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One Piece of the Puzzle: Why State Brownfields Programs Can't Lure Businesses to the Urban Cores without Finding the Missing Pieces

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ONE PIECE OF THE PUZZLE: WHY STATE BROWNFIELDS PROGRAMS CAN'T LURE BUSINESSES TO THE URBAN CORES WITHOUT FINDING THE MISSING PIECES

*Heidi Gorovitz Robertson**

U.S. EPA, state legislatures, and state administrative agencies have invested considerable time and money resources to encourage urban renewal through the redevelopment of contaminated urban properties called "brownfields." These efforts attempt to induce businesses to clean and redevelop brownfields by reducing the numerous environmental barriers to redevelopment, such as the enormous cost of cleanup and threat of immeasurable liability. In this Article, Professor Heidi Gorovitz Robertson argues that environmental barriers to urban redevelopment, although important, are but one piece of a complicated urban redevelopment puzzle. The other pieces, largely missing from existing efforts to encourage redevelopment of

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brownfields, are non-environmental factors, such as size and location of candidate sites, infrastructure issues, and the relative obsolescence of existing structures. These non-environmental factors influence businesses' decision-making and operate as important barriers to redevelopment. Because existing brownfields redevelopment programs fail to focus on these missing pieces, they cannot succeed substantially in encouraging urban renewal.

Notably missing from the literature on corporate site selection and relocation decision-making is any specific consideration of the environmental status of candidate sites. Therefore, Professor Robertson conducted a survey of businesses' decision-making regarding site selection and the environmental status of potential sites. Professor Robertson's analysis of the results of this survey are presented in this Article to support her assertion that non-environmental factors are critical to brownfields redevelopment efforts because they are important to corporate relocation and site selection decisions.

TABLE OF CONTENTS

I. INTRODUCTION	1077
II. BARRIERS TO BROWNFIELDS REDEVELOPMENT	1082
A. <i>Environmental Barriers to Redevelopment</i>	1083
B. <i>Non-environmental Barriers to Redevelopment</i>	1091
III. FEDERAL BROWNFIELDS REDEVELOPMENT EFFORTS	1095
IV. STATE BROWNFIELDS REDEVELOPMENT EFFORTS	1100
V. A SURVEY OF BUSINESSES' DECISION-MAKING REGARDING SITE SELECTION AND THE ENVIRONMENTAL STATUS OF POTENTIAL SITES	1108
A. <i>A Discussion of Recent Literature on Corporate Relocation Decisions</i>	1110
B. <i>An Overview of the Survey</i>	1115
C. <i>The Relative Importance of Various Screening Factors to Corporate Relocation Decisions</i>	1116
D. <i>Final Decision Criteria</i>	1118
E. <i>Environmental Regulation as a Predictor of the Importance of Environmental Liability in Site-Selection</i>	1119
F. <i>The Survey's Conclusions</i>	1120
VI. LESSONS AND SUGGESTIONS FOR FUTURE ACTION	1121
VII. CONCLUSION	1123
APPENDICES	1125
A. <i>Relocation Survey</i>	1125
B. <i>Relative Importance of Various Screening Factors</i>	1131
C. <i>Factor Analysis of Thirteen Key Variables</i>	1132
D. <i>Importance of Final Selection Criteria</i>	1132

I. INTRODUCTION

In efforts to revitalize urban areas and encourage urban renewal, states across the country have created programs to induce businesses and individuals to clean and redevelop contaminated urban properties. To do so, these programs attempt to reduce or eliminate the numerous environmental barriers to redevelopment. The removal of environmental barriers, however, is but one piece of a complicated urban redevelopment puzzle. The other pieces of the puzzle, largely missing from efforts to redevelop contaminated urban land, concern the non-environmental factors that influence businesses' decision-making and operate as additional barriers to redevelopment. Existing programs, although innovative in several important ways, generally fail to address these missing pieces, and therefore, cannot succeed alone, or in their current forms, in bringing substantial redevelopment to blighted urban areas.

Urban areas across the United States host thousands of contaminated properties that are inactive, abandoned, or underutilized lands, often former industrial sites.¹ Popularly called "brownfields,"² these

1. "Underutilized" property is land once used intensively for manufacturing or industrial operations, but now used in a less intensive or efficient manner. See William W. Buzbee, *Remembering Repose: Voluntary Contamination Cleanup Approvals, Incentives, and the Costs of Interminable Liability*, 80 MINN. L. REV. 35, 46 & n.31 (1995). Estimates regarding the number of brownfield sites range from tens of thousands to nearly 450,000, with some urban areas hosting more than 2,000 sites. See OFFICE OF TECHNOLOGY ASSESSMENT, THE STATE OF THE STATES ON BROWNFIELDS: PROGRAMS FOR CLEANUP AND REUSE OF CONTAMINATED SITES 4 (1995) [hereinafter OTA REPORT]. In fact, of the 39 cities participating in the United States Conference of Mayors' Survey, all reported concentrations of brownfield land, with 36 estimating that brownfield land in their cities totaled more than 43,000 acres. See UNITED STATES CONFERENCE OF MAYORS, IMPACT OF BROWNFIELDS ON U.S. CITIES: A 39 CITY SURVEY (1996) [hereinafter CITY SURVEY]; see also ROBERT A. SIMONS, TURNING BROWNFIELDS INTO GREENBACKS 28-36 (1998); R. Michael Sweeney, *Brownfields Restoration and Voluntary Cleanup Legislation*, 2 ENVTL. L. 101, 104 (1995). Simons notes that many brownfields are not listed on any federal, state, or local database, and therefore, it is difficult to determine how many brownfields exist. See SIMONS, *supra* at 28. There are approximately 384,000 listed brownfield sites, and an estimated additional 114,830 acres of unlisted sites in the major cities alone. See *id.* at 32-35. Metropolitan areas have begun creating inventories of brownfield sites in efforts to assess the scope of their problems. See OTA REPORT, *supra* at 4. Brownfields exist in both large and small cities, in all areas of cities, and range in size from 700 acre former steel works to one-half acre former gas stations and dry cleaning operations. See CITY SURVEY, *supra* at 2. One point made in the Department of Commerce's comments on the U.S. Government Accounting Office's Report, COMMUNITY DEVELOPMENT: REUSE OF URBAN INDUSTRIAL SITES (1995) [hereinafter REUSE OF URBAN SITES], stated that the report focuses on urban areas, whereas the problem of abandoned, contaminated land exists in non-urban areas as well. Although the GAO declined to address this

properties contribute substantially to urban decay by facilitating the underutilization of land.³ The presence of brownfields allows "contaminated sites to go undetected; thereby threatening the environment, unsuspecting users, and local residents."⁴ Additionally, the persistence and non-redevelopment of brownfields encourages industries to locate elsewhere, thus facilitating urban sprawl.⁵ Jobs once plentiful in the cities are then lost to the suburbs, leaving urban residents chronically unemployed.⁶ The mere presence of dilapidated

issue in the report, it did acknowledge that the problem is more widespread in urban areas. See REUSE OF URBAN SITES, *supra* at 3.

2. According to the United States Environmental Protection Agency ("EPA"), "brownfields" are "abandoned, idled or underused industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination." Timothy Fields, Jr., Deputy Assistant Administrator, EPA Office of Solid Waste and Emergency Response, Federal Agency Brownfields Initiatives, Remarks at the Environmental Law Institute's Redeveloping Brownfields Workshop (Mar. 28, 1995). The term "brownfield" typically describes contaminated land that is not so contaminated that it is at serious risk of a federal or state enforcement action. Lenders and developers, however, consider even "mild" contamination too serious a liability threat; for this reason, among others, brownfields tend to lie fallow rather than be redeveloped.

The definition of "brownfields" or "brownsites," however, is an area of some debate. This stems in part from an inability to value a contaminated site for which there is no useful, current market value. Further, given the broad spectrum of local economies and land use objectives, it is difficult to reach consensus on a definition of the term. Broad definitions include all contaminated former industrial properties that are not available for redevelopment. Narrower definitions limit brownfields to large city properties that are both abandoned and large enough to support significant redevelopment. See GENERAL ACCOUNTING OFFICE, SUPERFUND BARRIERS TO BROWNFIELD REDEVELOPMENT (1996) [hereinafter BARRIERS TO REDEVELOPMENT]; see also SIMONS, *supra* note 1, at 30 (using a "broad, urban definition of brownfields"). In addition, some of the state and local laws designed to encourage redevelopment of industrial sites are not actually geared to "brownsites" any more than any other underused or unused former industrial site. See Bernard A. Weintraub & Sy Gruza, *The Redevelopment of Brownsites*, NAT. RESOURCES & ENV'T, Spring 1995, at 57.

3. See Douglas A. McWilliams, *Environmental Justice and Industrial Redevelopment: Economics and Equality in Urban Revitalization*, 21 ECOLOGY L.Q. 705, 717 (1994) (citing numerous reasons why withholding brownfield property from the market contributes to urban decay); see also EDITH M. PEPPER, LESSONS FROM THE FIELD: UNLOCKING ECONOMIC POTENTIAL WITH AN ENVIRONMENTAL KEY 3 (1997) (noting that cleanup of brownfields can help reduce urban decay).

4. McWilliams, *supra* note 3, at 717.

5. See *id.* (explaining that constricting the supply of brownfield land for development may encourage greenfield siting); see also REUSE OF URBAN SITES, *supra* note 1, at 4-5 (noting that industries' decisions to operate in the suburbs have "contributed to suburban sprawl").

6. See McWilliams, *supra* note 3, at 717 (stating that jobs once provided by former industrial properties are lost when brownfields lie fallow).

industrial properties discourages investment and imposes a sense of hopeless poverty on nearby populations.⁷ As a result, tax revenues for urban schools and social services decline.⁸

In addition to the obvious health, social, and environmental concerns raised by the continued presence of contamination on urban lands, their presence affects the economic viability of the communities in which they are located.⁹ Brownfields drive down surrounding property values and the local tax base, provide no employment to local residents, and constitute blights on communities.¹⁰

Returning brownfields to productive use could create jobs, generate tax revenues, and raise the economic outlook for urban residents.¹¹ In fact, successful redevelopment of brownfields could create benefits to landowners and developers, state and local governments, communities, and lending institutions. For landowners, brownfields redevelopment can mean a reduction or elimination of potential environmental liability. It can also mean less uncertainty regarding clean up costs. Brownfields redevelopment can allow landowners to sell assets that would otherwise lay fallow, and provide opportunities for expansion within urban areas. For state and local governments, redevelopment of brownfields can lead to the creation and retention of jobs and a consequent improvement in the tax base. For communities, brownfields redevelopment can mean new jobs, reductions in exposure to health threats, improved aesthetics, and even the slowing of urban sprawl. For financial institutions, brownfields redevelopment can mean reduced liability risk on foreclosed-upon properties and access to potential new lending markets.

Yet, despite these many benefits, businesses still avoid redeveloping contaminated sites in inner cities.¹² Government reports indicate

7. See *id.*; see also William W. Buzbee, *Nature and Effects of the Brownfields Problem*, in *BROWNFIELDS LAW AND PRACTICE: THE CLEANUP AND REDEVELOPMENT OF CONTAMINATED LAND* § 1.01[2] (Michael B. Gerrard ed., 1999).

8. For a table of the number of brownfield sites in 39 cities, and the estimated local tax revenue losses associated with those sites, see *CITY SURVEY*, *supra* note 1, at 3.

9. See Charles Bartsch & Richard Munson, *Restoring Contaminated Industrial Sites*, *ISSUES SCI. & TECH.*, Spring 1994, at 74, 74-75; see also Nancey Green Leigh, *Focus: Environmental Constraints to Brownfield Redevelopment*, *ECON. DEV. Q.*, 325, 325 (1994).

10. See David L. Markell, *Some Overall Observations About the 1996 New York State Environmental Bond Act and a Closer Look at Title V and its Approach to the Brownfields Dilemma*, 60 *ALB. L. REV.* 1217, 1226 (1997) (citing Charles E. Sullivan, Jr., *The Department of Environmental Conservation's Voluntary Remedial Program*, 8 *ENVTL. L. N.Y.* 7, 24 (1997)).

11. See Bartsch & Munson, *supra* note 9, at 74.

12. See *BARRIERS TO REDEVELOPMENT*, *supra* note 2, at 1 (finding that lenders

that this avoidance is due to fears of Superfund liability and the excessive and uncertain costs of environmental remediation.¹³ As a result, federal, state, and local governments have made countless efforts to encourage redevelopment of brownfields¹⁴ by attempting to reduce fears regarding environmental liability and the excessive cost of remediation.¹⁵ However, many other important impediments to redevelopment have been overlooked consistently in federal, state, and local efforts to encourage the redevelopment of urban

and developers are wary of investing in contaminated property because of liability risks under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), also known as the Superfund Law, and both the high and uncertain costs of site assessment and remediation); *see also* REUSE OF URBAN SITES, *supra* note 1, at 3-4 (noting that uncertain liability associated with brownfield sites has encouraged businesses to develop previously undeveloped "greenfield" land).

13. *See* BARRIERS TO REDEVELOPMENT, *supra* note 2, at 2, 6 (stating that lenders, developers, and property owners find the potential of being held liable under CERCLA for contamination on brownfield properties to be a barrier to development of brownfield land); REUSE OF URBAN SITES, *supra* note 1, at 3-5 (noting that states and localities have faced several obstacles in their efforts to redevelop abandoned industrial sites, including the possibility of contamination and the associated liability for cleanup); *see also* Sweeney, *supra* note 1, at 103; Wendy E. Wagner, *Overview of Federal and State Law Governing Brownfields Cleanups*, in BROWNFIELDS: A COMPREHENSIVE GUIDE TO REDEVELOPING CONTAMINATED PROPERTY 15, 17-18 (Todd S. Davis & Kevin D. Margolis eds., 1997) [hereinafter COMPREHENSIVE GUIDE] (noting that the broad jurisdictional reach of the Resource Conservation and Recovery Act ("RCRA") and CERCLA and the parallel state programs have been blamed for impeding the development of brownfields); *Tax Incentive Will Help Eliminate Urban 'Eyesores,' Gore Says*, Daily Tax Rep. (BNA) 23 (Feb. 5, 1996) (noting Vice President Gore's assertion that fear of cleanup costs keeps industries from redeveloping urban sites). Even the United States Conference of Mayors recommended, in its Brownfields Redevelopment Action Agenda, that the President and Congress develop national programs that would include five specific components: (1) liability protection, (2) expansion of the EPA's Brownfields Initiative, (3) including funds for preparation and implementation of brownfield redevelopment strategies, (4) development and capitalization of local revolving funds, and (5) targeted redemption tax credits and application of cleanup standards based on future end-use of the land. *See* UNITED STATES CONFERENCE OF MAYORS, BROWNFIELDS REDEVELOPMENT ACTION AGENDA: INITIAL FRAMEWORK (1996) [hereinafter INITIAL FRAMEWORK].

14. Clearly, federal and state governments have numerous programs designed to encourage urban renewal. Aside from the brownfields programs, however, they are not designed specifically to address contaminated lands.

15. *See* BARRIERS TO REDEVELOPMENT, *supra* note 2, at 7-9 (noting that Congress and the EPA have taken numerous steps to reduce the adverse effect of CERCLA on the redevelopment of contaminated lands); *see also* The Environmental Protection Agency, *The Brownfields Economic Redevelopment Initiative* (visited May 12, 1999) <<http://www.epa.gov/brownfields/swerosps/bf/html-doc/econinit.htm>> [hereinafter *EPA Brownfields Website*] (awarding money to find innovative approaches to the brownfields problem).

brownfields.¹⁶

Although efforts to encourage urban renewal through the redevelopment of brownfields are occurring in various forms throughout the country, to date, relatively few brownfield sites have been redeveloped as result of those efforts.¹⁷ This Article contends that notwithstanding extensive and impressive legislative and administrative efforts in creating brownfields redevelopment programs, there will be no substantial improvement in the decaying condition of cities as a result of these efforts. The primary reason is that the brownfield status of urban sites, although important, is only a single factor in a complicated set of barriers to their redevelopment. Although existing brownfields programs are an important piece of a solution, successful efforts to encourage brownfields redevelopment must be broader and must address other, non-environmental, barriers to redevelopment.

Part II of this Article discusses barriers to brownfields redevelopment, both the environmental barriers fairly well-handled in state and federal initiatives, and the often ignored non-environmental barriers. Part III discusses federal initiatives to encourage redevelopment of brownfields. It describes the federal government's multifaceted efforts to limit environmental liability, and the accompanying lack of focus on the non-environmental factors critical to substantial success in redevelopment. Part IV considers legislative and administrative efforts at the state level, showing consistent failure of those efforts to address non-environmental barriers to brownfields redevelopment.

The latter portions of this Article provide support for the assertion that brownfields redevelopment efforts must address the non-environmental factors that are important to businesses' decision-making before they can succeed in a significant way. Part V begins by describing the recent literature on decision-making with respect to corporate relocation and expansion. The purpose is to determine what factors businesses consider when deciding where to relocate

16. Non-environmental barriers to liability are mentioned in one paragraph of the GAO's REUSE OF URBAN SITES report, *supra* note 1, at 5. The report notes that other factors have contributed to the slow pace of brownfields redevelopment, including poor infrastructure, crime rates, and general unattractiveness. *See id.* The report fails, however, to address those factors further. Non-environmental factors are also mentioned in the GAO's BARRIERS TO REDEVELOPMENT report, *supra* note 2, at 9.

17. For example, since the enactment of Ohio's Voluntary Action Program ("VAP"), only 32 sites have been remediated under the new program. Minnesota's program has completed 75 projects, with 210 in progress; Oregon has completed 34, with 23 in progress; Connecticut has 34 in progress and Massachusetts has significantly raised the number of sites addressed each year. *See* Clement Dinsmore, *State Initiatives on Brownfields*, URB. LAND, June 1996, at 37, 41.

and expand. Part V concludes that recent studies aimed at determining the factors most important to corporate relocation decisions do not include the environmental status of candidate sites as a factor. One cannot determine from those studies, therefore, that reducing or eliminating the environmental barriers to redevelopment will encourage redevelopment. Part V then describes a survey I conducted of Northeast Ohio businesses' decision-making regarding site selection and the environmental status of potential sites. The results of this survey support the position that although environmental factors are important, non-environmental factors also are critical to redevelopment efforts. This is true because non-environmental factors are pivotal in corporate relocation and site selection decisions. Part VI suggests steps that state and local legislatures and agencies might take to incorporate an understanding of non-environmental factors into their efforts to encourage the redevelopment of urban brownfields land. This Article concludes by arguing that to succeed in luring businesses to urban brownfield sites, brownfields redevelopment efforts must address the non-environmental factors that businesses find critical to relocation decisions.

II. BARRIERS TO BROWNFIELDS REDEVELOPMENT

Although legislative and administrative efforts to encourage the redevelopment of brownfields have focused primarily on reducing or eliminating the primary environmental barrier to redevelopment, the threat of environmental liability, other important barriers exist as well.¹⁸ This section examines both the environmental and non-environmental barriers to redevelopment.

18. See OTA REPORT, *supra* note 1, at 1. This report, produced by the U.S. Department of Commerce's Office of Technology Assessment, initially mentions non-environmental barriers to redevelopment in a single footnote. This footnote states that, "[b]rownfields may also have redevelopment problems due to . . . poor location, old and obsolete infrastructure, and other less tangible factors often associated with neighborhood decline." *Id.* The report later includes a section in its main text that questions the "demand for [brownfields once] the problem of contamination is removed." *Id.* at 9. It notes that the sites face other problems for redevelopment, such as old and obsolete infrastructure, limited access, crime, high taxes, congestion, low-quality amenities, and racial tensions. See *id.* at 9-10. According to the OTA report, these "other" issues will be addressed in a later Office of Technology Assessment report. See generally OFFICE OF TECHNOLOGY ASSESSMENT, TECHNOLOGICAL RESHAPING OF METROPOLITAN AMERICA (1995); see also BRIAN HILL & JOANNE DENWORTH, PENNSYLVANIA ENVTL. COUNCIL, REPORT ON REUSE OF INDUSTRIAL SITES ROUNDTABLES 2 (1993); James Boyd & Molly K. Macauley, *The Impact of Environmental Liability on Industrial Real Estate Development*, RESOURCES, Winter 1994, at 19, 19 n.18. The Pennsylvania Environmental Council report notes nine major constraints to the reuse of industrial and commercial sites. In the category of regulatory constraints, the report includes: uncer-

ronmental barriers to redevelopment. It lays the foundation for a subsequent argument that concedes the importance of reducing or eliminating the threat of environmental liability, but shows that ignoring the non-environmental barriers to redevelopment will render the environmental barrier-focused efforts less effective and possibly even futile.¹⁹

A. *Environmental Barriers to Redevelopment*

Urban environmental contamination has been called the "number one issue facing urban redevelopment"²⁰ and therefore, efforts at all levels of government have focused on it to encourage urban redevelopment. The environmental barriers associated with brownfields redevelopment are well known and virtually every piece of literature on the topic discusses the same problems. According to this literature, the risk of liability for cleanup costs due to a liability scheme imposed by the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") is the most important barrier to brownfield reuse.²¹ CERCLA imposes liability for cleanup costs on,

tainty relating to cleanup standards, unending liability, and lengthy transaction time. See HILL & DENWORTH, *supra* at 2. The report includes as financial constraints: private investment favoring greenfields, insufficient public investment in reusing sites, high remediation costs (an environmental barrier), and the reluctance of private lenders to invest in former industrial sites. See *id.* Finally, the report includes a category of "other" constraints, including negative public perceptions of former industrial sites and insufficient public involvement. See *id.* Despite the acknowledgment that important non-environmental constraints are impeding the redevelopment process, the report focuses almost solely on the environmental constraints.

19. In fact, one key question that remains, despite the considerable efforts on behalf of brownfields redevelopment, is whether the properties in question will be in demand once they are remediated. See OTA REPORT, *supra* note 1, at 9; see also SIMONS, *supra* note 1, at 53 (discussing the various possibilities for remediated sites).

20. Sweeney, *supra* note 1, at 152-53 (quoting Cleveland Mayor, Michael R. White). In 1992, Cuyahoga County, Ohio, which includes the City of Cleveland, had a population of 1,411,000. At that time, it had an estimated 40,000 acres of brownfield land. See BARRIERS TO REDEVELOPMENT, *supra* note 2. The City of Cleveland, with a population of 505,616, has an estimated 6,000 brownfield sites covering approximately 14,000 acres of land. See *id.* The City of Cleveland estimates that these sites cost it between \$5 million and \$14 million in annual local tax revenue losses. See CITY SURVEY, *supra* note 1, at 3.

21. See CERCLA § 107, 42 U.S.C.A. § 9601 (1994 & Supp. 1999). CERCLA § 107(a), 42 U.S.C.A. § 9607(a) identifies the groups of "potentially responsible parties" from whom the EPA may seek cleanup costs. I note, however, that other statutes also have played a role in developers' and business owners' preferences for "greenfield" land. Specifically, the Clean Air Act imposes more stringent regulations on industrial emissions in non-attainment areas than it does in attainment

among others, owners and operators of contaminated property, and in some cases lenders associated with contaminated property.²² Many blame CERCLA for sluggish redevelopment progress in urban areas and the resulting distress to urban economies.²³ However, the abandonment and deindustrialization of many urban cores began long before CERCLA and the state Superfund laws, and most of the causes would still be at work even if those laws were repealed. Even so, placing CERCLA liability on a property, while intended to force private sector cleanup, had the perverse environmental effect of discouraging the reuse of old sites and encouraging the development of new sites. This caused, among other things, losses of open or green space and increased traffic and air pollution.

Under CERCLA, liability for environmental contamination and cleanup of a site sometimes rests with "innocent" parties,²⁴ which may include purchasers of brownfield properties, commercial banks or other sources of private credit, municipalities . . . and utility companies."²⁵ In addition, with less contaminated brownfield sites—those that would never actually become subject to a CERCLA enforcement action—there is no clear right of contribution.²⁶ Be-

areas. See 42 U.S.C.A. § 7502 (Supp. 1999) (describing requirements for non-attainment areas). As a result, industry is more likely to locate outside the major urban areas that comprise most of the country's non-attainment areas. Also, companies may have more difficulty meeting Clean Water Act standards in urban areas than in rural areas. See Michael Oxley, *Tear Down the Brownfields Berlin Wall*, ENVTL. F., May-June 1995, at 32; see also Clean Water Act, 33 U.S.C.A. § 1251 (1994 & Supp. 1999).

22. See 42 U.S.C.A. § 9601 (listing and defining potentially liable parties). In reality, the EPA generally does not pursue owners and operators of the more mildly contaminated properties called brownfields. Regardless, for purposes of imposing liability, the statute does not distinguish among properties according to the relative severity of contamination. See *id.* Therefore, although most brownfield owners will not be sued by the EPA, they could, theoretically, be held liable under CERCLA for the entire cost of the cleanup. See *id.* In addition, state statutes may impose the same liability schemes, and the state agencies implementing the state laws may focus on less severely contaminated lands.

23. See Julia A. Solo, Comment, *Urban Decay and the Role of Superfund: Legal Barriers to Redevelopment and Prospects for Change*, 43 BUFF. L. REV. 285, 287 (1995) (blaming CERCLA for discouraging development of unused urban areas, thus depriving urban residents of employment).

24. See CERCLA § 101(35)(A)(i)-(iii), 42 U.S.C.A. § 9601(35)(A)(i)-(iii). The term "innocent" refers to a party or parties that "had no responsibility for, and no economic connection with, the handling, production, use, storage, or disposal of the hazardous contamination on the property." Solo, *supra* note 23, at 287 & n.15.

25. Clement Dinsmore, *Financial Barriers and Incentives to Brownfields Cleanup and Reuse* 5 (Jan. 1996) (unpublished manuscript, on file with the author).

26. Although CERCLA clearly includes a frequently exercised right of contribu-

cause older industrial sites form the bulk of brownfields land, environmental cleanup can be risky under current liability rules.²⁷

In addition to liability concerns, fears and uncertainty regarding cleanup costs and cleanup standards drive away prospective buyers and make lenders reluctant to advance funds for purchase and remediation.²⁸ Concern regarding liability risk relates closely to the enormous economic costs associated with site assessment and cleanup. These costs can be as much as tens of thousands, even millions of dollars.²⁹ In addition to being high, costs often are not accurately

tion, as do many similar state programs, many so-called "brownfields" would never, by definition, become subject to an enforcement action under those statutes. Therefore, the right of contribution, although present in federal and state Superfund laws, does not reassure developers or landowners regarding less contaminated brownfield sites. In short, developers and landowners fear the liability scheme, but have little faith in the rights associated with that scheme. In fact, the Cuyahoga County Brownfields Working Group included "no clear right of contribution" in its lengthy list of barriers to redevelopment. In response, the Working Group suggested that the Ohio Legislature provide for a clear right of contribution in the Ohio Revised Code. See CUYAHOGA COUNTY BROWNFIELDS REUSE STRATEGIES WORKING GROUP REPORT (1993) [hereinafter WORKING GROUP REPORT].

27. See MICHAEL E. PORTER, *THE COMPETITIVE ADVANTAGE OF THE INNER CITY* 14 (1994).

28. See Charles Bartsch, *Paying for Our Industrial Past*, COMMENTARY, Winter 1996, at 15 (arguing that the "prospect of liability drives prospective site reusers away, and keeps companies from being able to borrow enough [money] to clean up properties and modernize operations"); see also *Brownfields: Redevelopment Needs Sound Planning, Input from All Parties, Panelists Assert*, ENV'T REP. (BNA) 2644 (Apr. 10, 1998) [hereinafter *Redevelopment Needs*] (noting the difficulty of finding buyers for unused urban land); HILL & DENWORTH, *supra* note 18, at 2 (including uncertainty relating to cleanup standards as a regulatory constraint to the reuse of industrial sites); see generally Kristen R. Yount & Peter B. Meyer, *Bankers, Developers, and New Investment in Brownfield Sites: Environmental Concerns and the Social Psychology of Risk*, 8 ECON. DEV. Q. 338, 340 (1994). Moreover, in the Working Group Report, a team charged with identifying barriers to brownfields redevelopment included uncertainty in cleanup standards and uncertainty in costs. See WORKING GROUP REPORT, *supra* note 26. The Working Group recommended, as solutions to the uncertainty in cleanup standards: (1) numerical standards for soil; (2) risk analysis using actual exposure information; (3) include a future-use component for human and environmental cleanup standards, as well as the recognition of institutional controls; (4) EPA recognition of state voluntary cleanup program decisions; and (5) a local planning commission to develop an inventory of local sites. See *id.* As solutions to the uncertainty in costs barrier, the Working Group recommended: (1) standardization of assessment protocols; (2) certification and training of consultants; (3) security interest holders exception for lenders with respect to environmental liability; (4) encouraging innovative technology and performance standards; and (5) support or research and approval of innovative technology. See *id.*

29. See CHARLES BARTSCH & ELIZABETH COLLATON, *INDUSTRIAL SITE REUSE, CONTAMINATION, AND URBAN REDEVELOPMENT: COPING WITH THE CHALLENGES OF*

predictable and can seem unending.³⁰

Lenders worry about the potential devaluation of a contaminated property, as well as the impact that property may have on the borrower's financial stability.³¹ Also, CERCLA has been interpreted to require that if a lender participates in the management or control of the property, the lender becomes liable for its cleanup.³² Lenders fear this outcome, in particular, in cases of borrower default.³³ Not surprisingly, borrowers claim to have difficulty securing financing for a brownfield cleanup.³⁴

Despite efforts by the EPA and Congress to clarify their intent and soften the impact of CERCLA on the lender liability issue, lenders remain skeptical.³⁵ Although only a small number of lenders

BROWNFIELDS 23 (1994) [hereinafter BARTSCH & COLLATON, INDUSTRIAL SITE RE-USE] (noting that costs vary depending on the extent and type of contamination); see also CHARLES BARTSCH & ELIZABETH COLLATON, COMING CLEAN FOR ECONOMIC DEVELOPMENT 4-5 (1996) (comparing "greenfield" and "brownfield" redevelopment costs).

30. See HILL & DENWORTH, *supra* note 18, at 2-3 (noting that among the most frequently mentioned constraints to reuse are the lack of clear standards and seemingly unending liability). Regarding the uncertainty of cleanup costs, see *supra* note 28 and accompanying text.

31. See Alan W. Armstrong, *Brownfields Financing: Risks and Opportunities*, 80 A.L.I.-A.B.A. 623, 626 (1996).

32. See, e.g., *United States v. Fleet Factors Corp.*, 901 F.2d 1550, 1556-59 (11th Cir. 1990) (holding that a secured creditor may incur liability under CERCLA by participating in the financial management of a facility such that it has the capacity to influence decisions regarding the treatment of hazardous waste); but see *In re Bergsøe Metal Corp.*, 910 F.2d 668, 671 (9th Cir. 1990) (finding that there must be some actual management of a facility before a secured creditor will fall outside the secured creditor exemption); see also Philip H. Gitlen, *Voluntary Cleanup Programs*, 1 ALB. L. ENVTL. OUTLOOK 28, 28-29 (1995).

33. See Armstrong, *supra* note 31, at 626.

34. See Kristen R. Yount, *The Organizational Contexts of Decisions to Invest in Environmentally Risky Urban Properties*, J. ECON. ISSUES, 367, 367-373 (1997).

35. Under CERCLA, "potentially responsible parties," including past and present owners and operators of the site, can be held jointly and severally liable for the cost of the site's cleanup. See CERCLA § 107, 42 U.S.C.A. § 9607 (1994). This threat of significant liability has frightened lenders who feared being held an "owner or operator" of a property in which they held a security interest. The statute's secured creditor exemption allows lenders to be excluded from the definition of "owner or operator" if they hold only a security interest in the property and do not participate in its management or control. See CERCLA § 101(20)(E), 42 U.S.C.A. § 9601(20)(E). Courts have interpreted "participation in management," however, to include situations where a lender could affect hazardous waste disposal decisions if it so chooses. See *Fleet Factors Corp.*, 901 F.2d at 1557. In response to *Fleet Factors* and other cases, the EPA issued a rule describing in detail what the agency considered participation in management. A federal circuit court, however, struck down that rule as exceeding the agency's authority. See *Kelley v. EPA*, 15 F.3d 1100, 1106 (D.C. Cir. 1994). The EPA later reinstated the rule as a guid-

have ever been held liable for contamination of property they held as collateral,³⁶ the strong CERCLA language and resulting liability risk nevertheless affected banking practices.³⁷ Furthermore, bankers and developers often make decisions based on somewhat distorted judgment—distorted because the sites at issue exhibit characteristics that lead these institutions and individuals to overstate the risks associated with them.³⁸ Although it is perfectly reasonable for bankers and developers to be risk-averse, in cases of less contaminated brownfields they may be irrationally so.³⁹

To attempt to address these concerns, the EPA issued a "Guidance on Agreements with Prospective Purchasers of Contaminated Property" and a "Model Prospective Purchaser Agreement" on July 3, 1995.⁴⁰ The EPA has also issued "comfort letters" designed to disseminate information and clarify common myths about the National Priorities List and about CERCLA liability in general.⁴¹ Despite these efforts, current literature still cites lender liability as the most significant barrier to brownfields redevelopment. Lenders have con-

ance document. See Definition of "Participation in Management," 57 Fed. Reg. 18,344, 18,355 (1992) (codified at 40 C.F.R. § 300.1100(c)(1) (1998)). In 1996, Congress codified EPA's interpretation in an amendment to CERCLA through the Asset Conservation, Lender Liability, and Deposit Insurance Protection Act of 1996, Pub. L. No. 104-208, 110 Stat. 3009. See CERCLA §§ 101(20)(E), (F), 42 U.S.C.A. §§ 9601(20)(E), (F).

36. See, e.g., *Fleet Factors Corp.*, 901 F.2d at 1557 (holding a secured creditor liable for cleanup costs under CERCLA when it had the capacity to influence hazardous waste treatment decisions); but see *In re Bergsoe*, 910 F.2d at 671 (stating that to be deemed an "owner" a secured creditor must exercise actual management of the facility).

37. See Bartsch, *supra* note 28, at 15 (stating that specific categories of lender risks associated with brownfield properties have caused lenders to change the way they deal with projects that even remotely involve hazardous wastes); see also Charles Bartsch & Elizabeth Collaton, *New Life for Old Buildings*, NORTHEAST-MIDWEST REPORT 24 (1991) (stating that the fear of surprises has led to changes in financing practices).

38. See Robert D. Swartz, *Michigan's Approach to Urban Redevelopment Involving Contaminated Properties*, 8 ECON. DEV. Q. 329, 329-330 (1994) (referring to the brownfield site characteristics of uncertainty and lack of controllability). Regarding uncertainty and uncontrollability, see also Yount & Meyer, *supra* note 28 and accompanying text.

39. Even when cleanup costs and risks of liability turn out to be low, bankers and developers quite reasonably dislike unpredictability. There may be a substantial time delay before investors can make firm cost and risk predictions. Some might argue this is fiscal prudence, not distorted judgment.

40. See Armstrong, *supra* note 31, at 626.

41. The "comfort letter" is one method the EPA has used to provide liability relief, according to Timothy Fields, Acting EPA Assistant Administrator for Solid Waste and Emergency Response, prospective purchaser agreements have been received more positively by lenders. See *Redevelopment Needs*, *supra* note 28.

tinued to feel squeamish about the looming liability issues in part because "[r]ecent and proposed regulatory improvements on the federal level [were] not convincing enough to reduce risk."⁴² It remains to be seen how lenders will respond to Congress' recent amendment of CERCLA to incorporate the assurances EPA originally issued in its lender liability rule.⁴³

Uncertain cleanup standards at the state and federal levels also hinder brownfield redevelopment.⁴⁴ The ubiquitous question "how clean is clean?" applies to brownfield cleanups just as it does to other cleanups. In addition to problems with imprecise language regarding currently applicable cleanup standards, developers and property owners wonder whether standards considered clean today will be acceptable in the future.⁴⁵ Therefore, prospective brownfield redevelopers fear a lack of finality.⁴⁶

In addition to the uncertainty regarding all of these issues, some argue that the "uncontrollability" of contaminated lands makes them unattractive to potential investors.⁴⁷ Brownfields are "uncontrollable" because the associated risks are imposed and controlled by "others," which some may perceive as unfair.⁴⁸

42. Donald T. Iannone, *Sparkling Investment in Brownfield Sites*, URB. LAND, June 1996, at 43, 64.

43. See CERCLA § 101(20)(E), (F), 42 U.S.C.A. § 9601(20)(E), (F) (1994 & Supp. 1999).

44. See Solo, *supra* note 23, at 288 n.20 (providing an overview of state, local, and federal laws regarding brownfields).

45. See BARTSCH & COLLATON, INDUSTRIAL SITE REUSE, *supra* note 29, at 24 (stating that developers feel they have no assurance that if they clean a property to current standards, it will be sufficient in the future). For sites remediated under a CERCLA Record of Decision (ROD), it is unlikely that the case would be reopened and higher cleanup standards imposed for the site. Most brownfield sites, however, are not remediated under CERCLA. Instead, state standards apply. Developers fear that these standards can change, in effect creating a moving target. In addition, for brownfield sites without a ROD, the CERCLA liability scheme may still apply to owners, leaving them subject to liability if the standards or cleanup were insufficient.

46. The Cuyahoga County Brownfields Working Group included "lack of finality" as a barrier to redevelopment. See WORKING GROUP REPORT, *supra* note 26. As possible solutions, the Working Group recommended: (1) numerical standards; (2) certificates of release and/or covenants not to sue issued by Ohio EPA once a site assessment shows that a site has met predetermined standards; and (3) allowing parties to leave the voluntary process at any time. See *id.*; see also Oxley, *supra* note 21, at 33.

47. See Yount & Meyer, *supra* note 28, at 340 (explaining that government regulators are "powerful others" and that developers and landowners are, in the case of contaminated land, "powerless" and resent the risks imposed on them by the powerful).

48. See *id.*

Joining cleanup costs and liability fears as environmental barriers to redevelopment are the risks of lengthy transactions and the delay associated with remediation.⁴⁹ Even a developer or business that neither fears liability nor faces an expensive cleanup may balk at redeveloping a brownfield site because of the regulatory delay involved in even a simple cleanup.⁵⁰ Delay is caused by inspections, paperwork, and the generally overburdened and underfunded condition of government agencies, in addition to the time of the cleanup itself.

Partly because of the uncertain and often high cost of environmental remediation, coupled with the complicated procedural steps involved in an environmental cleanup, it is difficult to justify the cost of a redevelopment project,⁵¹ especially for small businesses.⁵² Thus, economically marginal brownfield sites will remain unused without sufficient incentives to assist and encourage developers or other businesses to revive them.⁵³ For example, a developer who turned a brownfield warehouse site into a shopping center proceeded "only with the strong support of the city."⁵⁴ On the brownfield site,

49. See Armstrong, *supra* note 31, at 626; see also HILL & DENWORTH, *supra* note 18 (including "lengthy transaction time" in its list of regulatory constraints to the reuse of industrial land). The Cuyahoga County Brownfields Working Group also included "too much time" in its list of barriers to brownfield redevelopment. As potential solutions, the Working Group suggested: (1) streamlining Phase 1 and Phase 2 investigations; (2) establishing statutory deadlines; (3) increasing Ohio EPA staffing; (4) providing manuals and guides on "How to Do Assessments;" (5) providing local training; (6) requiring minimum qualifications for consultants through certification; (7) requiring Ohio EPA to meet a timetable for plan reviews; (8) requiring Ohio EPA to coordinate issuance of permits through "one-stop shopping;" and (9) developing technical capability and an information base. See WORKING GROUP REPORT, *supra* note 26.

50. See Buzbee, *supra* note 7, §1.03[2][d].

51. See Bartsch, *supra* note 28, at 15 (noting that even for a mildly contaminated site, the costs of site assessment and cleanup add considerably to the total cost of a project, making it difficult to justify).

52. See Solo, *supra* note 23, at 288 (noting the funding difficulties of small businesses when faced with clean-up costs); see also HILL & DENWORTH, *supra* note 18, at 2.

53. See BARTSCH & COLLATON, INDUSTRIAL SITE REUSE, *supra* note 29, at 23. The Cuyahoga County Brownfields Working Group studied financing issues as a barrier to redevelopment. In response to a collection of complicated financial problems, the Working Group suggested: (1) a county revolving fund; (2) a state revolving loan fund; (3) Ohio Water Development Agency grants for brownfields redevelopment; (4) the expansion of Ohio's "Issue 2" Program, which provides financial assistance for roads, bridges, stormwater detention, solid waste facilities, etc.; (5) state environmental bonding authority; (6) industrial development bonds; (7) land banking; (8) tax abatement; and (9) enterprise zones. See WORKING GROUP REPORT, *supra* note 26.

54. BARTSCH & COLLATON, INDUSTRIAL SITE REUSE, *supra* note 29, at 23.

he spent "nearly \$225,000 per acre for site testing, remediation, and preparation; he estimated that similar activities for a comparable project at a suburban greenfield site would have cost only \$40,000 per acre."⁵⁵

Community obstruction is another environmental barrier to redevelopment. Communities often are concerned about contaminated lands in their neighborhoods and the lack of public involvement in the cleanup process.⁵⁶ Economic developers and environmentally concerned communities and individuals have been at odds for years with respect to redevelopment issues.⁵⁷ One reason is that the public is dubious about government's and business's ability to remove contamination safely. Another reason is that many communities, especially low-income and minority communities disagree with brownfields policies that allow lower cleanup standards at sites intended for industrial use, often located in low-income and minority communities.⁵⁸ Some argue that although public frenzy about brownfields could encourage political action on the topic, it might also reduce both public and private confidence that cities can be

55. *Id.* Clearly, there was something attractive enough about the brownfield site to warrant the substantial expenditure. For this reason, it is critical to understand why businesses and developers choose some sites over others. See *infra* Part V.

56. The Cuyahoga County Brownfields Working Group included "lack of public involvement" in its list of barriers to redevelopment. Potential solutions included: (1) requiring public notice on all sites; (2) allowing a 30-day comment period; (3) holding public hearings; (4) Ohio EPA and local governments providing inventory data and training; and (5) establishing a Public Advisory Group to Ohio EPA. See WORKING GROUP REPORT, *supra* note 26.

57. See Bartsch & Munson, *supra* note 9, at 75 (noting that the key players in industrial site reuse rarely work together and battle frequently).

58. See BARTSCH & COLLATON, INDUSTRIAL SITE REUSE, *supra* note 29, at 25; James T. O'Reilly, *Environmental Racism, Site Cleanup and Inner-City Jobs: Indiana's Urban In-fill Incentives*, 11 YALE J. ON REG. 43, 44-46 (1994) (arguing that the Indiana Urban In-fill Incentive Program amounts to "almost environmental racism" because it allows contaminated sites near urban minority residents to be cleaned to lesser standards); see also Kirsten H. Engel, *Brownfield Initiatives and Environmental Justice: Second-Class Cleanups or Market-Based Equity?*, 13 J. NAT. RESOURCES & ENVTL. L. 317 (1998) (noting tensions between rights-based and market-based approaches to environmental justice and suggesting a pragmatic approach that involves local communities in decisions regarding the cleanup and liability standards applicable to brownfields); Stephen M. Johnson, *Economics v. Equity: Do Market-Based Environmental Reforms Exacerbate Environmental Injustice?*, 56 WASH. & LEE L. REV. 111, 142 (1999) (noting that critics find that "brownfields programs could force inner-city communities to accept substandard environmental cleanups"); Stephen M. Johnson, *The Brownfields Action Agenda: A Model for Future Federal/State Cooperation in the Quest for Environmental Justice?*, 37 SANTA CLARA L. REV. 85, 93-94 (1996).

revitalized.⁵⁹

A related issue, also in the category of environmental barriers to redevelopment, is the stigma a formerly contaminated property leaves behind.⁶⁰ Stigma may be coupled with fears of remaining contamination and unquantifiable liability to governments or third parties. Some call these the social psychological factors that shape brownfields redevelopment decisions and argue that these factors have not yet been adequately recognized and addressed.⁶¹

B. Non-environmental Barriers to Redevelopment

Many states have enacted legislation to encourage redevelopment through voluntary cleanup of brownfield land.⁶² These state efforts assume that if governments make it easier to develop contaminated land without risk of liability, brownfield sites will be redeveloped, cities revitalized, and urban sprawl curtailed. The main assumption underlying these efforts, however, is unjustified. Although the environmental status of sites certainly is an important factor in their potential for redevelopment, many other factors affect the decisions of developers and businesses to redevelop brownfield land or, instead, choose suburban "greenfield" land.

At the federal level, the EPA's push to encourage redevelopment of brownfields focuses primarily on environmental liability. This makes sense from the perspective of an environmental agency. But even state and local governments are concentrating primarily on the environmental liability issues associated with brownfields redevelopment, although they are also creating financing options and other incentives for potential brownfields redevelopers.⁶³ When asked about other factors that may affect brownfields redevelopment, such as crime rates, infrastructure, racism, and others, local advocates agree that these non-environmental factors are important and that their efforts have not addressed them.⁶⁴

59. See Donald T. Iannone, *Redeveloping Urban Brownfields*, LANDLINES (Lincoln Inst. of Land Policy, Cambridge, Mass.), Nov. 1995, at 1, 3.

60. To combat stigma as a barrier to site redevelopment, the EPA has removed 25,000 sites from the National Priorities List, which lists the country's most contaminated sites according to Superfund. According to some commentators, "[e]ven when a contaminated site has been 'cleaned' . . . aversion to the site cannot always be eliminated." Leigh, *supra* note 9, at 326.

61. See Swartz, *supra* note 38, at 330-31.

62. To date, 36 states have functional brownfields programs. See BROWNFIELDS LAW AND PRACTICE: THE CLEANUP AND REDEVELOPMENT OF CONTAMINATED LAND, *supra* note 7.

63. See WORKING GROUP REPORT, *supra* note 26.

64. See Interview by Heather L. Tonsing with Virginia Aveni, Project Manager

Non-environmental factors that typically affect the market value of a site, and in turn the "feasibility of an economic reuse of property," include:

- site location
- site accessibility
- site size
- site configuration
- existing buildings (configuration and relative obsolescence)
- infrastructure (roads, water, sewer, electric power, and transportation)
- zoning and likelihood of rezoning
- state and local tax burden on the site property or applicable to site activities
- labor for construction or business operations at the site (availability, cost, and skill level)⁶⁵
- utility rates
- liability insurance (availability and cost)
- degree of public safety⁶⁶
- residential suburbanization of workforce⁶⁷
- access to markets (for labor, materials, and output)
- site preparation costs
- agglomeration of economies⁶⁸
- local land use and environmental regulation
- cost of land and labor.⁶⁹

According to Professor Michael Porter of the Harvard Business School, "[v]acant land and empty buildings often do not translate into lower-cost real estate because of the difficulty of assembling appro-

of the Cuyahoga (OH) County Planning Commission Brownfields Working Group (July 10, 1996) (on file with the author).

65. While many would argue that the inner cities are bursting with available workers, Professor Porter has found that companies are having difficulties finding, attracting, and retaining employees, especially managers, in the inner cities. See PORTER, *supra* note 27, at 14. High training costs and greater risks of employee problems plague inner city companies. See *id.*

66. See Dinsmore, *supra* note 25, at 2.

67. Many workers, especially at managerial levels, have moved to the suburbs, so some companies move there in part to be closer to their workforces. See *id.*

68. "Agglomeration of economies" refers to the phenomenon of economies—state, local, national, and international—melding together in a single mass.

69. See Sweeney, *supra* note 1, at 107-08 (citing Paul Kengor, *The Brownfields and the Greenfields—Industrial Site Reuse Legislation May Unlock Development Opportunities That Could Make Pennsylvania Competitive Again*, EXEC. REP., Jan. 1995, at 25, 25); see also *Real Estate Value, Location Key Factors in Successful Development of Used Property*, 28 Env't Rep. (BNA) 2682 (Apr. 17, 1998) [hereinafter *Real Estate Value*].

priate sized parcels from fragmented quarter and half-acre lots.⁷⁰ Furthermore, it can be expensive to demolish existing buildings at brownfield sites, and there are often costly and unpredictable zoning battles and litigation surrounding the sites. Once existing buildings are demolished, the "high cost of construction [of new buildings on an urban brownfield site] is driven up by [city traffic] congestion, restrictive building codes, and higher bids due in part to union requirements and minority preferences."⁷¹ Thus, although using existing inner city buildings should represent a lower cost alternative to greenfield siting, most such buildings fail to meet companies' basic requirements for a new location. For example, many existing "buildings are multi-story, and have low ceilings, floors unable to support heavy loads, and few or non-existent loading docks. [Thus,] they compare unfavorably with new buildings available in suburban locations."⁷²

Although accessibility and condition of land are factors in the success of its reuse, "no amount of remediation' can restore a brownfield if its real estate value is low."⁷³ Another important consideration is visibility of the location, especially for land to be reused as commercial, rather than industrial sites. Other factors that will make a site attractive include access to interstate highways and an airport, high population densities, and an ability to generate consumer traffic. Modern utilities, topography, surrounding land uses, zoning, and projected project completion time also are important factors.⁷⁴

According to Porter, there are some competitive advantages to the inner cities. These advantages include physical location, demand conditions, access to regional clusters, and human resources.⁷⁵ Inner cities often have economically valuable locations near congested, high-rent areas, major business centers, and transportation and communications nodes. They therefore can often be valuable to companies that could benefit from proximity to downtown business dis-

70. PORTER, *supra* note 27, at 14.

71. *Id.*

72. *Id.* at 14. See *infra* section V for a survey of Northeast Ohio businesses that made, expansion or relocation decisions since 1994. Results indicate that companies facing these decisions find non-environmental factors at least as compelling and determinative of their decisions as the environmental status of the site.

73. *Real Estate Value*, *supra* note 69, at 2682.

74. See *id.* According to Douglas Skowron, Vice President of Industry Services for the Galbreath Company, most companies need to be occupying new space within 18 to 24 months. See *id.* Most brownfield sites cannot compete due to the time involved in investigation and cleanup. See *id.*

75. See PORTER, *supra* note 27, at 14-23.

tricts.⁷⁶

The second competitive advantage of the inner city is in the opportunity to take advantage of immense inner city markets. Despite the relative low-incomes of inner city populations, high population density creates greater purchasing power.⁷⁷

A third advantage of inner city locations is their ability to access regional industrial clusters. In cities that boast strong regional industries, for example, in entertainment, health care, or steel, city locations near those industries could benefit new companies hoping to serve them.⁷⁸

Finally, access to labor in abundant supply and at relatively low-cost can be an advantage for companies that can use it.⁷⁹ Although the low cost of labor is not an advantage exclusive to the inner city, many companies have found that proximity to a good job leads to loyalty in the work force and success for the business.⁸⁰

Despite these advantages of an urban location, there are still disadvantages associated with inner city sites. For example, according to Porter, urban policies that favor social orientations over business orientations can lead to inner city disadvantages in the areas of education, job training, crime prevention, transportation, and land use.⁸¹ The reason these disadvantages occur is because socially oriented policies often fail to focus their education, job training, and other efforts on changes and advancements that would be conducive to business. Consequently, another non-environmental barrier to redevelopment might be urban policies with social orientations that fail to support business.

Although it is critical to reduce the environmental barriers to urban redevelopment, redevelopment efforts can only succeed if they address barriers to redevelopment on a broader scale. Current attempts to encourage "redevelopment are likely to produce only very

76. *See id.* at 16-18.

77. According to Porter, although the average household income in the inner city is quite low, the average income per acre of land is approximately twice that in even the wealthiest of suburbs. *See id.* at 18-21.

78. *See id.* at 21-22.

79. Note, however, that labor costs can be equally low in rural areas and lower in foreign counties. *See id.* at 22-23.

80. *See id.* at 22.

81. *See id.* For example, to better support businesses, training could focus on the needs of area business, crime prevention efforts could focus on the security of industrial and commercial areas, and education initiatives could focus on school-to-work programs. *See id.* Therefore, according to Porter, public resources could be invested in a way that can create and maintain jobs and the local economy. *See id.*

modest changes in the market for redeveloped brownfield sites.⁸² Real success depends not only on addressing and removing environmental barriers, but also on whether key changes related to non-environmental factors can be made in the competitiveness of inner city areas.⁸³ If brownfields redevelopment is to contribute significantly to urban revitalization, efforts to encourage redevelopment must reduce the non-environmental barriers as well as the environmental barriers to redevelopment. As Porter suggests, these efforts must also promote the competitive advantages of the inner cities.⁸⁴

III. FEDERAL BROWNFIELDS REDEVELOPMENT EFFORTS

Helping cities and communities redevelop brownfields land is one of the Clinton-Gore administration's top priorities for the EPA.⁸⁵ According to Gore, "[b]rownfields are not rusted dinosaurs from days gone by' . . . 'they are gold mines' that require seed money to revitalize communities."⁸⁶ Therefore, the federal government is heavily invested, in both financial commitment and rhetoric, in brownfields redevelopment as an avenue to significant urban economic redevelopment.⁸⁷

According to EPA Administrator Carol Browner, brownfields projects bring together community leaders, investors, developers, and citizens to work together; to turn economically abandoned areas into environmentally safe, economically attractive areas.⁸⁸ In communities with brownfields, brownfields redevelopment programs can bring about the general economic revitalization of neighborhoods that oth-

82. Iannone, *supra* note 42, at 43.

83. *See id.*; *see generally* PORTER, *supra* note 27 (arguing for a new approach to inner city economic development that focuses on the competitive advantages of the inner cities).

84. *See generally* PORTER, *supra* note 27.

85. *See Clinton Outlines Major Environmental Initiatives in Stump Speech*, 11 ENVTL. POL'Y ALERT REP. 34, 35 (1996).

86. Gore, *Other Officials Rap Congress For Trimming Requests on Redevelopment*, 29 Env't Rep. (BNA) 605 (July 17, 1998). Vice President Al Gore, EPA Administrator Carol Browner, and Housing and Urban Development Secretary Andrew Cuomo criticized Congress for cutting significant brownfields funding from the fiscal 1999 appropriations bill. *See id.* The House committee report on the subject expressed members' fears that brownfields funds were not being used for actual cleanups. *See id.*

87. Of course, the federal government has many active, important urban redevelopment programs. In recent years, however, substantial money and press attention has been devoted to the federal government's efforts to encourage urban renewal through the redevelopment of brownfields.

88. *See Administrator Browner's Comments on Brownfields Expansion* (visited May 12, 1999) <http://www.epa.gov/swerosps/bf/html-doc/wh0513_2.htm>.

erwise could not have gotten back on their feet.⁸⁹ Despite this administrative rhetoric, the EPA has resisted creating its own program to encourage voluntary private cleanups.⁹⁰

In 1994, the EPA introduced the Brownfields Economic Redevelopment Initiative to encourage the redevelopment of brownfield sites.⁹¹ One purpose of this effort was to revitalize urban communities with brownfield sites blighting their physical and economic landscapes.⁹² Another purpose was to protect the environment by encouraging cleanup of contaminated sites while discouraging industrial development of unspoiled suburban land.⁹³

The EPA's initial program included pilot grants, transfers of EPA staff to communities, job training, technical cleanup guidance, a common sense initiative, and resource coordination.⁹⁴ Each funded pilot received \$200,000 to support a two-year demonstration of creative redevelopment efforts.⁹⁵ The pilots provided models and data to facilitate a national policy discussion about how best to encourage and facilitate brownfields redevelopment.⁹⁶ They tested redevelopment models by trying to remove regulatory barriers.⁹⁷ According to the EPA, they encouraged community groups, investors, lenders, developers, and other affected parties to work together to clean up contaminated sites and return them to productive use.⁹⁸ In addition, they provide a series of redevelopment models for states and localities struggling to create their own programs and provide guidance to cities for cleaning up contaminated land.⁹⁹ The EPA is now providing "follow-on" funds through a revolving loan program that will help some of the pilot grant communities finance the cleanups they studied in their pilots. Specifically, Vice President Gore recently announced the award of twenty-three grants totaling over \$4 million "to help communities clean and redevelop brownfields."¹⁰⁰ As of March

89. See *id.*; see also John C. Wise, *EPA's Brownfields Economic Redevelopment Initiative*, LAND USE & ENV'T F., Summer 1995, at 151, 151.

90. See Buzbee, *supra* note 1, at 38, 54-96 (exploring the legislative and bureaucratic explanations for the lack of a federal voluntary cleanup approval process).

91. See *EPA Brownfields Website*, *supra* note 15.

92. See *id.*

93. See *id.*

94. See *id.*

95. See *id.*

96. See *id.*

97. See *id.*

98. See *id.*

99. See Wise, *supra* note 89, at 151; see also *EPA Brownfields Website*, *supra* note 15.

100. Vice President Gore Announces Grants to 23 Communities to Expand Efforts

1999, the federal government had "awarded 227 brownfields grants, for over \$42 million, to states, cities, towns, counties, and tribes."¹⁰¹

The EPA program is also assisting communities by providing EPA staff to help with technical issues. Some cities have entered into cooperative agreements with the EPA to fund full-time staff persons. The City of Los Angeles, for example, had an agreement with the EPA to retain an EPA staff member for a year to help with technical issues concerning brownfields redevelopment.¹⁰² In addition, the EPA is working on facilitating the job training necessary to stimulate the hoped for economic revitalization associated with brownfields cleanup.

The EPA is attempting to coordinate federal resources promoting economic development, job training, and community empowerment at local brownfield sites. Other federal agencies involved in this process include the Department of Commerce's Economic Development Administration, the Department of Housing and Urban Development, the Department of Agriculture, and the Department of Labor.¹⁰³

To help alleviate lenders' and developers' fears about liability, the EPA has created guidelines designed to inform them about the technical aspects of a cleanup. One document attempts to limit the obligations of lenders who hold interests in property with petroleum underground storage tanks.¹⁰⁴ Another guideline attempts to protect lenders from liability for contaminated property in which they hold a security interest, provided the lender does not exercise management and control of the property.¹⁰⁵ A third EPA guidance document revises the Community Reinvestment Act guidelines to give credit to banks that make loans for the cleanup or development of brownfield sites.¹⁰⁶ Another protects government entities, such as

to *Clean Up and Redevelop "Brownfields,"* White House Press Release, Mar. 12, 1999, available in 1999 WL 138799.

101. *Id.*

102. See *Vice President Gore Awards Brownfields Grants to 71 Communities, Expands Efforts to Revitalize Distressed Areas* (released July 15, 1998) <<http://www.epa.gov/brownfields/p.lt.htm>>.

103. See Robert I. McMurtry, *Brownfields*, 6 A.L.I.-A.B.A. 621 (1996); see also Wise, *supra* note 89, at 153.

104. See *Underground Storage Tanks—Lender Liability*, 60 Fed. Reg. 46,692 (1995) (codified at 40 C.F.R. §§ 280, 281 (1998)).

105. See *National Oil and Hazardous Substances Pollution Contingency Plan; Lender Liability Under CERCLA*, 57 Fed. Reg. 18,344 (1992) (codified at 40 C.F.R. § 300.1100 (1998)). The U.S. Court of Appeals for the District of Columbia struck down this rule in 1994. See *Kelley v. EPA*, 15 F.3d 1100, 1109 (D.C. Cir. 1994). In 1996, the U.S. Congress legislatively reinstated the lender liability rule. See 42 U.S.C.A. § 9601(E) (Supp. 1999).

106. See *Community Reinvestment Act*, 12 U.S.C.A. §§ 2901, 2903 (1994). The

municipalities, from liability for contaminated properties they acquired involuntarily or by operation of law.¹⁰⁷ A fifth EPA guidance document assures that the agency will not sue to recover cleanup costs from property owners, potential purchasers, or lenders who make loans on property above an aquifer contaminated by an unrelated source.¹⁰⁸ Finally, an EPA guidance document clarifies the circumstances under which the EPA will enter into a covenant not to sue a prospective purchaser ("Prospective Purchaser Agreements" or "PPAs") of contaminated property.¹⁰⁹

In addition to these efforts, the Clinton Administration has expanded its commitment to brownfields redevelopment.¹¹⁰ Its plans

Community Reinvestment Act regulations recognize loans for financing the cleanup or redevelopment of industrial sites in low or moderate income communities as credit toward meeting the Act's requirements. See Community Reinvestment Act, 60 Fed. Reg. 22,156, 22,160 & n.1 (1995). This may encourage lenders to become involved with brownfield sites despite the perceived risks. See OTA REPORT, *supra* note 1.

107. See Steven A. Herman & Lois Schiffer, *Policy on CERCLA Enforcement Against Lenders and Government Entities that Acquire Property Involuntarily* (last modified Sept. 22, 1995) <<http://es.epa.gov/oeca/osre/950922.html>>; see also Jerry Clifford & Lawrence E. Starfield, *Municipal Immunity from CERCLA Liability for Property Acquired through Involuntary State Action* (last modified Oct. 20, 1995) <<http://es.epa.gov/oeca/osre/951020.html>>.

108. See Final Policy Toward Owners of Property Containing Contaminated Aquifers, 60 Fed. Reg. 34,790 (1995).

109. See Announcement and Publication of Guidance on Agreements With Prospective Purchasers of Contaminated Property and Model Prospective Purchaser Agreement, 60 Fed. Reg. 34,792, 34,794 (1995) (superseding 54 Fed. Reg. 34,235 (1989)). There are five criteria a prospective purchaser must meet to be eligible for a PPA:

- (1) an EPA action has been taken at the facility, is ongoing, or is to be undertaken by the Agency;
- (2) the Agency will receive a substantial benefit either in the form of a direct benefit for cleanup, or as an indirect public benefit in combination with a reduced direct benefit to EPA;
- (3) the continued operation of the facility or new site development, with exercise of due care, will not aggravate or contribute to the existing contamination or interfere with EPA's response action;
- (4) the continued operation or new development of the property will not pose health risks to the community and those persons likely to be present at the site; and
- (5) the prospective purchaser is financially viable.

U.S. EPA Guidance on Settlements with Prospective Purchasers of Contaminated Property, 60 Fed. Reg. 34,794 (1995).

110. See EPA Fact Sheet: *Clinton Administration Expands Brownfields*, (last modified May 15, 1997) <http://www.epa.gov/swerosps/bf/html-doc/wh0513_3.htm> [hereinafter *Clinton Administration*]; see also *Brownfields National Partnership Action Agenda*, QUICK REFERENCE FACT SHEET (EPA, Washington, D.C.), May 1997.

for expansion include:

(1) A new brownfields national partnership. This is a two year plan to encourage cleanups at 5,000 sites around the country from more than twenty-five organizations (at least fifteen of which are federal agencies) and includes more than 100 commitments.¹¹¹ As part of the new federal partnership, fifteen government agencies will provide assessment, cleanup, and job training funds,¹¹² redevelopment and housing funds and loan guarantees,¹¹³ redevelopment of distressed areas,¹¹⁴ coastal community revitalization,¹¹⁵ and surveys to speed federal property development.¹¹⁶ In addition, the Department of Health and Human Services will work with many federal agencies to develop a public health policy to protect community residents near brownfield sites.¹¹⁷ The Department of the Treasury will work with Congress on President Clinton's proposal for a \$2 billion brownfields tax incentive, and the EPA, the Department of Justice, and the states will work together to create national guidelines for state voluntary cleanups.¹¹⁸ In addition, the Department of Transportation will provide funding for sustainable transportation

111. See *Clinton Administration*, *supra* note 110. This partnership will result in: [a] \$300 million federal investment in brownfields cleanup and redevelopment, [and] \$165 million in loan guarantees to advance community revitalization; [l]everaging from \$5 billion up to \$28 billion in private investment to redevelop [brownfields]; [s]upport [for] up to 196,000 new jobs; [p]rotection of up to 34,000 acres of undeveloped "greenfield" areas, and quality of life improvement for [persons] living near these communities.

Id.; see also *Brownfields National Partnership Action Agenda*, *supra* note 110.

112. \$125 million of this will come from the EPA with additional support from the Departments of Health and Human Services, Labor, and Education. See *Clinton Administration*, *supra* note 110; see also *Brownfields National Partnership Action Agenda*, *supra* note 110.

113. \$155 million in housing funds and \$165 million in loan guarantees will come from the Department of Housing and Urban Development. See *Clinton Administration*, *supra* note 110; see also *Brownfields National Partnership Action Agenda*, *supra* note 110.

114. \$17 million from the Economic Development Administration. See *Clinton Administration*, *supra* note 110; see also *Brownfields National Partnership Action Agenda*, *supra* note 110.

115. \$900,000 from the National Oceanic and Atmospheric Administration in the Department of Commerce. See *Clinton Administration*, *supra* note 110; see also *Brownfields National Partnership Action Agenda*, *supra* note 110.

116. \$1 million from the General Services Administration. See *Clinton Administration*, *supra* note 110.

117. See *id.*; see also *Brownfields National Partnership Action Agenda*, *supra* note 110.

118. See *Clinton Administration*, *supra* note 110; see also *Brownfields National Partnership Action Agenda*, *supra* note 110.

with a focus on brownfields issues and the Department of Energy will provide funding to link DOE cleanups with brownfields communities.¹¹⁹

(2) New pilot grants will provide more communities with seed money to spur redevelopment. Building on the success of the initial pilot program grants, this program added "[thirty-four] grants of up to \$200,000 to national or regional brownfields redevelopment pilot projects."¹²⁰

(3) A call to Congress to pass brownfields tax incentive legislation. The Clinton Administration's Brownfields legislative package includes a tax incentive to encourage brownfields redevelopment.¹²¹ The administration expects the \$2 billion tax incentive to leverage \$10 billion in private sector investment.¹²²

A strong commitment to brownfields redevelopment is visible from these federal efforts. Also evident is that the EPA is at the center of the federal government's commitment to brownfields redevelopment, with assistance, cooperation, and some coordination from other federal agencies. Finally, it is clear that although the federal government has never created its own voluntary cleanup program,¹²³ federal redevelopment efforts are focused on reducing or eliminating environmental barriers to redevelopment. At the federal level, there is little attention paid to non-environmental barriers to brownfields redevelopment.

IV. STATE BROWNFIELDS REDEVELOPMENT EFFORTS

In addition to redevelopment efforts at the federal level, many state governments have invested heavily in the concept of urban renewal through brownfields redevelopment. State legislatures and administrative agencies throughout the country have created environmental programs designed to encourage the redevelopment of brownfields.¹²⁴ Although led and encouraged by the federal govern-

119. See *Brownfields National Partnership Action Agenda*, *supra* note 110.

120. *Clinton Administration*, *supra* note 110; see also *Brownfields National Partnership Action Agenda*, *supra* note 110.

121. See *Clinton Administration*, *supra* note 110.

122. See *id.*

123. See Buzbee, *supra* note 1, at 39-43 (suggesting that Congress pass legislation that would require the EPA to create either its own voluntary cleanup program or a cleanup approval process).

124. See generally COMPREHENSIVE GUIDE, *supra* note 13; BROWNFIELDS LAW AND PRACTICE: THE CLEANUP AND REDEVELOPMENT OF CONTAMINATED LAND, *supra* note 7; Joel B. Eisen, "Brownfields of Dreams?": Challenges and Limits of Voluntary Cleanup Programs and Incentives, 1996 U. ILL. L. REV. 883 (discussing the purposes, strengths, and shortcomings of numerous state voluntary cleanup pro-

ment, states have developed programs that encourage brownfields redevelopment by reducing or eliminating the environmental barriers to redevelopment—liability and cleanup costs.¹²⁵ Although they come in many forms, these programs tend to include three core elements aimed at reducing environmental barriers to redevelopment. First, with respect to the threat of significant, eternal, unpredictable liability, most programs ultimately provide a release to the participant from liability to the state for environmental damage at the site. Second, regarding the high cost of site remediation, most state programs provide several tiers, or levels of cleanup standards, allowing some properties to be remediated to lesser standards than would be allowed under other state and federal programs. These standards are determined according to the intended future use of the land, though other factors are also considered, such as risk to human health and the environment and technological feasibility. Third, many programs allow cleanup methods that create physical barriers to human exposure to contamination at the site and are not generally permitted under state and federal mandatory cleanup programs. These methods, such as capping or paving a site, can reduce the high cost of site remediation, another environmental barrier to redevelopment. Some programs allow “engineering controls” and “land use restrictions” to qualify as site remediation.

For example, a volunteer participant in Ohio’s brownfields program independently seeks a private environmental professional, called a “certified professional” to oversee assessment and cleanup of the site according to the rules of the state Voluntary Action Program.¹²⁶ If there is no evidence of contamination after an initial assessment, the certified professional may issue a No Further Action letter (hereinafter “NFA letter”). An NFA letter effectively states that, according to the scientific judgment of the certified professional, the property in question meets the applicable standards and no further cleanup measures are necessary.¹²⁷ The certified professional

grams).

125. See William W. Buzbee, *Brownfields, Environmental Federalism, and Institutional Determinism*, 21 WM. & MARY ENVTL. L. & POLY REV. 1, 2, 39 (1997) (noting that federal, state, and local programs exist to encourage brownfields redevelopment, and that the states have been innovators in this area, whereas the federal government is usually the leader in the development of environmental laws).

126. See OHIO REV. CODE ANN. § 3746.10(B)(1)(b) (Anderson 1997). The certification requirements for certified professionals are at OHIO ADMIN. CODE § 3745-300-05(B) (1998). See also BROWNFIELDS LAW AND PRACTICE: THE CLEANUP AND REDEVELOPMENT OF CONTAMINATED LAND, *supra* note 7, § OH.01(2)(c).

127. See OHIO REV. CODE ANN. § 3746.10(A); OHIO ADMIN. CODE § 3745-300-13; see also E. Lynn Grayson & Stephen A.K. Palmer, *The Brownfields Phenomenon*:

submits the NFA letter to Ohio EPA and, in exchange, the agency grants the volunteer participant a "Covenant Not to Sue" ("Covenant").¹²⁸ This Covenant guarantees the volunteer remediator that Ohio EPA will not require additional future remedial activities at the site¹²⁹ and thus limits the property owner's environmental liability to Ohio EPA with respect to that site.¹³⁰ If the Phase I¹³¹ site assessment indicates that hazardous substances or petroleum have been treated, stored, managed, or disposed of on the property, however, the property owner must continue the assessment process to the Phase II level¹³² and also complete a cleanup. After the cleanup is complete, the certified professional issues an NFA letter, and Ohio EPA issues a Covenant.

The Covenant, once issued, runs with the land¹³³ and protects

An Analysis of Environmental, Economic, and Community Concerns, 25 ENVTL. L. REP. 10,337 (1995).

128. See OHIO REV. CODE ANN. § 3746.12; OHIO ADMIN. CODE § 3745-300-13.

129. See OHIO REV. CODE ANN. § 3746.12(A); see also Daniel Michel, Comment, *The CERCLA Paradox and Ohio's Response to the Brownfield Problem: Senate Bill 221*, 26 U. TOL. L. REV. 435, 456-457 (1995) (including an overview of Ohio's Voluntary Action Program).

130. See Michel, *supra* note 129, at 457. Notably, covenants in Ohio and elsewhere cannot release a participant from liability to U.S. EPA. In addition, they do not protect participants from liability to third parties. See OHIO REV. CODE ANN. § 3746.12(A)(1). Many states, although not all, have entered into Memoranda of Agreement with the applicable EPA Region through which they agree that the EPA will not pursue sites remediated under a state brownfields program, provided they do not present imminent or substantial endangerment.

131. A Phase I assessment includes:

- a. Review and analysis of deeds, mortgages, easements of record, and similar documents relating to the chain of title;
- b. Review and analysis of previous assessments, studies, or geologic studies of the property and surrounding properties that are publicly or reasonably available to the volunteer;
- c. Review of environmental compliance records of the property and all previous owners or operators of the property;
- d. Review of aerial photography;
- e. Interviews with managers and other key personnel;
- f. Conducting a walkover inspection; and
- g. Identifying current and past uses of property, adjoining tracts, and surrounding area, including interviews with neighboring residents or employees. See OHIO ADMIN. CODE § 3745-300-06(A), (D).

132. See OHIO ADMIN. CODE § 3745-300-07(A)(1); see also Michel, *supra* note 129, at 455 & n.191; Jenifer Kwasniewski, *Summary Outline of Voluntary Action Program* (last modified June 25, 1997)

<<http://www.epa.state.oh.us/derr/vap/rulesumm.html>>.

133. This means that the Covenant applies to future owners of the site as well as to the current owner. To run with the land, the Covenant must be recorded with the deed to the property along with any additional site restrictions that may apply. See OHIO REV. CODE ANN. § 3746.14.

current and future owners from liability to Ohio EPA for existing contamination, provided the contamination levels existing at the time of the Covenant do not increase.¹³⁴ The Ohio EPA enforces compliance with cleanup standards by conducting random audits of approximately 25 percent of the sites that received a Covenant in the previous calendar year.¹³⁵

Many other states also provide releases from liability for the volunteer remediator of a brownfield, although the extent of the release varies by state, by level of environmental damage at the site, by extent of the cleanup, and according to the level of responsibility of the applicant for contamination at the site.¹³⁶ Although there is no agreement to this effect, because the state standards are "concomitantly in compliance with federal standards," "a covenant not to sue issued by a state is an 'implicit shield against the threat of federal cleanup action suits.'"¹³⁷

The second basic feature of state brownfields programs is the availability of multiple levels of cleanup standards. This reduces the overall cost of cleanup and is intended to improve efficiency in preparing brownfield sites for reuse. In their efforts to remove environmental barriers to brownfields redevelopment, states have begun departing from the traditional, rigid, health-based standards found in the federal law, CERCLA, and in most state mandatory cleanup programs. Instead, states are adopting risk-based corrective action standards for brownfield cleanups, determined according to the intended future use of the land. Several studies and reports have supported these efforts, finding "a general belief that clean-up stan-

134. See *id.* § 3746.12(B)(1).

135. See *id.* § 3746.17(B); see also Jack Pulley et al., *Developing Brownfield Sites: Comparing Two Approaches*, MICH. L. WKLY., Sept. 25, 1995, at 6, 30.

136. See, e.g., ARIZ. REV. STAT. ANN. § 49-154(E) (West Supp. 1998); ARK. CODE ANN. § 8-7-1104(d)(1) (Lexis Supp. 1999); COLO. REV. STAT. ANN. § 25-16-306(2) (West Supp. 1997); DEL. CODE ANN. tit. 7, § 9105(e) (1998); FLA. STAT. ANN. § 376.82(2)(a) (West Supp. 1999); GA. CODE ANN. § 12-8-96.3(c) (1996); IDAHO CODE § 39-7207 (1999); 415 ILL. COMP. STAT. ANN. 5/58.10(b) (West 1997); IND. CODE ANN. § 13-25-5-18 (West 1998); IOWA CODE ANN. §§ 455H.107(6), 455H.301 (West Supp. 1999); KAN. STAT. ANN. § 65-34,169(b)(3) (Supp. 1997); ME. REV. STAT. ANN. tit. 38, § 343-E(1), (5) (West 1998); MD. CODE ANN. ENVIR. §§ 7-501, 7-514 (1997); MICH. COMP. LAWS ANN. § 324.20132 (West 1999); MONT. CODE ANN. § 75-10-738 (Smith 1997); N.H. REV. STAT. ANN. § 147-F:5 (Supp. 1998); N.C. GEN. STAT. § 130A-310.33(a) (1990); OKLA. STAT. ANN. tit. 27A, § 2-15-108 (West 1997); OR. REV. STAT. ANN. § 465.325(7)(a) (1992); 35 PA. CONS. STAT. ANN. § 6026.501(a) (West Supp. 1999); TEX. HEALTH & SAFETY CODE ANN. § 361.609 (West Supp. 1999); UTAH CODE ANN. § 19-8-113 (Supp. 1999); VT. STAT. ANN. tit. 10, § 6615a (1999); VA. CODE ANN. § 10.1-1429.2 (Michie 1998); W. VA. CODE § 22-22-18(a) (1998); WIS. STAT. ANN. § 292.15(2) (West 1999).

137. Michel, *supra* note 129, at 458.

dards should be based on actual threats to human health and the environment.”¹³⁸ The goal of programs with flexible, variable, or tiered standards is to assign standards sufficiently stringent to make properties safe for the owners’ intended future use, but no more so. This is an effort to make cleanups satisfactory yet cost efficient, and in this way, to encourage redevelopment.

The question of how clean is sufficient has plagued legislators, administrators, and the regulated community at the state and federal levels since the inception of Superfund-type laws.¹³⁹ There are several general notions about what constitutes sufficiently clean. Under the first notion, a cleanup standard should require a landowner to return a property to its pre-release condition. The second idea is that cleanup standards should require landowners to clean all contaminated properties to a residential-use standard so that current or future owners could use the land for any use, up to and including residential. The third theory is that cleanup standards should require landowners to clean contaminated property only to the level necessary for its intended future use, be that residential, commercial, or industrial. It is this third notion that is often called a flexible, variable, tiered, or risk-based system of standards.

In allowing these flexibilities, states hope to accept reduced cleanup standards in exchange for efficient redevelopment.¹⁴⁰ For exam-

138. HILL & DENWORTH, *supra* note 18, at 4. Stakeholders believe it “appropriate to develop generic health-based standards for particular substances” to be applied to any site, but that “this should not preclude clean-ups to site specific standards” based on actual risks determined by future land use. *Id.*; see also INITIAL FRAMEWORK, *supra* note 13. In its five recommendations to the President and Congress, the U.S. Conference of Mayors states that the “[s]election of cleanup standards based on a property’s end use can result in significant savings for the developer and enhance the likelihood that a facility will be remediated and redeveloped.” *Id.* Therefore, the Mayors’ report recommends that the federal government push to expedite brownfields redevelopment by recommending cleanup standards based on future end-use of the land. See *id.*

139. See generally Linda K. Breggin et al., *State Superfund Programs: An Overview of the Environmental Law Institute’s (ELI’s) 1998 Research*, 4 ALB. L. ENVTL. OUTLOOK 1 (1999) (noting that in the 1980s states had little experience deciding what cleanup standards to apply).

140. See generally John Pendergrass, *Use of Institutional Controls as Part of a Superfund Remedy: Lessons from Other Programs*, 26 ENVTL. L. REP. 10,109 (1996) (discussing the use of institutional controls to ensure the safety of cleanups under reduced cleanup standards). There are several problems with these systems, however. First, one danger to human health associated with tying cleanup standards to future land use is that the future land use, despite land use restrictions, is not eternally controllable. See generally Robert A. Simons & Heidi Gorovitz Robertson, *The Role of Deed Restrictions and Other Institutional Controls in State Brownfields Programs*, ENVTL. L. & PRAC., Summer 1999, at 31, 31-38. There is a threat to public health if the land use of a contaminated industrial site changes, in the

ple, Ohio's program allows participants to apply cleanup standards according to the intended future use of the property.¹⁴¹ This allows owners of sites intended for industrial or commercial uses to clean those sites to standards less stringent than would be applicable to future residential sites.¹⁴² Many states employ a similar system for facilitating brownfields cleanups.¹⁴³

Before 1994, Connecticut required that owners or developers participating in that state's cleanup program clean contaminated sites to pristine levels. But with the enactment of Connecticut's brownfields redevelopment law, that state has enacted a more flexible system. The Connecticut legislature authorized the state Department of Environmental Protection to institute "differentiated or flexible standards based on proposed future uses" of a site.¹⁴⁴ Thus, cleanup standards for brownfields in Connecticut, as in Ohio and other states, vary depending on the landowner's intended future land use, for residential, commercial, or industrial purposes. Massachusetts' program is similar to Connecticut's as it applies different cleanup standards to properties according to the intended future use of the land, and uses deed restrictions, called "activity and use limitations" to control future use and protect future landowners and others who might interact with the site.¹⁴⁵

future, to residential use without additional cleanup. *See id.*; *see also* HILL & DENWORTH, *supra* note 18, at 4. A second, but related, problem lies in the fact that many poor and minority communities host abandoned industrial sites. Therefore, they become neighbors to sites cleaned up to lesser standards. *See supra* note 58 and accompanying text.

141. *See* OHIO REV. CODE ANN. § 3746.09; OHIO ADMIN. CODE § 3745-300-12.

142. *See* Pulley et al., *supra* note 135, at 6.

143. *See, e.g.*, ALAB. CODE § 22-30A-6 (1997); COLO. REV. STAT. ANN. § 25-16-305 (West Supp. 1998); GA. CODE ANN. § 12-8-96; 415 ILL. COMP. STAT. ANN. 5/58.6; IOWA CODE ANN. § 455H.201 (West Supp. 1999); KAN. STAT. ANN. §§ 65-34,166, 65-34,167 (Supp. 1997); MD. CODE ANN. ENVIR. § 7-508 (1999); MICH. COMP. LAWS ANN. § 324.20120(1)(a)-(j); MONT. CODE ANN. § 75-10-721(2)-(3); N.C. GEN. STAT. § 130A-310.32(b), 310.35(a)(3); OKLA. STAT. ANN. tit. 27A, § 2-14-304(b); OR. REV. STAT. ANN. § 465.315(2)(a); 35 PA. CONS. STAT. ANN. § 6026.303 (West Supp. 1999); UTAH CODE ANN. § 19-8-110(5) (Supp. 1999); W. VA. CODE § 60.3.9.

144. *See* McWilliams, *supra* note 3.

145. For example, the Massachusetts regulations identify sites according to current use and the intended future use and categorize them accordingly. *See* MASS. REGS. CODE tit. 310, § 40.0923 (1999).

The documentation of the Risk Characterization shall identify and describe the Site Activities and Uses associated with the disposal site and the surrounding environment. . . .

(1) The Site Activities and Uses shall include all current and reasonably foreseeable uses and activities occurring at the disposal site or in the surrounding environment which could result in exposure to oil and/or hazardous material by Human or Environmental Receptors.

The Indiana brownfields law also provides for flexible cleanup standards. These standards allow the owner of a contaminated parcel to select the level of cleanup desired, but in Indiana the choice of cleanup level directly reflects the level of protection the owner will receive from the state. In Indiana, "[t]he more extensive the cleanup, the more extensive the protection from future liability."¹⁴⁶

Similar to other states with flexible cleanup standards, Pennsylvania's brownfields law provides for compliance with one or more cleanup levels which include background standards, statewide health-based standards, and/or site-specific standards. If a volunteer remediator pursues the background or statewide health-based standards, the "[s]ites are rewarded with exemption from deed notice requirements. . . [c]onsequently, subsequent transfer[s] of remediated property [are] not subjected to the stigma of being a formerly contaminated site."¹⁴⁷

Despite flexibility in applicable cleanup standards, states argue that they have adhered to standards sufficient to protect public health, particularly from cancer risk.¹⁴⁸ To insure that a site ap-

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(2) The current Site Activities and Uses associated with the land itself, with structures in and on the land, and with the groundwater, surface water, soil, sediment or other medium which could result in exposure of Human or Environmental Receptors to oil and/or hazardous material shall be identified and described. . . .

(3) The reasonably foreseeable Site Activities and Uses shall include any possible activity or use that could occur in the future to the extent that such activity or use could result in exposures to Human or Environmental Receptors that are greater than the exposures associated with current Site Activities and Uses, except that:

.
(6) Examples of Site Activities and Uses associated with Human Receptors include, without limitation:

- (a) the use of a building as an office, store or residence;
- (b) the use of water as drinking water, for washing floors or watering lawns;
- (c) the cultivation of fruits and vegetables destined for human consumption (e.g., gardening or farming) and the cultivation of ornamental plants;
- (d) the excavation of soil;
- (e) recreational activities, such as playing baseball, swimming, fishing and hiking;
- (f) leisure activities, such as picnicking, sunbathing and entertaining. . . .

Id.

146. Georgette C. Poindexter, *Addressing Morality in Urban Brownfield Redevelopment: Using Stakeholder Theory to Craft Legal Process*, 15 VA. ENVTL. L.J. 37, 53 (1995).

147. Sweeney, *supra* note 1, at 154.

148. See Dinsmore, *supra* note 17, at 40.

proved under an industrial use standard does not become a residential property, Ohio, and other state programs with variable cleanup standards, require deed restrictions binding the land to an intended future use.¹⁴⁹ Generic numeric standards inform volunteer remediators and certified professionals of the applicable standards for each of three types of land use, residential, commercial, and industrial.¹⁵⁰

In addition to allowing flexible cleanup standards, in efforts to reduce environmental barriers to redevelopment, many states allow alternative cleanup methods to make the cleanup process faster and more efficient.¹⁵¹ For example, in Georgia, a participant in a brownfields cleanup may use engineering controls as part of their plan to reduce or eliminate the potential for human exposure to contaminants at a site. Engineering controls include such methods as capping, point of use treatment, and slurry walls.¹⁵² Many states allow such control measures as part of a site cleanup plan, rather than requiring complete removal or remediation.¹⁵³

Furthermore, most state programs provide financial incentives for parties undertaking a voluntary cleanup. These include: (1) low interest loans; (2) ten year tax abatements; (3) consolidated Standard Permit agreements; and (4) an opportunity for the volunteer to recover remediation costs from the responsible parties (except in natural gas and petroleum cleanups).¹⁵⁴ For example, Pennsylvania has a program that provides \$2 million for site characterizations and cleanups in distressed communities. Illinois offers businesses a 25 percent corporate income tax credit to offset the cost of site remediation. In Ohio, companies can get a ten year state tax abatement for the increase in property values occurring as a result of a cleanup. Ohio

149. See OHIO REV. CODE ANN. § 3746.05. For a thorough analysis of the use of institutional controls in cleanup programs, see Pendergrass, *supra* note 140, at 10,109. New York requires the party conducting the cleanup to place appropriate deed restrictions on the property to ensure it is not used for a "higher" use than that for which it met cleanup standards. See Charles E. Sullivan, NY Dep't of Env'tl. Conservation Voluntary Cleanup Program 2 (undated) (on file with author). See, e.g., IOWA CODE ANN. § 455H.206(3) (West Supp. 1999); MICH. COMP. LAWS ANN. § 324.20120a; see also Simons & Robertson, *supra* note 140.

150. See OHIO ADMIN. CODE § 3745-300-08(B)(2)(c), (B)(3); see also Kwasniewski, *supra* note 132.

151. See, e.g., IOWA CODE ANN. § 455H.205 (West Supp. 1999); GA. COMP. R. & REGS. r. 391-3-19-.07 (1998).

152. See GA. COMP. R. & REGS. r. 391-3-19.07(10)(a).

153. See, e.g., IOWA CODE ANN. § 455H.206 (West Supp. 1999); GA. COMP. R. & REGS. r. 391-3-19.07(10)(a); see also BROWNFIELDS LAW AND PRACTICE: THE CLEANUP AND REDEVELOPMENT OF CONTAMINATED LAND, *supra* note 7, § IL.01[2][d].

154. See Sweeney, *supra* note 1, at 130-32.

localities can offer an additional ten-year waiver. Connecticut has a Special Contamination and Rehabilitation Insurance Fund. In New Jersey, the state redevelopment authority has gotten involved and is focusing on redevelopment of contaminated sites. Minnesota also has adopted a special fund, the Comprehensive Site Cleanup and Development Fund.¹⁵⁵

V. A SURVEY OF BUSINESSES' DECISION-MAKING REGARDING SITE SELECTION AND THE ENVIRONMENTAL STATUS OF POTENTIAL SITES

Before the early 1980s, the contaminated status of a site was not a critical factor in corporate relocation decisions.¹⁵⁶ In numerous studies regarding the factors important to companies making site selection decisions, the environmental status of the site was not even on the list of considerations.¹⁵⁷ Since then, however, some have come to believe that the environmental status of a site plays an important role in corporate decisions to expand in an urban setting, move to or within an urban area, or relocate to greenfield land.¹⁵⁸ For this reason, federal, state, and local governments have focused on reducing the environmental barriers to urban redevelopment by creating brownfields redevelopment or voluntary cleanup programs.

155. See *id.* at 133-36.

156. See Swartz, *supra* note 38, at 329; see also Stanton F. Roth, *Current Trends in Corporate Relocation*, CORP. DESIGN, Nov./Dec. 1983, at 25-26.

157. See Roth, *supra* note 156, at 25-26; see also Mark L. Goldstein, *Choosing the Right Site*, INDUSTRY W., Apr. 15, 1985, at 57-60. This survey found geographic location, high worker productivity, land transportation, and low union profile to be the four most important factors to site selection. See Goldstein, *supra*; see also Steve Bergsman, *Incentives, Location, Quality of Life: All Figure into the Site Selection Equation*, NAT'L REAL EST. INV., Oct. 1993, at 158-60; *Ernst & Young and the International Association of Corporate Real Estate Executives (NACORE)*, ECON. DEV. REV., Winter 1994, at 85-89 [hereinafter *Ernst & Young Report*]; Toby N. Gooley, *The Geography of Logistics*, LOGISTICS & DISTRIBUTION REP., Jan. 1998, at 63-65; James E. Mooney, *Creative Efforts at the Local Level for Providing Business Attraction and Expansion Incentives*, ECON. DEV. REV., Fall 1994, at 52-57; Rick Mullin, *Site Selection*, J. BUS. STRATEGY, May/June 1996, at 27-28; Ronald R. Pollina, *The Clients*, ECON. DEV. REV., Spring 1997, at 70-74; Mike Sheridan, *Site Selection Smorgasbord: Changing Work Patterns Force Choices*, NAT'L REAL EST. INV., Oct. 1995, at 76-87; *Site Selection Factors*, COM. INV. REAL EST. J., Nov./Dec. 1998, at 4; Kay Tiller, *Corporate Site Selection: Incentive Importance Varies in Decisions, But Economics are Central to Moves*, NAT'L REAL EST. INV., Oct. 1994, at 129-30; Tim Venable, *Economic Development's Rosy '97 Forecast: More Information, Better Service for Corporate Clients (Survey of Development Officials)*, SITE SELECTION, Dec. 1996, at 971-72.

158. See Swartz, *supra* note 38, at 329 (arguing that because of CERCLA's liability scheme, industrial and commercial relocation decisions "have been significantly reoriented to encompass environmental contamination factors").

In fact, a newspaper editorial called one state's brownfields bill "[t]he best long-range jobs-creation bill to move through the . . . Senate in years."¹⁵⁹ In a subsequent editorial the newspaper described the bill as a "jobs bill" that "would extend a welcome mat to the developers and their jobs."¹⁶⁰ These editorials reflect the widespread belief that this brownfields program, specifically designed to reduce the environmental barriers to redevelopment, would lure companies and jobs to blighted urban areas.

This section assesses whether voluntary cleanup programs that focus on reducing the environmental barriers to redevelopment can yield the urban revitalization and jobs their promoters envisioned. First, it describes the recent literature regarding factors that influence corporate relocation decisions. Second, it describes a survey I conducted of factors critical to the recent relocation or site selection decisions of Northeast Ohio companies.¹⁶¹ It then analyzes the survey responses and draws conclusions with respect to the relative importance of various screening factors to corporate relocation decisions. This section concludes that although the environmental status of candidate sites is an important early screening factor, it is often not important to final site selection decisions. This result may stem from companies screening out environmentally impaired properties early in the site selection process. Even so, the survey shows that in the early screening process and in final site selection decisions, there are non-environmental factors that are at least as important to businesses' decision-making as the environmental status of the site. This section concludes, therefore, that Ohio's program, while facilitating some cleanup of urban brownfields, will not be a catalyst for substantial urban renewal without expanding its focus to include non-environmental barriers to redevelopment. Because Ohio's program is not unique in its focus on reducing environmental barriers, this analysis also applies to other state programs that similarly neglect the non-environmental factors this survey indicates are critical to businesses' site selection and relocation decisions.

159. Editorial, *Senate: Pass Brownfields Bill*, PLAIN DEALER (Cleveland), Feb. 28, 1994, at 6B.

160. Editorial, *Creating Jobs in Urban Areas*, PLAIN DEALER (Cleveland), May 15, 1994, at 2C.

161. The results of this survey were first presented by Heidi Gorovitz Robertson & Alan Reichert at the American Real Estate Society Annual Meeting in Tampa, Florida, April 9, 1999.

A. *A Discussion of Recent Literature on Corporate Relocation Decisions*

In 1983, a survey of companies in thirty-five cities revealed that the issues of prime importance to corporate executives when making decisions regarding corporate relocations were convenience, economic advantage, and quality of life.¹⁶² Other important factors included obsolescence of existing premises, availability of support services, and changing demographic patterns.¹⁶³ At the time, companies were finding suburbs, with their less stringent building codes and cheaper land, more attractive for offices than the high rents in the central business districts.¹⁶⁴

Another mid-1980s study indicated that the factors most important to site selection decisions were geographic location, high worker productivity, land transportation, and low union profile.¹⁶⁵ Of lesser importance were a stable state government, skilled labor availability, long-term financing, and energy sources. All other factors were slightly less important, and this list of factors did not even include the environmental status of candidate sites.¹⁶⁶

These studies from the 1980s, although informative regarding the relative importance of non-environmental site selection factors, cannot provide information regarding the importance of environmental factors in corporate site selection decisions. This is largely because CERCLA and the state Superfund programs were still very new.¹⁶⁷ It is unlikely that businesses understood the potential impact of the new laws. Therefore, the environmentally related costs and liability threats the new laws brought likely did not play a major role in site selection decisions.

A 1988 Canadian study of corporate relocation decisions asked executives to evaluate twenty criteria important to their relocation decisions.¹⁶⁸ Although the environmental legal landscape is different in Canada than it is in the U.S., notably absent from the list of criteria was any reference to the environmental status of the site. Further, the study asked no open questions that would have allowed decision-makers an opportunity to describe the role of environmental

162. See Roth, *supra* note 156, at 25-26.

163. See *id.*

164. See *id.*

165. See Goldstein, *supra* note 157, at 57-60.

166. See, e.g., Roth, *supra* note 156.

167. CERCLA was enacted in 1980. See 42 U.S.C.A. § 9601 (1994 & Supp. 1999).

168. See Ken Bowlby, *The Corporate Location Decision: A Priority View of Multiple Criteria*, ECON. DEV. REV., Spring 1988, at 37-39.

issues in their decision-making. This study noted that early approaches to understanding corporate relocation decisions were grounded in rational economic behavior.¹⁶⁹ It observed that corporate decision-making processes selected the most profitable combination of site costs, market costs, technological factors, and government intervention. Yet it also concluded that many factors influencing relocation decisions are not easily or reliably quantifiable. The study concluded, therefore, that decision-making theories that fail to address those factors are both incomplete and unreliable. Instead, the study argued, examining the priorities that companies place on a variety of key relocation criteria can help economic development officials better understand corporate location decisions.¹⁷⁰ These ideas are equally applicable in Canada and the U.S.

The Canadian study identified several core factors in the relocation decision, including market size, labor pool, market potential, and whether the area is a financial center.¹⁷¹ Factors that respondents often mentioned as important to the decision, but not very highly rated among the important factors, included cost base, accessibility, infrastructure, market proximity, and internal transportation.¹⁷² Factors cited infrequently by respondents, but ranked high in importance included: raw material availability, demographics, economic stability, organizational fit, and labor stability.¹⁷³ Factors the study found less important to location decisions included taxes, tourism, competition, quality of life, utility services, and government support.¹⁷⁴

Corporate real estate executives, economic development officials, and site selection consultants have agreed that, although access to transportation, utilities, availability of services, and quality of life all play a role in corporate site selection decisions, the financial bottom line was still the most important factor.¹⁷⁵ Furthermore, factors will vary in relative importance according to the type of business.¹⁷⁶ For example, retailers consider the size of the local market to be a high priority, whereas manufacturers find it more important to be near to

169. See *id.*

170. See *id.*

171. See *id.*

172. See *id.*

173. See *id.*

174. See *id.* Note, however, that Canadian law prohibits communities from providing incentives to the extent allowable in the United States. See *id.* at 38.

175. See Tiller, *supra* note 157, at 129-30.

176. See *When You Want to Move Your Business: Tips on Choosing a New Location*, PROFIT-BUILDING STRATEGIES BUS. OWNERS, Oct. 1990, at 6-7.

raw materials and a suitable labor pool.¹⁷⁷

One study found that four factors of historical importance to site selection are still of primary importance today, despite fast-changing business climates.¹⁷⁸ The first is physical infrastructure, including natural and man-made features.¹⁷⁹ The second is proximity to suppliers and customers.¹⁸⁰ The third are political and tax considerations, including government incentives and political climate.¹⁸¹ Lastly, the fourth, (for companies for which it is applicable), are international trade considerations, such as duty rates and international transportation costs.¹⁸²

Another study, focusing on the efforts of economic development offices to influence corporate relocation decisions, found that although incentives are important to encouraging a company to move to a particular location, they become important only after an area makes the company's short list of possible locations.¹⁸³ An early 1990s study by Deloitte & Touche Realty Consulting Group revealed that financial incentives ranked fourteenth out of seventeen relocation decision-making factors.¹⁸⁴ Promises of infrastructure improvements, property tax abatement, tax credits, subsidized training, and other incentives do not play a major role for companies in the early stages of site selection. In the final stages, however, these factors can be pivotal. In fact, 82% of the surveyed corporations said that incentives were important in comparing their top three to five locations, and 61% said they were important in making the final selection.¹⁸⁵ Considered in isolation, incentives are a poor reason to relocate, but they can be critical in a final site selection decision.¹⁸⁶

The Deloitte & Touche study also found that real estate costs ranked first in importance, followed by labor force issues, transportation, real estate availability, and market access.¹⁸⁷ The study noted that labor force issues frequently appear near the top of many rankings.¹⁸⁸ While in the past companies were looking for an abundance of cheap labor, they now look for higher skilled workers and workers

177. See *id.*

178. See Gooley, *supra* note 157, at 63-65.

179. See *id.*

180. See *id.*

181. See *id.*

182. See *id.*

183. See Bergsman, *supra* note 157, at 158-160.

184. See James Krohe, Jr., *Relocation Reconsidered*, ACROSS THE BOARD, Feb. 1995, at 40-46.

185. See *id.*

186. See Pollina, *supra* note 157, at 70-74.

187. See Bergsman, *supra* note 157, at 158-60.

188. See *id.*

who meet certain educational standards. This study also showed that decision factors are interconnected, complicating their importance for different types of companies. For example, for some kinds of companies, location in relation to the applicable market is the most important consideration, in conjunction with market accessibility from the location in question. For other companies, especially those making local moves, "micro-location" issues such as proximity to hotels, restaurants, and freeways, were important.

Although the Deloitte & Touche study found real estate costs to be the primary site selection factor, it did not attempt to determine the role of environmental costs and environmental liability concerns within that category. Because the cleanup costs and liability risk can be high with brownfield land, it is important to determine the extent to which these concerns are a component of the "real estate costs" category.

A study conducted by Ernst & Young's Real Estate Advisory Services and the National Real Estate Index was designed to determine the impact of corporate relocation, expansion, and consolidation on the investment real estate sector.¹⁸⁹ As part of this effort, the study asked corporate real estate executives to report on their preferred location sites and factors.¹⁹⁰ The survey specifically asked respondents to identify for office, distribution, and manufacturing concerns, the factors most important in their site selection decision-making.¹⁹¹ This survey asked respondents to rate site-selection factors in six categories: (1) real estate-related costs; (2) accessibility; (3) taxes/regulatory environment; (4) quality of life; (5) labor quality/availability; and (6) infrastructure.¹⁹²

Like the Deloitte & Touche study, the Ernst & Young study found real estate-related costs to be the most important site selection category. The single most important site selection factor, low lease rates, was within the category of real estate-related costs. The fourth most important factor, low construction costs, also fell into the real estate-related costs category. The second highest ranked factor was an educated work force. Access to major highways ranked third. Factors in the taxes/regulatory environment and quality of life categories ranked fairly low.

Although the Ernst & Young study concludes that real estate-related costs is the most important site selection category, like the Deloitte & Touche study, it did not attempt to determine the extent

189. See *Ernst & Young Report*, *supra* note 157, at 85-89.

190. See *id.*

191. See *id.*

192. See *id.*

to which environmental costs or environmental concerns were elements within that category. The Ernst & Young conclusion is not inconsistent with the idea that potential site-specific environmental liability is a critical determinant of site selection because environmental costs and concerns could be substantial in the case of brownfields. The study, however, does not disaggregate the term "real estate costs" to the extent that it might include environmental costs.

According to a study by PHH Fantus, a site selection consulting firm, many companies feel that, despite current technological abilities to serve distant markets, they need to have a physical presence near their customers.¹⁹³ Thus, they often make efforts in their site selection to coordinate their operations with the type of work they do and the customers they serve.

One study looked at the role communities play in attracting companies to their areas.¹⁹⁴ The factors the study found to be important revolve around reducing or eliminating barriers in the development process, an idea potentially transferable to states hoping to encourage brownfields redevelopment.¹⁹⁵ In efforts to reduce barriers to development, communities use zoning adjustments, land write-downs, equipment leases, tax increment financing, deferred payment mortgages, tax abatements, enterprise or foreign trade zones, utility incentives, pre-employment screening, job training funds, temporary housing for relocating executives, spousal employment programs, discounts on home furnishings, and moving costs reimbursement.¹⁹⁶ These incentives, focused on non-environmental factors, could work well to encourage redevelopment of brownfields in communities that can afford the initial costs of providing them. However, many cities hoping to encourage brownfields redevelopment may not be able to afford such incentives at the outset.

Notably absent from the literature of corporate site selection and relocation decision-making is any specific consideration of the environmental status of candidate sites. Certainly, when evaluating a potential site in terms of costs and regulatory compliance, the environmental status of the site should be important. Surprisingly, however, it seems that the literature of corporate site selection and relocation decision-making has neglected to determine how companies factor in the environmental status of a candidate site in their decision-making process. Existing surveys have not separated environ-

193. See Mullin, *supra* note 157, at 27-28.

194. See Mooney, *supra* note 157, at 52-57.

195. See *id.*

196. See *id.*

mental costs and environmental concerns from the broader category of "real estate costs."

B. An Overview of the Survey

To determine the relative importance of the various factors companies consider when choosing a new business location, I conducted a survey¹⁹⁷ of Northeast Ohio businesses.¹⁹⁸ In particular, the purpose of the survey was to determine whether companies considered environmental factors in their decision-making and, if so, how critical environmental factors were to their relocation decisions.

The survey provided a list of factors potentially important to a relocation or expansion decision and asked companies to rank the factors most important to their recent decision. Respondents ranked the importance of site location, site size and configuration, accessibility to transportation, taxes, tax abatements or other economic incentives, cost of renovation or construction, access to a skilled work force, cost of utilities or insurance, crime and safety, environmental liability, and the specific need for a new or existing building.¹⁹⁹ The survey began by asking whether the company had considered each potential factor when it made its relocation decision. The survey then asked decision-makers to rate the importance of each factor they had considered on a scale from one to five (with five indicating that the applicable factor was most important to the decision). The final set of questions asked respondents to select and rank the three factors most important to their relocation or expansion decision.

We used three research methods to find and select companies for participation in the survey. First, we contacted Cleveland area economic development personnel for information on companies new to their area, companies expanding in their area, and companies leaving their area since Ohio enacted its Voluntary Action Program in 1994. Second, we contacted real estate developers for similar information. Finally, we searched *The (Cleveland) Plain Dealer* and *Crain's Cleveland Business* newspapers for stories on Northeast Ohio companies that had expanded or relocated since 1994.

We identified and telephoned nearly eighty companies to request their participation in the survey.²⁰⁰ Fifty-nine companies agreed to

197. See Appendix A: Relocation Survey.

198. Cleveland-Marshall Environmental Law Clinic students Stacey McKinley and Teri Richthammer did the lion's share of telephoning and their efforts made the completion of this project possible.

199. See Appendix A.

200. Two companies expressly refused to participate in the survey. Several company executives did not return multiple phone calls. Some companies that had

participate, and ultimately thirty-four companies completed surveys either by telephone or in writing.

The participating companies are diverse in many ways. They include a bank, a home health care service, a commercial real estate developer, two lumber yards, a furniture showroom, a vacuum cleaner assembler, an industrial laundry, a meat processor and food distributor, and manufacturers and distributors of a variety of wholesale products. The surveyed companies range in size from five employees to seven hundred employees. The average number of employees was one hundred and nineteen. Service sector companies had an average employment base of ninety-nine. For manufacturing companies, the average employment base was one hundred and sixty-two.²⁰¹

C. The Relative Importance of Various Screening Factors to Corporate Relocation Decisions

In ranking the three factors most important to their recent relocation or expansion decisions, companies chose from site location, site size and configuration, accessibility to transportation, tax abatements and economic incentives, cost of renovation or construction, access to a skilled workforce, cost of utilities or insurance, crime and safety concerns, environmental liability, or the specific need for a new or existing building.²⁰² To evaluate the results of this section of the survey, the various factors were categorized into three basic groups.²⁰³ Factors with priority ratings above 3.8 compose the High Priority (H) group. Those with ratings between 3.2 and 3.6 constitute the Medium Priority (M) group. Factors rated between 2.4 and 3.0 define the Low Priority (L) group. Factors rated below 2.0 are in the Very Low Priority (VL) group.

Factors in the High Priority group were key property characteristics, such as size of the building (amount of space), and location preference, safety concerns (related to both the neighborhood and building), and expense related issues, such as building and land prices, maintenance costs, and potential environmental liability.²⁰⁴

relocated or expanded did not have a new telephone listing.

201. Although these companies sizes show a wide breadth to the survey, because of the small sample size, they are probably not statistically significant.

202. Although the survey included space to list other factors important to the company's relocation decision, none of the companies listed a factor not already included in the survey in their ranking of the three factors most important to their decision.

203. See Appendix B: Relative Importance of Various Screening Factors.

204. See *id.*

The Medium Priority group included parking, employee convenience, number of floors, access to a new or existing building, tax abatements and incentives, availability of skilled labor, and construction/renovation costs.²⁰⁵

Low Priority factors were access to airport and public transportation, proximity to other businesses, amount of surrounding land, zoning and property taxes, utilities, and insurance.²⁰⁶ Access to shipping and rail transportation ranked in the Very Low Priority group.²⁰⁷

Factor analysis was used to reduce the total number of variables (the original set of factors ranked by respondents) to a common set of factors that ultimately seemed to drive the relocation decision.²⁰⁸ A subset of the High Priority group, with ratings over 3.4, was included in a principal component factor analysis,²⁰⁹ using oblique factor rotation.²¹⁰ The results of this factor analysis indicate that the respondents answered the questionnaire in a consistent and logical manner.

When asked whether environmental issues arose in the selection process, one-third of the respondents answered "yes."²¹¹ Manufacturing firms were twice as likely to report that they encountered environmental issues as were firms in the service sector. On the other hand, less than one-half (14/34) of the firms, equally divided between service-sector and manufacturing firms, reported looking at a contaminated site.²¹² About one third of those who looked at a contaminated site reported that environmental issues had surfaced during the site selection process. Approximately fifty-percent (seventeen) of the respondents felt that environmental liability was an important factor in choosing a location. Of these seventeen respondents, four-

205. *See id.*

206. *See id.*

207. *See id.*

208. *See id.* Given the limited sample size (n=34) it was not possible to conduct a factor analysis using all 27 variables listed in Appendix B.

209. *See* Appendix C: Factor Analysis of Thirteen Key Variables.

210. *See id.* Appendix C reports the canonical factor loadings for each of the thirteen individual key variables.

211. The positive responses to this question could mean any of a number of things. For example, some firms may have answered "yes" when they merely thought about environmental issues, though they never saw or considered environmentally-impaired sites. Other companies may have answered "yes" because they saw and rejected such sites. Still others may have made foundational decisions, such as in what state to locate, based on variations in the environmental laws of candidate states.

212. The survey did not ask, and so the results do not indicate, the environmental status of all candidate sites in the surveyed companies' selection process.

teen rated environmental liability as either a four or five on a five point rating scale. Eleven of the seventeen rated environmental liability a five, with service firms twice as likely as manufacturing firms to give this factor a five rating. It therefore appears that compared with firms in the service sector, manufacturing firms have a better understanding of environmental issues and may be somewhat less intimidated by them. Another explanation might be that manufacturing firms are more constrained with respect to the non-environmental factors.

While 82 percent of the firms that encountered environmental liability issues were actually concerned about environmental liability, only slightly more than one-half of the firms (53 percent) actually encountered environmental liability in the search process. Thus, while a large majority of the firms appear to be concerned about potential liability once an environmental issue is identified, only one-half of the companies actually reported encountering such issues.

D. Final Decision Criteria

Respondents were asked to indicate the three most important factors in making their final site-selection decision. As revealed in Appendix D, nineteen of thirty-four respondents rated site location as one of the top factors, with six ranking location as the number one factor.²¹³ Site size and configuration received thirteen top ratings, with four companies indicating this factor as the single most important on the list. Eleven respondents rated their preference for either a new building or an existing building as one of the top factors, while nine indicated that this was the single most important factor. Transportation, cost of renovation/construction, and availability of a skilled work force received between eight and nine of the top three ratings.

Crime/safety and potential environmental concerns, although in the top group in terms of the initial screening criteria, failed to achieve a high score as a final decision factor. For example, crime/safety received only three of the top three ratings. Notably, no respondent included environmental liability in the list of the three factors most important to the final site selection decision. One possible interpretation of these results is that safety and environmental issues are so critical in the early screening process that all unsafe or environmentally risky properties are screened out before the final site selection decision. Hence, the final short lists of potential properties include only "safe" and "clean" properties. Therefore, these two factors, although important to overall site selection, are not relevant

213. See Appendix D: Importance of Final Selection Criteria.

in the final selection decision.

For a variety of environmental and non-environmental reasons, contaminated urban properties are not appearing on companies' site-selection short lists. Even if they did reach the final consideration stage, however, the survey indicated that most companies were unwilling to clean them despite Ohio's brownfields program.²¹⁴ Therefore, Ohio's brownfields program, and similar programs in other states, must look at urban redevelopment as the complicated puzzle that it is. Their efforts must address both the environmental and non-environmental factors companies find important when making site selection decisions.

E. Environmental Regulation as a Predictor of the Importance of Environmental Liability in Site-Selection

Eighteen firms, divided equally between manufacturing and service-sector firms, indicated that they were subject to environmental regulation. "Subject to regulation," however, is a somewhat ambiguous and broad categorization.²¹⁵ The degree to which companies are subject to regulation likely will vary widely according to the company's business. Specifically, manufacturing and industrial firms are likely to be subject to more substantial and perhaps more complicated regulation. Hence, they tend to have more resident expertise regarding environmental issues. Perhaps for this reason they are less fearful of environmental issues than the less experienced service-sector firms.

The companies also responded to a question regarding their knowledge of Ohio's brownfields redevelopment program, the Voluntary Action Program ("VAP"). Approximately one-third of the total sample of companies were aware of Ohio's VAP. Eighty-three percent of the firms aware of the VAP stated that they were subject to some form of environmental regulation. Only 50 percent of the firms that are subject to regulation, however, were aware of the VAP. Ohio's brownfields program could, therefore, benefit from greater awareness among those firms to which the program is targeted.

Surprisingly, whether firms are subject to environmental regulation had little relationship to whether the company was in the service-sector or manufacturing. Furthermore, only three companies, of the eighteen that were subject to environmental regulation, indicated

214. See *infra* Section V.E.

215. This question also is open to interpretation. Anyone could answer "yes" because we are all subject to regulation even if at a given time the regulation does not apply to us. Some may interpret the question as asking whether environmental regulations currently apply to company operations.

that the reduction in liability associated with the VAP would have influenced the company to decide to clean a brownfield site. Viewed from another perspective, only three of the twelve firms that were aware of the VAP indicated that the reduction in liability associated with the VAP would have influenced their decision regarding cleanup of a contaminated site.

It appears, therefore, that while the VAP may be a step in the right direction, only a small percentage of firms find the program a sufficient incentive to clean and develop a contaminated site. Therefore, the other factors that influence site selection and relocation decisions must be addressed for the VAP—or any other brownfields redevelopment program—to be substantially successful.

F. The Survey's Conclusions

Although few in number,²¹⁶ brownfields redevelopment projects are progressing in Ohio under the VAP.²¹⁷ Real estate developers and others hoping to profit from the program, have been the first to take advantage of the state's offer of immunity from environmental liability.²¹⁸ While the program is prompting some developers to clean and redevelop large brownfield sites, other businesses have joined this effort only on a smaller scale. Companies appear, despite the program, not to choose brownfields for redevelopment.²¹⁹ Therefore, in light of the vast number of brownfield sites throughout the state,²²⁰ and the small number of sites redeveloped under the new program,²²¹ one must ask why the program has not been more successful. One reason appears to be that the primary target of the brownfields programs—environmental liability—is not alone as a primary factor in companies' relocation decisions. Despite early interest by developers, without more substantial participation from business owners, the program cannot have a substantial impact on urban

216. At this writing, Ohio EPA has issued 32 Covenants Not to Sue. There are 24 No Further Action Letters filed with the agency, pending issuance of a Covenant Not to Sue. The agency has denied one request for a Covenant Not to Sue, and applicants have withdrawn six applications. See *Ohio EPA Voluntary Action Program Website* (last modified Sept. 20, 1999) <<http://www.epa.ohio.gov/derr/volunt/.html>>.

217. See *id.*

218. See *id.*

219. Of the companies surveyed, none chose brownfield sites. However, the survey results do not indicate the environmental status of all of the sites the surveyed companies considered.

220. In Cleveland alone, there are an estimated 6,723 acres of brownfield land. See SIMONS, *supra* note 1, at 35.

221. See *Ohio EPA Voluntary Action Program Website*, *supra* note 216.

redevelopment.

Non-environmental factors, such as building size and configuration, construction costs, access to interstate highways, and the ability to attract a suitable workforce, appear to be as important to companies making relocation decisions as the environmental status of prospective sites. While environmental concerns play an important part in the early stages of a companies' site selection or relocation decisions, an offer of environmental immunity alone will not lure businesses to urban areas. Unless cities and states are able to meet businesses' other pressing needs, the urban renewal and job growth goals of their brownfields programs will remain unrealized.

VI. LESSONS AND SUGGESTIONS FOR FUTURE ACTION

Researchers have learned several important lessons from the recent efforts to encourage urban renewal through the redevelopment of brownfields. In particular, the pilot projects funded through EPA grants have provided a wealth of information about what programs are successful and which barriers remain. Through the pilot programs we have learned that the presence of a strong local government entity is critical to a project's success.²²² We have also learned that the disparate duties and goals of government agencies can impede cooperation in the redevelopment process; moreover, consolidation of agency representatives into "Brownfield Project Management Teams" can help promote cooperation.²²³ Public and private partnerships, usually among state, city, or county governments and private parties, are also essential.²²⁴ Strong project leaders and coordination among state, federal, and local government entities can facilitate success.²²⁵ In addition, the pilot projects provided valuable information about problems in the regulatory and legal arenas and the need for community involvement.²²⁶

Other suggestions researchers have made for improving efforts to redevelop brownfields land include:

- (1) evaluating, reducing, and eliminating incentives for greenfield development and urban sprawl;²²⁷
- (2) supporting government and private efforts that consolidate

222. See PEPPER, *supra* note 3, at 19.

223. See *id.* at 20.

224. See *id.*

225. See *id.* at 21.

226. See *id.* at 22-23.

227. In Cuyahoga County, Ohio, the local brownfields working group has recommended several state actions aimed at halting or reducing incentives for greenfield expansion.

land ownership so districts have the space and means to pursue development goals;²²⁸

(3) increasing use of tax abatements in urban areas and, in particular, with respect to brownfields land;

(4) increasing use of tax increment financing and using funds to defray costs of environmental assessments, obtain insurance, and protect current owners and potential purchasers/developers from future liability associated with the previous condition of a property.²²⁹

Brownfields redevelopment proponents also suggest that future actions increase efforts to reduce the environmental barriers to redevelopment. For example, even with the current legislative and administrative efforts, the uncertainty of remediation costs remains a significant barrier to redevelopment.²³⁰ In addition, many states require that landowners who discover contamination or violations of environmental laws on their properties report such a discovery to the state environmental agency. Some claim that this requirement is a barrier to redevelopment because it reduces incentives to look for contamination.²³¹ Many consider ambiguous cleanup standards still to be a barrier to redevelopment.²³² Finally, some still find the mere stigma of the brownfield status of a site to be a barrier to redevelopment.

228. The EPA has issued new rules on municipal land acquisition that protect cities from liability, thereby encouraging cities to assemble larger, usable tracts of land for redevelopment. In Cuyahoga County, Ohio, the local brownfields working group is building a geographic information system ("GIS") to inventory brownfields locations and provide users with information on attractive sites. The City of Cleveland is assembling parcels of land for redevelopment in a city landbank. This action has led to at least one brownfield redevelopment that may not otherwise have occurred (Collinwood).

229. See J. Thomas Black, *Brownfields Cleanup*, URBAN LAND, June 1995, at 47, 51.

230. The Cuyahoga County Brownfields Working Group is working on establishing a fund to pay for voluntary site assessment. Although this does not yet exist, it would help to eliminate some of the uncertainty involved in the cleanup process.

231. Proposed laws in Ohio and other states would protect landowners from legal or administrative actions when they discover an environmental violation through a voluntary self-audit. In addition, many companies maintain the privileged, confidential status of the results by performing voluntary site assessments through legal counsel. See OHIO REV. CODE §§ 3745.70-3745.73 (Anderson 1997); see generally David A. Dana, *The Perverse Incentives of Environmental Audit Immunity*, 81 IOWA L. REV. 969 (1996); Ellen Page Del Sole, *An Environmental Audit Privilege: What Protection Remains After EPA's Rejection of the Privilege?*, 46 CATH. U. L. REV. 325 (1997).

232. In Ohio, through the VAP, the state EPA is establishing clear soil and groundwater standards so that program participants can count on the finality of an approved cleanup.

ment.²³³ These problems suggest that existing programs, even those focused on reducing environmental barriers to redevelopment, have not reduced those barriers sufficiently. If so, that is another lesson learned, but it does not diminish the importance of expanding brownfields redevelopment efforts to include non-environmental factors.

Notably absent from these lessons for increasing redevelopment of brownfield land and removing barriers to redevelopment, however, is the most important lesson. Successful efforts to redevelop urban brownfields depend on the realization that decisions companies and developers make regarding what land to develop and reuse is far more complicated than existing brownfields agendas indicate. Companies are as concerned about site location, site and building configuration, infrastructure, and other factors as they are about the environmental condition of the site. The environmental status of a site certainly is important, but even if brownfields programs can eliminate environmental concerns with respect to a site, non-environmental barriers will prevent its redevelopment unless interested parties deal with them.

Efforts to encourage redevelopment of brownfields land must expand to address the non-environmental barriers to redevelopment as well as the environmental barriers. We must view brownfields redevelopment efforts as economic and social development as well as environmental improvement and address the practical, non-environmental issues that complicate it.

VII. CONCLUSION

Removing or reducing the environmental barriers to brownfields redevelopment has been the primary focus of local planners, state legislators and administrators, federal agencies, and others working to encourage redevelopment of brownfield land. Many states have active programs designed to facilitate and create incentives for cleanup and redevelopment of brownfields by reducing or eliminating environmental barriers to redevelopment. These programs seek to encourage redevelopment of brownfields for both the environmental and development benefits this would bring. Despite these efforts, and the good reasons for them, brownfields redevelopment programs have been successful to a limited degree. The limitations on this success may be because the actions taken to date by federal, state, and local

233. See Leigh, *supra* note 9, at 326. Although Professor Leigh probably understands that non-environmental barriers to redevelopment are important, she still refers to "cleanup" of the site as the elimination of all barriers to redevelopment. See *id.*

legislators and administrators fail adequately to address the non-environmental challenges associated with redeveloping urban brownfield land. The challenge for the future redevelopment efforts, therefore, lies in creating conditions favorable to profitable site reuse while addressing social, economic, and environmental conditions together. This more comprehensive approach should supplant efforts focusing only on one piece of the more complicated puzzle.

Brownfields programs that focus only on reducing environmental barriers to redevelopment cannot be the savior of contaminated urban lands that many believe them to be. Instead, these programs are merely a thoughtful, energetic, creative beginning toward a solution to the daunting problem of urban revitalization. Real solutions must be far more complicated than the existing legislative and administrative attempts to reduce the risk of environmental liability. They must address infrastructure, site and building configuration, utility costs, crime rates, education issues, racism, and other non-environmental factors that are critical to companies' site selection and relocation decisions. These non-environmental factors serve as significant barriers to the redevelopment of urban brownfield land and they must be included in a comprehensive quest for urban renewal through brownfields redevelopment.

APPENDIX A

Relocation Survey

Survey of Corporate Relocation and Site Selection Decision Factors

Contact Name and Title:

Business Name:

Business Type:

Business Size:

Current Location:

Length of Time at Current Location:

In deciding where to locate or relocate your company, on a scale of 1-5 (one being of little or no importance to five being very important or necessary) how important were the following factors to you and your company?

A. SITE LOCATION AND ACCESSIBILITY

Access to major highways

1—2—3—4—5

Access to the airport

1—2—3—4—5

Access to parking

1—2—3—4—5

Access to public transportation

1—2—3—4—5

Access to Lake Erie for shipping

1—2—3—4—5

Access to railroad transportation

1—2—3—4—5

Convenience to employees' residences

1—2—3—4—5

Convenience management or executives' residences

1—2—3—4—5

B. SITE SIZE AND CONFIGURATION:

1. What type of facility were you looking for?

a. How many square feet were you looking for?

b. Does your location have that space?

YES NO

c. How important was the amount of space in choosing your location?

1—2—3—4—5

d. How many floors were you looking for?

e. Does your current location have that number of floors?

YES NO

f. How important was the number of floors in choosing your location?

1—2—3—4—5

2. How much surrounding land were you looking for?

a. Does your current location have this amount of surrounding land?

YES NO

b. How important was the amount of surrounding land in choosing your location?

1—2—3—4—5

3. Did you plan to build a new building or were you looking to move into an existing building?

a. Existing building?

YES NO

b. Did you have to make any structural changes to the building?

YES NO

c. Was the building exactly what you were looking for?

YES NO

d. (If no), what was different about the building?

e. Why were you willing to choose this building?

f. Did you have to change the surrounding landscape?

YES NO

g. How important was it that you move into an existing building?

1—2—3—4—5

h. Built a new building?

i. Why did you build a new building?

j. Did you consider looking for an existing building?

YES NO

k. (If no), why didn't you consider looking for an existing building?

l. How important was being able to building a new building in choosing your location?

1—2—3—4—5

4. Originally, did you have a preference for a suburban or downtown location?

SUBURBAN DOWNTOWN

a. How important was being in the suburbs/downtown in your decision?

1—2—3—4—5

C. AREA INFRASTRUCTURE (ESPECIALLY TRANSPORTATION SERVING THE SITE)

1. How often do you need access to transportation for your products?
2. What sources of transportation do you use?
3. Do you ship locally, intrastate or interstate?
LOCALLY INTRASTATE INTERSTATE

D. LOCAL ZONING AND LIKELIHOOD OF REZONING

1. Did any zoning issues arise when selecting your location?
YES NO
a. What issues did you deal with?
2. Did you attempt to have an area rezoned for your business prior to choosing a location?
YES NO
a. Was this attempt successful?
YES NO
3. On a scale of one to five, how much of a factor did zoning play in your location?
1—2—3—4—5

E. TAXES

1. Did you consider the local property taxes in choosing your location?
YES NO
a. Did you seek an area where the property taxes were lower than your previous location?
YES NO
b. Did you succeed in finding a location with lower property taxes?
YES NO
c. How important were property taxes in choosing your location?
1—2—3—4—5
2. Did you receive any local tax abatements/incentives for choosing your site location?
YES NO
(if yes)
a. Did you seek a location where you would receive tax abatements/incentives?
YES NO

- b. What type of tax abatements/incentives did your receive?
- c. How much of a factor were these abatements in your location choice?

1—2—3—4—5

F. AVAILABILITY, COST AND SKILL OF AVAILABLE LOCAL LABOR

- 1. What kinds of jobs do your workers perform?
- 2. What skills and or education levels do you expect your employees to have?
 - a. In choosing your location did you consider the availability, education and skill of local labor?
YES NO
 - b. How important was the availability, education and skill of local labor to your location choice?
1—2—3—4—5
- 3. Do you have an employee training program? YES NO
 - a. Are you willing to train experienced employees who don't have the particular skills you are looking for? YES NO.

G. UTILITIES

- 1. How important a factor was the price of utilities in selecting your location?
1—2—3—4—5
 - a. Did the local electric company offer you a special rate or discount for locating where you did?
YES NO
 - b. Did the local gas company offer you a special rate or discount for locating where you did?
YES NO
 - c. Did the local water company offer you a special rate or discount for locating where you did?
YES NO
- 2. (Please answer this question if you received any discounts or special rates.) How important were discounts or special rates for utility services to your location decision?
1—2—3—4—5

H. AVAILABILITY AND COST OF PROPERTY AND LIABILITY INSURANCE

- 1. How important was the price of insurance in choosing your loca-

tion?

1—2—3—4—5

I. CRIME AND PUBLIC SAFETY AT THE LOCATION

1. Did you consider the crime rates in the area you were seeking to locate/relocate?

YES NO

a. How important was employee safety in choosing your location?

1—2—3—4—5

b. How important was building safety in choosing your location?

1—2—3—4—5

c. Do you have a security system?

YES NO

d. Do you have security guards?

YES NO

e. (If yes), when are they on duty?

J. COST OF LAND AND LABOR

1. How important was the price of the land/building in choosing your location?

1—2—3—4—5

2. How important was the cost of the labor to construct/renovate your facility in choosing your location?

1—2—3—4—5

3. How important was it to keep these expenses as low as possible?

1—2—3—4—5

K. LOCAL LAND USE AND ENVIRONMENTAL REGULATION

1. In choosing your location how important was it to be near other businesses?

1—2—3—4—5

2. Did any environmental issues arise in choosing your location?

YES NO

a. (If yes), what environmental issues did you consider in choosing your location?

3. Did you look at any sites that were contaminated or might be contaminated?

YES NO

a. (If yes), did you consider cleaning up the contaminated site and building or relocating to the pre-existing building on it?

YES NO

b. (If no), why didn't you want to clean-up or risk having to clean-up the site?

4. Was environmental liability a concern in choosing your location?

YES NO

a. (If yes), how important was environmental liability in choosing your location?

1—2—3—4—5

5. Is your company subject to environmental regulation under state or federal law?

YES NO

6. Are you aware of the Voluntary Action Program legislation in Ohio regarding environmental clean up? YES NO

a. (If yes), what do you know about it?

b. (If no), or if they don't mention limited environmental liability, inform them that Ohio's Voluntary Action Program limits the environmental liability of land owners who voluntary clean-up contaminated sites.

7. Would the Voluntary Action Program's reduction in environmental liability have influenced your decision in deciding whether or not to clean-up a contaminated site?

YES NO

L. MISCELLANEOUS

1. Are there any other factors that you considered in choosing your location that we have not already discussed? YES NO

a. What are those factors and how important were they on a scale of 1-5?

APPENDIX B

Relative Importance of Various Screening Factors

<u>Factor</u>	<u>Mean Rating</u>	<u>Rank</u>	<u>Priority Group</u>
1)Site location and accessibility			
a)major highway access	3.9	4	H
b)airport access	2.5	14	L
c)parking	3.5	6	M
d)access to public transportation	2.4	15	L
e)access to lake shipping	1.3	16	VL
f)access to rail shipping	1.3	16	VL
g)convenience for employees	3.6	5	M
h)achieving preference location	3.9	4	H
i)nearness to other businesses	3.0	10	L
2)Site size and configuration			
a)amount of space	4.6	1	H
b)number of floors	3.3	8	M
c)amount of surrounding land	3.0	10	L
d)availability of existing building	3.6	5	M
e)ability to construct new building	3.4	7	M
3)Zoning	2.9	11	L
4)Property taxes	2.6	13	L
5)Tax abatement/incentives	3.2	9	M
6)Availability of skilled labor	3.4	7	M
7)Utilities			
a)price	2.7	12	L
b)special rate/discount	2.5	14	L
8)Price of property and liability insurance	2.4	15	L
9)Crime and public safety			
a)locational safety	3.9	4	H
b)building safety	3.9	4	H
10)Cost of labor and land			
a)price of land/building	4.2	2	H
b)cost of construction/renovation	3.5	6	M
c)maintenance costs	4.2	2	H
11)Environmental liability	4.0	3	H

APPENDIX C

Factor Analysis of Thirteen Key Variables

Canonical factor loadings

Factors	#1	#2	#3
<u>Variables:</u>			
Highway Access (Var 5)	0.122	0.962	-0.030
Parking (Var 7)	0.480	0.585	0.191
Convenience (Var 11)	-0.213	0.127	0.834
Building size (Var 15)	0.921	0.051	-0.006
Existing Bldg. (Var 28)	0.807	-0.131	-0.185
Desired location (Var 34)	0.038	0.007	0.871
Labor skills (Var 50)	-0.005	-0.525	-0.301
Locational safety (Var 60)	0.878	0.198	-0.093
Building safety (Var 61)	0.946	0.208	-0.010
Price land/bldg. (Var 64)	0.568	-0.540	0.369
Labor costs (Var 65)	0.371	-0.259	0.344
Operating Exp. (Var 66)	0.673	-0.522	0.141
Environmental Liability (Var 74)	0.500	0.061	0.364

APPENDIX D

Importance of Final Selection Criteria

<u>Factor</u>	Frequency of Top Three Ranks			
	Rated #1	#2	#3	Total
Site Location	6	8	5	19
Site Size & Configuration	4	4	5	13
Transportation	2	3	4	9
Taxes	0	0	0	0
Cost of Renovation/Construction	1	3	5	9
Skilled labor force	3	1	4	8
Utilities/Insurance	0	1	1	2
Crime/Safety	1	2	0	3
Environmental Liability	0	0	0	0
Preference for New or Existing Building	9	1	1	11
Other	2	1	1	4