall process can take several years and, again, is difficult to measure.

ASTSWMO. The Association of State and Territory Waste Management Officials Organization (2004) published a set of potential indicators that could be useful for state agencies to monitor the outcomes or results from brownfields (Figure 1). These guidelines for state environmental agencies conveniently fit into five broad categories: (1) assessment and remediation outputs, (2) environmental indicators, (3) acreage, (4) social and public benefit indicators, and (5) economic indicators.

The recommended ASTSWMO performance indicators are especially useful for state agencies as they communicate with policymakers who increasingly require stronger justification to maintain public funding. In these instances, information on activities performed may allow state policymakers to compare expenditures (inputs) with activities. In several cases, the ASTSWMO indicators also reflect outputs such as housing units or square feet of redeveloped properties in commercial or industrial use. Likewise, one can argue that tax revenues generated or jobs created are output indicators; however, state agencies are unlikely to have much direct influence on the impact on a neighborhood or a city because of the brownfield investment.

CUED. In 1999, the Council on Urban Economic Development (CUED) published the findings from a major study of 107 brownfield redevelopment projects which included estimates of the costs per job retained or created, leverage, percentage of costs borne by the public sector, and other effects. The main focus of the CUED study was on jobs retained or created and on leverage from public investment.

Figure 1. ASTSWMO Selected Guidelines

<i>Assessment and Remediation Outputs</i>
Number of assessments completed
Number of cleanups completed
<i>Environmental Indicators</i>
Volume of waste removed or treated
Volume of waste managed in-place or onsite
RCRA Program Environmental Indicators
<i>Acreage</i>
Number of acres available for reuse
<i>Social and Public Benefit Indicators</i>
Public benefits (planned or in reuse, e.g., parks, schools, etc.)
Residential uses (housing units)
Commercial uses (square feet)
Industrial uses (square feet)
<i>Economic Indicators</i>
Jobs created or retained
Annual tax revenue increases—property taxes, sales taxes
State income tax revenue

Source: ASTSWMO (2004).

The CUED (1999) findings show a median public sector cost per job of \$10,998, including all local, state, and federal dollars invested (27-28), but this cost estimate does not include residential or public recreational projects.² The study also shows a median leverage of 3.41 for public investment. In other words, \$1.00 in public investment is associated with \$3.41 in private investment in projects other than those with residential and/or public recreational purposes such as parks. These benchmarks, although from several years ago, will be compared with the 2004-2005 results in Illinois.

Outcomes in Illinois

The brownfield redevelopment analyses in Illinois are based on 37 projects located in 25 municipalities with available detailed data. This information was provided in one of several mail questionnaires, with follow-up through personal interviews with local public officials or administrators as noted earlier. While every effort was made to include projects that were completed or for which detailed information was available, nine projects were still in progress and, for these, estimates of jobs, investments, or other outcomes were used. In these instances, efforts were made to obtain information from several sources to triangulate the estimate and ensure accuracy. In a few

cases, potential projects were dropped because reliable, accurate, detailed figures could not be obtained.

While major efforts to obtain complete and accurate information were made, readers should still review these figures with the caveat that the state investment figures may be understated when tax incentives and other subsidies were not completely known during the brownfield redevelopment initiatives or when they were provided in later stages of the redevelopment process. Similarly, it was not possible to allocate highway or transit improvements that also may have benefited the brownfield redevelopment projects.

² In the 1999 CUED study, two different methods were used to calculate leverage: (1) *publicly supported debt* identified as *public sector investment*, and (2) *publicly supported debt* identified as *private investment*. For our study, we have identified *publicly supported debt* as *private investment* due to the fact that the debt represents a private sector obligation that will be repaid by the private sector, and, therefore, we will use the comparable data from the CUED study.

Federal investments may be understated in some cases even though the most likely funding sources, the Economic Development Administration and Housing and Urban Development, were contacted for information. In the projects studied, the main federal investments identified involved Superfund expenditures or U.S. EPA redevelopment grants, which were received by a small number of cities in Illinois.

With these potential limitations in mind, the returns to public investment in the Illinois brownfield projects examined in this project are substantial according to the two main indicators used: (1) dollars invested and (2) expenditures per jobs created. As the businesses expand, the number of jobs created will most likely increase, and these jobs too will have multiplicative effects on the community which will drive down the investment per job created or retained.

Investments. The sizes and types of brownfield projects are diverse and an arithmetic mean is influenced by extremes; therefore, medians are presented as in other national studies, and ratios are used rather than simple dollar figures in making comparisons.

Total Investment/State Investment. The median ratio of total investment to state investment was 16.00 to 1.00, meaning that for each dollar invested by the State of Illinois, a total of \$16.00 was invested by private industry, cities, or the federal government (Table 1). In no instance is the ratio less than 1.0, meaning that the projects in which the state government was involved generated at least some investment by the local government or business. Since the assessment grants require a 30 percent match, low ratios in several cities mean that an assessment grant was received and the property was (or is) being remediated but is not far enough along to have investment by private businesses. Likewise, a contaminated property that was cleaned and converted to a park or open space may show a low dollar investment by private industry.

Private Investment/State Investment. The extent to which state government investment triggers private investment is usually of interest to policymakers. While detailed information is not available for all projects, the median for the

Table 1. Brownfield Investment Ratios

<i>Investment Ratios</i>	<i>Median</i>
Total Investment/Private Investment	1.23
Total Investment/Local Investment	5.96
Total Investment/State Investment	16.00
Total Investment/Federal Investment	23.33
*Total Investment/Federal Investment (n = 7)	
Private Investment/Local Investment	4.17
Private Investment/State Investment	7.71
Private Investment/Federal Investment	8.33
*Private Investment/Federal Investment (n = 7)	
Private Investment/Public Investment	2.41
Jobs Created/Retained (FTE)	66

*Median calculated from the seven projects reporting federal investment.

Source: IIRA Brownfield Investment and Outcomes Survey, 2004-2005, n = 37.

sample is \$7.71 of private investment (without considering multiplier effects) for each dollar of state investment. One could easily add a multiplier of 1.3 to 1.5 in most instances, which would increase the ratio substantially. Because some projects are not yet fully developed, the ratio of private to state investment will increase in the future; however, other state investments, such as employment tax credits, may not be included, which can overstate this estimate. Nevertheless, the effects are substantial.

Private Investment/Public Investment. Cities leverage local spending against private investments, and Table 1 shows that the private sector spent \$2.41 per \$1.00 of public investment. Low figures in some cities mean that although public dollars have been spent, private investment has not yet occurred or the project is a publicly supported project such as a municipal building or parking lot. Interviews with municipal officials, however, disclosed that several projects are on the verge of private investment.

The ratio of private investment per city investment is even higher (4.17). In other words, \$1.00 spent by a city generated \$4.17 in private investment but, again, with substantial differences among projects. In no instance is the ratio less than 1.0, meaning that the city spending provided a positive return in every instance.

Investment per Job Created or Retained

Number of jobs created and the public investment per job are sometimes cited in evaluating public sector projects. This approach has limited use when brownfield projects are not designed to create jobs but, instead, to remove an eyesore, to expand housing, or to facilitate a public recreational purpose. To the extent possible, these types

of projects were removed from the sample as in the CUED study reported previously.

Private Investment per Job Created or Retained. A median private investment per job created or retained of \$35,478 is shown in Table 2; however, when these businesses reach

capacity, the number of jobs will increase and can spread fixed costs over more jobs, thereby reducing the private investment per job.

State Investment per Job. The median state investment associated with each job retained or created in this sample

Table 2. Brownfield Investment per Job

Type of Investment per Job	Median
Private Investment/Job	\$35,478
Local Investment/Job	\$2,989
State Investment/Job	\$598
*Federal Investment/Job (n = 6)	\$2,168
Jobs Created/Retained (FTE)	66

*Median calculated from the six projects reporting federal investment and jobs.

Source: IIRA Brownfield Investment and Outcomes Survey, 2004-2005, n = 37.

was \$598. This ratio does not imply that an investment of \$598 by the state government caused a job to be created; however, local public officials often reported that the state investment in assessment and the technical assistance provided were crucial to project development and completion.

Estimates of the cost to the state of technical assistance provided to either the city or to businesses as they started operations were not available, so the state investment

represents mainly environmental assessment costs. In some instances, the businesses are in Enterprise Zones and qualify for sales tax exemptions on building materials, which could be considered a state investment. Detailed records were not available, however, so these exemptions are not included.

Local Government Investment per Job. The relatively limited state government financial investment is far surpassed by city governments, which may provide municipal water and sewer, parking facilities, or other investments to accommodate brownfield projects; these figures also are not included.

The median city investment per job was \$2,989, but it is difficult to apportion all of the city spending, especially technical assistance, to each project, and local public officials were not always sure of the amounts spent. The city investment per job will decrease as the businesses expand because the city investment is usually at the front end, raising the estimates.

While one is tempted to compare the costs per job with other programs, the major differences among programs and the methodologies used in calculating costs in each program make these comparisons not viable. Even within the current sample, cities differed in what is included in the various investment figures.

Lessons Learned

Several years of surveys and case studies of cities with successful brownfield redevelopment projects have documented a common set of factors. These common characteristics are discussed next.

Public-Private Partnerships. Nearly every success story identified involves a strong public-private partnership. This is usually true because businesses are interested in redeveloping the project and, in some cases, are the driving force in the redevelopment effort with the city government playing a supporting role.

Local Champion. As with most successful projects of any type, a strong local leader is needed, and this is certainly true with brownfield redevelopment. In some instances, this is a local elected official or administrator, but in other cases, it can be a business leader. Nevertheless, this person conceptualizes the project and helps guide it to development.

Address Local Needs. A strong feature of the brownfield redevelopment programs is their flexibility in meeting local needs. Some projects replace manufacturing while others are more suitable for retail or mixed residential. Still others provide parks or recreational activities. The ability of local officials and business leaders to identify the most productive use of these projects is absolutely key to their success.

Innovative Financing Approaches. Because many brownfield sites are not in active productive use when the project starts, cities can use a variety of innovative financing approaches. Tax Increment Financing was used in the vast majority of the projects examined in this study, but Enterprise Zone incentives were also commonly used, and these two programs can provide a diversity of financing alternatives. The creativity of local officials in arranging financing was important in most instances, although not all cities provided fiscal incentives to incoming businesses.

Integration into City Development Plan. Local public officials took several approaches in working with brownfield redevelopment projects. They can see the project as removing contamination or they can see it as a development asset and incorporate it into the overall economic development plan, if one exists. The most successful projects in the Illinois study followed the latter approach. Integrating brownfields into the city economic development strategy incorporates other resources into this effort and increases the probability of success.

Collaboration with Other Agencies. Essential to the success of brownfield redevelopment in Illinois cities is a strong collaboration between cities and state agencies. The importance of technical assistance and funding for assessment is seen in Illinois municipalities time and time again. This collaboration is especially important in smaller cities without full-time staff who are familiar with the brown-field regulations and procedures.

Summary

Brownfields can be a significant potential economic development asset, especially in cities with a substantial demand for developable commercial or industrial property. The prevailing attitude seems to have changed from removing contamination as a health and safety hazard to one of making brownfields a solid community economic development tool. The municipalities in this sample have effectively made this transition, and the returns to investment have been substantial.

In addition, the state government (IEPA) has been a strong partner in these community and economic development efforts. The technical assistance provided in negotiating the brownfield redevelopment process and the financial assistance used in the assessment processes have been invaluable in helping communities initiate successful brownfield redevelopment efforts.

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