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Brownfields Redevelopment in Wisconsin: Program, Citywide, and Site- Level Studies

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Kris Wernstedt and Robert Hersh

Abstract

In this paper, the second installment of our three-part study on the development of brownfields policy in the state of Wisconsin, we use case studies to explore the implementation of the policy at three scales: 1) two statewide initiatives, the Voluntary Party Liability Exemption process and the Sustainable Urban Development Zone program; 2) the efforts of two Wisconsin cities, West Allis and Wausau, to promote brownfields redevelopment across their neighborhoods; and 3) project-specific uses of institutional, regulatory, and financial innovations to encourage the revitalization of specific areas. Throughout the paper, we focus on the role of economic incentives, regulatory flexibility, regulatory structure, and the behavioral culture of brownfields stakeholders. We base our work on interviews of nearly 70 individuals from public, private-for-profit, private-nonprofit, and tribal organizations.

Key Words: Brownfields, contamination, hazardous waste, regulatory reform, Wisconsin

JEL Classification Numbers: Q24, Q28

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Brownfields Redevelopment in Wisconsin: Program, Citywide, and Site-Level Studies

Kris Wernstedt & Robert Hersh*

1. Introduction

Critics argue that traditional federal regulatory approaches have discouraged private parties from becoming involved in “brownfields” sites. These sites are defined as “real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant” (42 *U.S.C.* §9601, amended 2002).¹ Owners of the properties and prospective buyers, fearing liability for expensive cleanups, often opt not to develop them. Yet, left unattended, such sites may pose threats to public health and the environment and depress the economy of local neighborhoods. Moreover, existing public infrastructure may remain underutilized even as rural or greenfield (uncontaminated) sites attract new development, contributing to spatial segregation and continued underinvestment in older urban and industrial areas. By most accounts, this problem bedevils communities across the country. The U.S. General Accounting Office (1987) has reported that the nation has between 130,000 and 450,000 potential hazardous waste sites, based on data collected from several federal agencies in the 1980s. Later estimates have placed this figure in the range of 500,000–600,000 (Simons, 1998), or even as high as 1 million sites (www.epa.gov/compliance/resources/faqs/cleanup/brownfields, accessed 4/23/03).

In response to the abundance of contaminated sites and the problems or missed opportunities they entail, all but two states have developed a range of initiatives under the rubric of brownfields and/or voluntary cleanup programs since the late 1980s. These operate in a less

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¹ Wisconsin’s definition of a brownfield that is codified in Wisconsin S. 560.13 differs slightly from this federal definition. Specifically, it includes “abandoned, idle or underused industrial or commercial facilities or sites, the expansion or redevelopment of which is adversely affected by actual or perceived environmental contamination.”

burdensome and intrusive fashion than longer-standing enforcement-led programs under federal and state law. They typically scale back environmental requirements by tailoring cleanup to the expected future use of the properties rather than dictating, for example, the same cleanup at a parcel whether it is slated for development as an industrial park or as a playground. The new programs may further provide some form of liability release upon state approval of cleanup and sometimes delegate state regulatory functions—including monitoring and oversight of cleanup activities—to licensed consultants. Many states also offer incentives to spur private investment in the inner-city communities where contaminated properties often are located.

This paper uses a series of case studies to explore in detail the implementation of cleanup and redevelopment initiatives in one state—the brownfields program in Wisconsin. The studies explore three scales of brownfields efforts: statewide brownfields initiatives on voluntary cleanups and area-wide redevelopment; approaches used to revitalize brownfields in two Wisconsin cities; and site-specific applications of program innovations to redevelop brownfields properties. The work reported here is the middle piece of our larger, three-part study examining how Wisconsin brownfields policy and programs have developed and evolved in the last 25 years. Bracketing this work, the first part of our larger study discusses the history of statutory and regulatory reform in the state—starting with the passage of the Hazardous Substance Spills Statute in 1978 and running all the way to current discussions in the state to modify existing brownfields cleanup requirements—while the third part reports the results of a survey of stakeholders in the state about their perception of the brownfields problem and state efforts to address it.

The substantive part of this paper starts in Section 2, where we briefly introduce the origins of the brownfields problem and discuss our conceptual framework for examining implementation. In Section 3, we discuss two of the state's brownfields initiatives, the Voluntary Party Liability Exemption (VPLE) program and the Sustainable Urban Development Zone (SUDZ) program. We then examine in Section 4 the approaches used in the cities of West Allis and Wausau to promote brownfields redevelopment. In section 5 we draw on specific redevelopment projects to examine on-the-ground practice of brownfields innovation. We offer summary comments in Section 6.

Throughout this paper and our entire project on the development and implementation of brownfields policy in Wisconsin we seek to describe policy and practice rather than evaluate it. Our objective is to develop a detailed, descriptive account of regulatory innovation, not an evaluation of a regulatory program. In all parts of the study, we are interested in the fundamental legislative and administrative changes to the state cleanup program, the mechanisms by which

innovations occurred and were implemented, and perceptions of the forces that shaped and continue to influence the program.

2. Background and Conceptual Framework

From a public policy perspective, the twin specters of liability at contaminated sites and stalled cleanup and redevelopment have been a concern of municipalities, private parties, and other entities since the advent of the 1980 Comprehensive Environmental Response, Liability, and Compensation Act (CERCLA). This legislation, which brought into being the federal Superfund program, touches a wide array of parties. Court rulings have found that those involved with a site under the jurisdiction of CERCLA can be held responsible for costs even if they did not create any contamination, including past and current owners, the generators of hazardous substances, and those who transported such substances. In addition, any one party may be charged with all of the costs involved if others who might be liable do not have the financial capacity to pay. Consequently, owners, developers, and prospective purchasers of contaminated sites often have been reluctant to become involved in property transactions for fear of getting ensnared in the liability web. Recent amendments to CERCLA and related regulatory and programmatic reforms at the state level such as those that we describe in this paper have centered on relaxing some of the most stringent liability provisions and introducing incentives to promote site remediation and redevelopment.

State innovations on brownfields are part of a larger trend of regulatory reform and reinvention that has devolved more responsibility to the state and local levels, the so-called “next generation” policies of environmental protection (Chertow & Esty, 1997; Enterprise for the Environment, 1998; National Academy of Public Administration, 1997). Compared to more centralized federal environmental programs, next generation approaches rely more on private market forces and entail a wider cast of local public and private stakeholders in shaping decisions. Such stakeholders may include responsible parties and other environmental actors who play a role in decisions related to environmental issues, as well as economic and community actors who influence decisions regarding future activities related to the environmental resource in question (Wernstedt, 2001). This broader next generation context provides a useful frame to examine the experiences of brownfields stakeholders and other parties in the case studies. In particular, four features stand out as important contributors to innovation and implementation in the brownfields arena.

First, *economic incentives* can be important for steering economic actors toward redevelopment. These incentives may encourage economic actors to take on redevelopment at a contaminated site even though the site has liabilities that may make it less attractive for investment than an alternative, uncontaminated site. They can take the form of direct public subsidies—grants or low-interest loans to improve project finances—or indirect subsidies such as reductions in liability to decrease the costs of cleanup or improved access to risk pools to make insurance affordable at smaller contaminated sites. Both of these require well-functioning institutions that can design and administer incentive programs. However, the ultimate utility of the incentives for promoting development depends on the demand for the goods or services that redevelopment activities will produce (whether they are public or private). Perhaps more subtly, for privately owned sites the efficacy of the incentives also will depend on the presence of several structural conditions necessary for any well-functioning market. These include a situation with minimal externalities from economic activities, a predominance of private rather than public goods, and transaction costs that do not present a barrier to participation by economic actors in the incentive scheme (Gustafsson, 1998).

A second feature of a next generation approach at brownfields sites relates to *regulatory inducements* for environmental actors. These are meant to encourage current and prospective site owners and developers to address environmental risks when they otherwise might leave a contaminated site unattended. They include more flexible requirements for remediation at a site such as tying cleanup levels to the intended future use of the property, as well as more predictability and shared expectations about the process of getting approval from state regulators on the environmental response plan. This regulatory process may entail a nondiscretionary, presumptive approval of the cleanup plan if the applicant closely adheres to a prescribed set of tasks and the site environmental conditions fall into predetermined categories. At the same time, there may be a well-structured process for deviating from generic requirements. Thus, for example, a regulation may allow built-in and codified exceptions to a rule, exceptions that are permitted by right if certain conditions are met rather than decided at the discretion of the regulator. A regulatory inducement also may involve integrated programs. For example, a site owner or developer may no longer face separate bodies of regulation on different portions of a site—one set for those portions of the contamination associated with ongoing activities and another set for those portions where the activities generating the contamination are inactive—or for different types of contamination (petroleum products, solid waste, hazardous substances), but instead be able to satisfy all requirements under a single cleanup process.

Notwithstanding such regulatory inducements—indeed perhaps because of them—a next generation approach may still require a robust *regulatory structure* to provide integrity to approval processes and remedial decisions. This has been a point of contention, with some commentators arguing against overreliance on flexibility and performance-based approaches and articulating the need for continued strong liability provisions and enforcement presence in regulatory programs (see, for example, Steinzor, 1998). Regardless of the outcome of conflicts over the strictness of enforcement and liability, the regulatory structure of brownfields programs entails clear requirements that bind eligibility for liability relief, often precluding participation by parties that caused the contamination. More generally, the structure aims at providing accountability, consistency, and long-term integrity to remedial approaches to protect human health and the environment and to deter environmentally harmful actions. Given the implausibility of maintaining a close, on-site regulatory presence at every brownfields site, this means that the *threat* of enforcement must be credible. This credibility in turn may rest on having adequate funding of regulatory entities and a monitoring system that has a reasonable chance of identifying deliberate or inadvertent environmental violations.

A fourth feature of devolution in the brownfields context relates to what we will call the *behavioral culture* of the brownfields community. In our context, behavioral culture relates to how stakeholders evaluate and embark on brownfields initiatives, their level of interaction, and the entrepreneurial attitude among brownfields policymakers and those who undertake redevelopment projects at contaminated sites. With more examples of successful brownfields redevelopment projects appearing in business journals and in newspapers, the stigma attached to brownfields sites has been in part dispelled. Brownfields sites are seen increasingly as real estate deals with an environmental component, a means to revitalize local economies, rather than as a public health menace. This shift has increasingly brought powerful private players to the brownfields table—developers and lenders—to add to the environmentally focused nonprofits and public agencies already engaged in the cleanup of contamination. In addition, as already noted, local players have displaced federal regulators to some degree. This has allowed more frequent interaction between the regulator and regulated communities and facilitated working collaborations built over several years that rely to a large degree on relations of trust.

We summarize these four themes—economic incentives, regulatory inducements, regulatory structure, and behavioral culture—in Table 1. Collectively they provide a loose qualitative framework for organizing and analyzing the case studies discussed in the remainder

of the paper. The studies themselves draw primarily from semistructured interviews we conducted with an array of individuals from public, private-for-profit, private-nonprofit, and tribal organizations (see Appendix A). Most of these interviews took place between June 2002 and April 2003, and more than three-quarters were in person (the remainder were phone interviews).

As noted in the introduction, the studies vary by scale, starting from a bird's-eye view of two state-level brownfields programs, moving to two citywide brownfields efforts, and finishing by examining several key features of innovations at a variety of specific sites. We present short vignettes of salient background features at each scale but reserve the bulk of the discussion for examining the interplay of the four themes.

TABLE 1. Themes in Innovation and Implementation of Brownfields Reforms

Element	Description
Economic Incentives	
Form	grants, loans, access to risk pools, liability relief
Institutions	public or private institutions sufficient to administer incentives
Market Conditions	demand exists for products that redevelopment activities will produce, minimal externalities, oriented to private goods, minimal transaction costs
Regulatory Inducements	
Flexibility	accommodation of changes, regulatory requirements vary with site conditions and end uses, allowance for special circumstances
Predictability	standardized process for gaining regulatory approval, shared expectations, variances or exceptions possible
Integration	linking of different cleanup programs, single points of entry to approval, unified regulations
Regulatory Structure	
Restrictions	limited eligibility for program participation
Clear Regulatory Aims	accountability, consistency, long-term protection of health and environment, deterrence to future harmful actions
Enforcement	enforcement institutions must be credible, threat must be plausible, monitoring must be capable of catching violations
Behavioral Culture	
Entrepreneurism	policymakers and those taking advantage of innovations willing to take on new challenges and endeavors
Risk Tolerance	willingness to take on higher risk policies and programs, shift in risk discourse to emphasize economic revitalization
Locus of Participants	private economic players added to public/environment players, local displacement of federal regulators
Trust	Interaction among participants built on trust, familiarity

3. Statewide Brownfields Initiatives

The passage of Wisconsin's 1994 Land Recycling Act and subsequent amendments to this legislation in 1997 has opened the door to a flurry of brownfields and voluntary cleanup innovations. Nearly all of the programmatic initiatives have been constructed and implemented through the state's three biennial budget processes from 1997–2003. In many cases, they have been vetted in discussions within the Brownfields Study Group,² pushed up the political ladder by the Wisconsin Department of Natural Resources (DNR)—including the Natural Resources Board and Department of Commerce and then passed on to the Department of Administration for analysis and subsequent incorporation into the governor's budget proposal. Following standard practice, the Joint Committee on Finance, a standing committee of the Wisconsin Legislature that includes elected representatives from both the state Senate and Assembly, then reviews each budget proposal. The Committee can and in fact often has added budget items as well as legislative language pertaining to cleanup to the governor's final budget proposal—typically offered as an amendment to the governor's budget proposal rather than as a separate bill (Rhodes & Mason, 2003)—or removed certain features that had appeared in the proposal.

The initiatives themselves have included among other things a wide range of financial assistance tools (grants, loans, tax credits, reimbursements, tax-increment financing options), as well as programmatic language that details liability protections for owners, lenders, and municipalities; requirements for site cleanup approval and closures; property transfer mechanisms; state-run environmental insurance; and codified processes for exemptions to various regulations. The two principal grant programs specific to individual brownfields projects have been DNR's Site Assessment Grants and the Department of Commerce's Brownfields Grant Program.³ The former furnishes financial support to local governments for environmental

² The Brownfields Study Group is an advisory group that the Wisconsin Department of Natural Resources, at the direction of the state legislature in the 1997–1999 biennial Budget, helped set up and lead. The group consisted of roughly 30 individuals including business representatives, attorneys, private consultants, environmentalists, educators and local, state, and federal government officials. We discuss at length the role of the Brownfields Study Group in our earlier paper (Hersh & Wernstedt, 2003).

³ In addition, the Brownfields Environmental Assessment program, supported largely by EPA through a brownfields pilot grant to Wisconsin DNR, funded more than \$3 million of investigations at over 40 sites of municipal interest (tax delinquent or bankrupt properties or those municipalities acquired for development). The program ran from 1996–2000.

assessments, site investigations, demolition, and tank removal—nearly \$5 million in over 160 grants since 1999—while the latter provides remediation and redevelopment funds to support economic development objectives at brownfields sites. Eligible recipients of the Commerce grants include local governments, private parties, and nonprofit organizations and, since its origination in 1998, the program has provided nearly \$30 million of competitive grants to over 70 projects.⁴

Each of the two initiatives we will examine in this section provides a different filter through which to view the development of brownfields innovations in Wisconsin. The first, the Voluntary Party Liability Exemption (VPLE), arose out of the 1994 Land Recycling Act and has been modified in subsequent years to become more flexible, inclusive, expansive, and a signature initiative of the state's program. It aims squarely at one of the fundamentals of brownfields reform, namely the limitation of liability at sites where parties voluntarily conduct an environmental investigation and cleanup of a property. The Sustainable Urban Development Zone Program (SUDZ), in contrast, is much less visible and arguably much less important. It came into being as a pilot program through the 1999–2001 budget process and added only marginal additional funding in the 2001–2003 biennial budget. Its utility for us lies in the motivations of the program and its evolution through the legislative and budgetary process.

3.1 Voluntary Party Liability Exemption

One might imagine that Wisconsin's Voluntary Party Liability Exemption (VPLE) process lies at the heart of a neatly bounded state "brownfields program" (see, for example, Bartsch & Deane, 2002, p. 104; Environmental Law Institute, 2002, p.213), but in reality it is only one of a spiraling set of brownfields initiatives in the state. For example, grants from EPA's Federal Brownfields Economic Redevelopment Initiative have been used to identify potential brownfields sites in the state and provide training to people for jobs in site remediation, while funding from the U.S. Department of Housing and Urban Development (HUD) has enabled

⁴ Although the state operates on a two-year budget cycle, the recent state fiscal crisis forced brownfields program cuts in FY2003. The budget repair bill for the 2001–2003 biennial budget (2003 Act 1) reduced the state's Environmental Repair Appropriation and eliminated all continuing funding for several new and existing DNR and Commerce brownfields programs, including the entire \$6 million that the competitive Commerce Brownfields Grant Program was to receive. The 2003–2005 biennial budget restored the funding, appropriating \$7 million annually for the latter Commerce program in both the 2003-2004 and 2004-2005 fiscal years and, for the same years, annually appropriating \$1.7 million and \$0.5 million, respectively, for DNR's brownfields site assessment and green space grant programs (2003 Act 33).

Wisconsin cities and counties to undertake actual site remediation of brownfields. At the state level, the Site Assessment Grant (SAG) and Brownfield Grant programs referenced earlier exist independently of the VPLE. Local governments, for their part, have used tax incremental financing to encourage brownfields redevelopment and have cancelled back taxes on tax delinquent contaminated properties to prompt developers and other interested parties to put these underperforming properties back on the tax rolls.

Yet, while relatively few of the Wisconsin's contaminated sites have been formally enrolled in the VPLE program—neither those receiving grants and subsidies from the different governmental tiers nor the far larger number that have not—much of the cleanup and redevelopment that has taken place at contaminated sites likely would not have occurred without voluntary party liability reforms that shielded parties from long term cleanup liability.⁵ At the risk of pushing the metaphor too strongly, the liability protections enacted into law during the mid to late 1990s, like gravity, have given the constellation of state brownfields incentives its particular form.

In this section, we discuss the liability exemptions and assurances that have evolved as part of the voluntary cleanup program in the state. These reforms, and the ideas that justified them, did not emerge into the policy arena all in a piece. Rather they can be seen as a series of provisional responses to the constraints, both real and perceived, imposed on real estate transactions by the state's environmental statutes. The liability reforms enacted by the state legislature in 1994, 1997, and 1999 were not simply ideas waiting to be discovered, but were developed as tools by groups of stakeholders to cope with conditions as they found them. In this way brownfields policy innovations in Wisconsin, and particularly liability reforms, have been soaked through by politics.

⁵ According to the Bureau for Remediation and Redevelopment Tracking System (BRRTS), an electronic database maintained by DNR (<http://www.dnr.state.wi.us/org/aw/rr/brrts/index.htm>, accessed May 5, 2003), Wisconsin has 186 VPLE sites. One hundred and fifty three of these sites remain open, while 33 have been closed. In addition, the DNR tracks more than 54,000 other sites of potential interest, including spills, leaking underground storage tanks (LUST), and sites in the Environmental Repair Program that have environmental contamination but are not LUSTs. LUSTs and spills dominate the database in sheer numbers, accounting for more than 40,000 of the 54,000 sites in the database.

3.1.1 The Context of Reform

The Land Recycling Act enacted in law in May of 1994 created substantial incentives for the acquisition and cleanup of contaminated property by exempting lenders, municipalities,⁶ and purchasers of contaminated property from liability for cleanup under certain circumstances. In broad terms, the specific provisions of the Act can be seen as a focused effort to introduce the concept of forgiveness into the way regulators and parties involved in redeveloping property assessed responsibility for cleaning up sites, particularly at those sites that had become contaminated through years of industrial activities, and where the current owner had not caused the pollution but simply inherited it.

To understand the significance of the Act, we need to look at the preceding 15 years of push and pull around cleanup and development of contaminated properties and the forces for regulatory reform that had gathered. As our first paper on the state's regulatory history details (Hersh & Wernstedt, 2003), the 1978 Hazardous Substance Spills Law (Spill Law) established the foundation for cleaning Wisconsin's contaminated properties. The law, based on the premise that those who caused the pollution should pay to clean it up, and subsequent interpretations, cast a net over any person who discharged hazardous substances into the environment and gave the state's DNR broad authority to require persons responsible for contamination to take actions to restore the environment. This included not only those who may have caused the contamination, but also those who possessed or controlled the contaminated property through some ownership interest. In addition, the state statute applied a broad, functional definition to the term hazardous substances, deeming a substance "hazardous" if it could cause harm to the environment. This included those appearing on lists of hazardous substances in federal or state statutes—including petroleum-related products which the federal Superfund law explicitly excluded—as well as substances not appearing on any list that were judged to pose a hazard to the environment.

The statute's liability provisions more than anything else affected how the private sector and local governments perceived the risks of owning or cleaning up property that was potentially contaminated. From the private side, after the enactment of the Spill Law many lenders would not give loans on commercial ventures where there was the possibility of contamination, assuming that the collateral value of the contaminated properties might have little (or even

⁶ Municipality is defined broadly to mean a city, town, village, county, county utility district, town sanitary district, public inland lake protection rehabilitation district, metropolitan sewage district, and redevelopment authority.

negative) value if contamination were found and steep cleanup costs were incurred. Moreover, lending institutions were concerned that if they acquired ownership of the property through a security interest they might themselves be held liable for the costs of cleanup. Prospective purchasers and developers, if they could get financing at all, faced similar uncertainty about the amount of cleanup that would be required to get DNR closure at sites. Negotiations and agreements to clarify this added higher transaction costs to already difficult deals. For their part, municipalities were potentially liable for cleanup costs if they foreclosed on tax delinquent properties that were determined to be contaminated. This helped stymie efforts to devise public-sector initiatives to redevelop blighted areas where contamination was likely to be present.

By 1992, the moment for reform was clearly at hand. The DNR had recently completed inventories of contaminated properties throughout the state, and the results showed the problem was pervasive. Every county had contaminated sites, but it was the cities, particularly Milwaukee, that boasted the largest share (roughly one-quarter of the approximately 10,000 sites identified).⁷ As one observer put it, “when you find contamination, you find a victim,” and it was this sense of widespread victimization that impelled policy entrepreneurs to find ways, as one stakeholder put it, to “forgive” certain parties the burden of liability for cleanup.

3.1.2 The Land Recycling Act

The 1994 Land Recycling Act (Act 453) tackled the liability problems associated with contaminated property head on by carving out exemptions for many of the principal players involved in the redevelopment of such land. For example, under Act 453 a municipality is exempt from cleanup obligations under the Spill Law if the local government acquired the

⁷ During the 1980s, DNR created inventories to list contaminated sites, including hazardous and solid waste landfills, spill sites, and sites contaminated by leaking underground storage tanks (LUSTs). By 1992, DNR had identified 3,200 medium and high priority LUST sites and 1,200 low priority sites. In addition, the “Registry of Waste Disposal Sites” compiled some 3,000 known solid and hazardous waste sites in the state. While DNR did not collect information on brownfields at the time, state officials estimated in interviews that, in addition to some of the LUST sites, there were some 5,000 to 7,000 sites in the state that would qualify as brownfields. As footnote 1 indicates, Wisconsin’s definition of brownfields bounds the population of sites that are considered to be brownfields. It includes LUSTs and other contaminated sites only if they are not viable or appear actively utilized and only if they are industrial and commercial (not residential or recreational) properties.

property through tax-delinquency proceedings or as a result of an order by a bankruptcy court.⁸ Lenders received a similar form of statutory relief with the Act exempting them from liability under the Spill Law when they took title to contaminated property through enforcement of a security interest, provided they did not intentionally or negligently cause a discharge and met a number of conditions related to notification, site assessment, and insulation from management decisions. And perhaps most critically, purchasers of contaminated property could receive exemptions from liability under the Spill Law for preacquisition releases. By following a prescribed process of assessment, cleanup, and monitoring in accordance with DNR rules, parties could obtain a certificate of completion from the state that surpassed the liability protections found in the case “close out” letter traditionally offered by DNR by largely extinguishing regulatory interest in the site.

The idea behind all of these exemptions was to induce the private sector to clean and redevelop contaminated properties. To make this work, the DNR had to find ways to be cooperative rather than adversarial. Yet ironically, for private parties the process to obtain a certificate of completion was more cumbersome and involved than cleanup requirements under the Spill Law. An environmental investigation was required for the entire property, not simply a portion of the property as stipulated in the Spill statute, and Act 453 mandated DNR review and approval of all stages of the investigation, cleanup, and close out of a site. The Act also allowed DNR to charge an application fee and oversight fees billed on an hourly basis, further adding to the costs of any project.

Table 2: VPLE Applications*

Year	# Sites Applying to Program	# Sites Remaining in Program
1994	3	0
1995	29	16
1996	19	16
1997	21	19
1998	24	22
1999	14	11

⁸ Subsequent changes in the 1997–1999 and 1999–2001 biennial budgets expand these exemptions to municipalities and other local government units that acquire sites through condemnation, eminent domain proceedings, reversion to municipal ownership upon the death of a property owner when no legal heir exists (escheat), blight elimination or slum clearance, use of DNR’s Stewardship Fund to acquire land or easements, or from other eligible local government units. (Wisconsin Department of Natural Resources, 2000)

2000	27	26
2001	18	18
2002	18	17
2003	14	14
<i>TOTAL</i>	<i>187</i>	<i>159</i>

*partial year data

Act 453's provisions broke new ground for contaminated site cleanups in Wisconsin and many state legislators and others who had participated in passing the legislation had assumed that the policy innovations would stimulate a market for contaminated properties. However, as Table 2 highlights, DNR received only 32 applications to the voluntary program in the two years following the Act's passage, half of which either dropped out or were deemed ineligible by 1996. A number of features of the legislation contributed to this unanticipated lack of interest:

- providing exemptions only for pre-existing conditions made it unlikely that a party who had held title to the property for a long period of time would benefit, since it might have a difficult time satisfying DNR that contamination predated the party's involvement in the site;
- the high cost of meeting requirements for obtaining a certificate of completion often made it less attractive than obtaining a more traditional closure letter from the DNR, particularly at sites with limited potential for property appreciation to offset the high costs;
- required site investigations were costly and needed the commitment of upfront money, yet the legislation did not provide funding for parties to conduct site investigations; and
- groundwater cleanup requirements remained strict, with a certificate of completion available only after contamination met state enforcement standards, a process that could take decades.

A year after Act 453 passed the limitations of the legislation had become more evident. One review at the time claimed that "the law has actually imposed a more rigorous examination of sites by the DNR in an effort to see greater assurance in the face of granting liability protection. This in turn has actually resulted in what is seen as a more conservative approach by both the agency and consultants" (Brownfields Study Group, 1995). The reforms ushered in by Act 453 were an innovative first step, but relatively few sites were brought into the voluntary program and the reforms did little to reduce the backlog of contaminated sites on DNR's various

inventories. This lack of progress was marshaled as evidence by policy brokers to package and promote a new set of policy innovations.

3.1.3 From “Forgiveness” to Liberation

The biennial budget bills of 1997 (Act 27), 1999 (Act 9), and 2001 (Act 16) modified the liability exemptions of the Land Recycling Act along two dimensions. First the legislation eased eligibility requirements by expanding the scope of the exemption from “purchaser” to “voluntary party.” In the 1997 legislation a voluntary party was defined as any business, individual, or government entity that did not “intentionally or recklessly cause the release of hazardous substance on the property.”⁹ This definition created a new defense against liability for site owners or other individuals, such as lessees or facility operators, who caused a discharge of a hazardous substance. They could now qualify for the exemption if they could convince the DNR or the courts that the cause of the contamination was not reckless or intentional. As one of the state’s prime architects of the law put it at the time, “. . . the new and more sweeping liability limits are not evidence of forgiveness for past environmental sins, but rather a circumspect reprieve to encourage remediation and recapture the economic potential of contaminated land.” (Burke, 1997).

The relaxed eligibility criteria brought an increase in VPLE applicants that stayed in the program as Table 2 shows—none of the 45 applicants in 1997–1998 were deemed ineligible for the program and only 4 of the 45 subsequently withdrew from the program—but the hoped for reprieve proved insufficient to induce a large wave of private sector volunteers to apply to the program. Few individuals or businesses wanted to risk being labeled reckless or seen to have intentionally contaminated a property. The potential stigma was a deterrent to participation. Moreover, the definition added a degree of uncertainty to the process. The terms “reckless” and “intentional” gave DNR the authority to weed out “bad actors,” but this could be difficult for DNR field staff to establish on the ground. To do so would inevitably require DNR staff to conduct a lengthy and perhaps contentious inquiry into past disposal practices on the property. And even if DNR determined an applicant caused site contamination through reckless or intentional behavior and was therefore ineligible for the voluntary liability exemption, a person could challenge the agency’s findings in court, further taxing the resources of the agency. If, as we have argued, regulatory reforms are more likely to be taken up by the private sector when the

⁹ Wis. Stat. 292.11

reforms are consistent, predictable, and lead to lower transaction costs, the 1997 statutory amendments to cleanup liability did not go quite far enough.

In the subsequent 1999 biennial budget, however, influenced in part by the pioneering successes of sites entered into the VPLE process, the legislature expanded the definition of a voluntary party to “a person who submits an application to obtain an exemption under this section and pays any fees required.”¹⁰ Concerns that “bad actors” might acquire liability relief and the possibility that the state’s environmental fund might have to pay for cleanup in the event that additional contamination was discovered after a certificate of completion was issued had lost a good deal of their political traction. Such arguments were effectively countered by the benefits many legislators and others saw in increased property taxes and jobs from redeveloped brownfields.

The political gains to be made from touting such benefits help explain why the scope of the eligibility requirements expanded from 1994 to 1999. Clearly state legislators were not oblivious to the broader societal gains of a voluntary cleanup program. Any state regulatory program reducing the uncertainty of liability was likely to be attractive to elected officials as well as those who made choices about whether to invest their capital in a contaminated site cleanup. Moreover, if such a program led to more site investigations and cleanups than under the status quo, legislators could take credit for enacting proenvironmental legislation. At the same time, they could demonstrate their sensitivity to local development concerns by displacing the threat of liability under Superfund or the Spill Law with a state voluntary cleanup program that reflected the substantial local interest in attracting and retaining investment capital in the state’s metropolitan areas.

If one key reform to spur brownfields development was extending the scope of the voluntary program from innocent parties to past polluters, a second, and perhaps more crucial, innovation sought to provide more flexibility to voluntary parties in obtaining the all important certificate of completion. To obtain a full certificate of completion, the VPLE process requires that the entire property—not just a portion of it—be assessed and cleaned up in accordance with DNR regulations and cleanup standards. For parties considering purchasing and redeveloping brownfields, one major stumbling block was that DNR did not have the authority to issue a certificate of completion if groundwater standards were not met. In Wisconsin this is particularly

¹⁰ Wis. Stat. 292.15 (f).

important. Unlike many other states Wisconsin does not classify its aquifers according to their potential use or value, nor does it protect aquifers according to a particular classification level. The state's regulatory framework does not "write off" certain aquifers as industrial or assume that some will never again be suitable as a source of potable water. This means that in most instances groundwater at contaminated sites must be remediated to the "enforcement standard," which is based on the maximum contaminant level for drinking water.

Such standards could be difficult and costly to achieve at many sites. If the level of contaminated groundwater after active remediation were above the state's enforcement standard, site owners were typically required to operate and manage pump and treat remedial systems and regularly monitor the site until the contamination level declined below the cleanup standards. The nub of the problem was what to do at sites when monitoring data showed that the level of groundwater contamination, even after months or years of operations and maintenance, was not declining but "flatlining," a term describing the point when the engineering remediation system had reached the limits of its effectiveness and the level of groundwater contamination remained stubbornly above the state's cleanup standard.

Recognizing the limitations of cleanup technology and the costs associated with long-term operations and maintenance at contaminated groundwater sites—and with pressure from the state's Petroleum Marketers Association and real estate interests—DNR promulgated flexible closure regulations in 1996 that applied to the thousands of sites remediated in the traditional cleanup process, but *not* those in the voluntary cleanup program (for reasons we discuss below). The rules authorized the agency to approve closures at sites where groundwater cleanup activities had reached the limit of their effectiveness and yet groundwater contamination still exceeded standards. The flexible closure rule enables responsible parties to use natural attenuation¹¹ to attain groundwater standards provided certain conditions are met:

- monitoring has to demonstrate a stable and/or receding contaminated groundwater plume and that groundwater contamination would meet cleanup standards within a "reasonable period of time";
- adequate source-control measures are required to prevent any additional releases of contamination to groundwater;

¹¹ Natural attenuation includes naturally occurring physical, biological, and chemical processes that act to break down contamination or limit its movement.

- groundwater contamination must remain within the property boundaries; and
- there are no risks to human health or the environment as a result of selecting this remedial option.

If these conditions are satisfied, DNR provides a “close-out” letter to the responsible party, which typically states that at the time of the review the agency determines that no further action is necessary. As part of the close-out conditions the agency required the responsible party to record groundwater use restrictions at the county deed office on the deeds of all properties affected by the contamination if enforcement standards were exceeded.¹²

This regulatory flexibility, however, was denied to voluntary parties in the VPLE process for a simple reason. At non-VPLE sites, the DNR had the authority to reopen a previously closed case and require the responsible party to monitor the groundwater and take further response actions if information or conditions indicated contamination from the site was posing a threat to public health or the environment. By contrast, in the VPLE process, DNR had little if any authority to go after a voluntary party if it appeared natural attenuation was not working. Thus, both the agency and potential voluntary parties found themselves impaled on the horns of a dilemma. A certificate of completion, unlike a closure letter, would protect a voluntary party from liability even if the cleanup action failed to fully restore the environment. If natural attenuation failed, DNR would have little recourse to recover costs for additional cleanup since the voluntary party was in effect untouchable. And yet if DNR did not issue a voluntary party a certificate of completion until the groundwater contamination at a site was below state groundwater standards, there was unlikely to be much enthusiasm among the private sector for taking part in the VPLE process given the expense, time, and uncertainty of meeting the groundwater standard.

Other parties, affected less directly by the regulations, raised additional concerns (State of Wisconsin, 1999). Some asked how failed natural attenuation remedies at VPLE sites would be funded once a certification of completion had been issued. At such sites, the state might then be responsible for potentially large operation and maintenance costs to clean up groundwater. For the policy entrepreneurs in the state, the question was how to structure the appropriate incentives to encourage voluntary parties to address sites with contaminated groundwater, enable them

¹² In 2001 applicants no longer had to record a groundwater use restriction on their deed. DNR developed a web-based GIS system to make this information available to the public.

quantify their financial risks up front in the event that natural attenuation should fail, and find a way to limit what could be a drain on the public funds for cleanup.

The elegant solution devised by the Brownfields Study Group was to require a voluntary party to obtain insurance to cover the cleanup costs in the event that the natural attenuation remedy failed. The state negotiated a master plan with one of the nation's large commercial insurance carriers to cover all natural remediation remedies at VPLE sites. While the voluntary party could obtain private environmental insurance to cover third-party suits and cleanup cost overruns, the applicant also was required by regulation to pay DNR a one time insurance premium. DNR would issue the certificate of completion only after the voluntary party paid the premium for coverage under the state's master contract. In essence, the state was buying insurance to protect itself against remedy failure, paid for by one-time premiums assessed on the voluntary parties. By acquiring affordable insurance coverage through a single policy across the multiple sites, and defining an appropriate endpoint for a voluntary party in the VPLE, DNR attempted to balance regulatory consistency with the incentives appropriate for private-sector investment in brownfields.

3.1.4 The VPLE Achievement

The maturation of the VPLE process over time has increased the proportion of applicants that have stayed with the program, as Table 2 indicates. For example, of the 77 sites that entered the program in 2000 or later, 75 remain in the program (97 percent). From 1994–1999, 104 sites entered the program but only 84 percent remained (81 percent).¹³ In terms of geographic distribution, most of the 159 active or already completed sites not surprisingly tend to be situated in larger municipalities. Nearly 20 percent lie in Milwaukee, and while about one-half of the states 72 counties host one or more of the sites, more than 60 percent are located in the eight counties of southeast Wisconsin. This reflects the industrial legacy of the area and in some cases, as we touch on in other parts of this paper, more favorable prospects for appreciations in property value to offset VPLE program costs and more aggressive entrepreneurial activity and interaction with DNR to redevelop contaminated properties.

¹³ Six additional sites that applied to the VPLE in 1994–1996 were not eligible for the program. Of course, some of the sites that applied in later years may yet drop out of the program. However, this is likely to be a small number since dropouts occur relatively quickly (the median time between application and withdrawal for the 22 sites that have withdrawn is under a year).

The interaction between DNR and individual sites progressing through the VPLE process is an interesting part of the story of regulatory reform and innovation, but it lies beyond the scope of this section. We can, however, gain some appreciation of the progress of the program as a whole by looking at general trends. Table 3 repeats the information from Table 2 on the number of sites that remained in the VPLE—the 159 sites that were neither deemed ineligible nor withdrew—and adds the number of those that have received a certificate of completion (COC) and the average time between application and receipt of the COC. These are organized by year of application. For instance, of the 22 sites that had applied for VPLE status and remained in the program in 1998 (column 2), five sites (column 3) have received a COC. The five sites with a COC received it in 1998 or later years and, on average, it took nearly 800 days between application and receipt of the COC.

The relatively small numbers of COCs permit no definitive conclusions, but they suggest a slight downward trend in the timespan between VPLE application and when the COC appears. If we calculate the three-year moving average of COC time—starting with 1995, we compute the rolling average of each three-year span (1995–1997, 1996–1999, and so on)—we can see in Figure 1 that the rolling average rises slightly then slowly trends downward over the period. This could drop even farther as more VPLE parties with contamination above enforcement standards get a COC upon approval of a natural attenuation process and payment of the one-time insurance premium. However, one must be cautious in interpreting the trends. The length of time to attain a COC depends on a number of factors specific to a site and independent of regulatory flexibility. Some sites that come into the VPLE program are already closed and these may take only a couple of months to a COC issued (the one site entering the VPLE in 2003 that already has received a COC took only 64 days to garner the certificate, for example). In addition, some VPLE parties may slow down the cleanup and approval process for factors unrelated to DNR oversight or remediation technologies (project financing, for example).

Table 3: VPLE Approvals and Closures

Year	# Sites Remained in Program	# of Sites w/ Certificates of Completion	Average Days Application to Certificate	3-Year Moving Average Application to Certificate
1994	0	--	--	--
1995	16	4	748	--
1996	16	4	830	--
1997	19	6	571	717
1998	22	5	796	733
1999	11	5	454	607

2000	26	7	541	597
2001	18	3	499	498
2002	17	0	--	--
2003	14	1	64	--
<i>TOTAL</i>	<i>159</i>	<i>35</i>	<i>610 (avg.)</i>	

Overall, the development of the VPLE process has made extraordinary, and at times painful, demands on DNR to enlarge its mission from a traditional focus on environmental protection and risk reduction at Spill sites to one which seeks to incorporate into rules and procedures other important social goals such as economic development, efficient infrastructure use, job creation, and so forth. The Spill Law, enacted 15 years before the Land Recycling Act, was in many ways the culmination of a command-and-control approach to environmental regulation and reflected a time when such regulatory conduct—prescriptive, adversarial, combative—was seen to be both necessary and politically acceptable. In this context, the VPLE process has tried to maintain the credibility of DNR’s traditional cleanup program while offering incentives—liability relief, cleanup cap costs, insurance coverage—to the private sector to redevelop contaminated sites. The development of the VPLE reforms has also recognized and in turn spurred new opportunities for public entrepreneurship at contaminated properties.

Clearly, holding together these interests and trying to devise incentives that work for different groups (*e.g.*, lenders, municipalities, innocent purchasers, and voluntary parties) can be a delicate balancing act. This is because the VPLE, as a regulatory innovation, requires both a credible regulatory deterrence, namely DNR’s strong tradition of enforcement, with a more cooperative stance on the part of the agency. It has required changes to DNR’s largely decentralized regional organizational structure that allowed field staff considerable discretion to approve or disapprove individual cleanups. In order to create a foundation for private-sector and municipal risk taking, the VPLE process has required more consistent cleanup decisions across DNR regions, increased certainty about cleanup requirements and the limits of liability exposure as well as enhanced trust among regulated entities, environmental consultants, and regulators. Arguably, the number of applications to the program suggests that the reforms have gained a good deal of support.

3.2 Sustainable Urban Development Zone

Unlike the VPLE program, the Sustainable Urban Development Zone (SUDZ) program has been a relatively modest and invisible program outside of the communities that have received funds. Created by the 1999-2001 biennial budget bill (1999 Act 9), it initially targeted only five cities—Beloit, Green Bay, La Cross, Milwaukee, and Oshkosh—in a \$2.4 million pilot program

to investigate environmental contamination and cleanup at brownfields sites. While the 2001-2003 budget bill (2001 Act 16) expanded the program to more areas by adding Platteville and Fond du Lac and providing an additional \$400,000 to these cities,¹⁴ the seven SUDZ municipalities constitute less than 20 percent of the state's population and all lie in the southern half of the state and in total. Nonetheless the proposals to develop the program and the legislature's ultimate construction of it highlight the give and take of brownfields policy formation in Wisconsin and the interplay of incentives, flexibility, and entrepreneurial enthusiasm for innovation.

3.2.1 Background

The SUDZ program has its roots in long-standing interest in Milwaukee to revitalize the city's Menominee River Valley and began to take formal shape after a 1997–1999 budgetary directive to the Department of Natural Resources to “[s]tudy optional methods to clean up groundwater on a comprehensive, rather than property-by-property, basis.” (Section 9137, 1997 Wisconsin Act 27). The 1998–1999 Brownfields Study Group took up this charge with alacrity in recommending the creation of SUDZ, stating: (State of Wisconsin, 1999, p. 72):

The purpose of the Sustainable Urban Development Zone program is to create a comprehensive set of financial incentives to promote the clean up and redevelopment of certain brownfields areas in a community. The Brownfields Study Group believes that there are certain geographic areas in this state where economies of scale could be achieved if we apply our existing financial incentives to brownfields areas, rather than a specific property. In doing so, the State of Wisconsin hopes to demonstrate the fundamental connection between environmental protection and economic prosperity, by creating the Sustainable Urban Development Zone (SUDZ) program to promote community well being.

To better understand the development of this initiative, it's useful to present several stylized examples of area-wide brownfields strategies vetted by a number of states around the country.

First and most generally, insofar as many municipalities have multiple brownfields sites scattered throughout stagnant or declining areas, there may be advantages in coordinating cleanup and redevelopment to revitalize broad areas of communities rather than in targeting individual parcels. This rationale has appeared perhaps most formalized in New Jersey, where a 2002 policy directive from the head of the state's Department of Environmental Protection directed the department to “establish an area-wide brownfields development program

¹⁴ The 2001–2003 budget bill also set aside \$125,000 to fund other municipalities who apply for competitively awarded SUDZ funds, but the 2003 budget repair bill eliminated this money.

that will enable communities to plan comprehensively for the remediation and reuse of multiple brownfields sites.” (New Jersey Department of Environmental Protection, Policy Directive 2002–2003, November 25, 2002, available at <http://www.nj.gov/dep/newsrel/releases/bfpolicy.htm>, accessed May 17, 2003). In support of this, the state recently has articulated a “cluster approach” to address several sites together to more effectively revitalize a site for beneficial community, recreational, or industrial use (Roeder, 2003).¹⁵ The Wisconsin DNR also has highlighted the nexus of brownfields and comprehensive planning, pointing out that by 2010 state law will require that many local government actions on brownfields (for example, acquisition or application for cleanup grants) be explicitly consistent with their local comprehensive plan (Wisconsin Department of Natural Resources, 2002a). More generally, an area-based approach linked to comprehensive planning aims at securing economic, social, and environmental benefits across areas of a community (Meyer, 1998). It is rare in the United States, but has been much more common in Europe (Imrie & Thomas, 1993; Kunzmann & Hennings, 1993; Netherlands Ministry of Housing, 1996).

Second and related, a number of states have developed initiatives that promote public benefits beyond the confines of an individual contaminated and underutilized parcel. These initiatives de-emphasize the job and tax benefits that more traditional brownfields economic development programs might provide in favor of other, less-focused gains. For example, the redevelopment of a contaminated parcel and its conversion to open space or parkland may increase the value of surrounding properties or provide other benefits to the community, even though the parcel itself may not generate any direct, tangible property taxes (International Economic Development Council, 2001). Wisconsin’s Brownfields Green Space and Public Facilities Grant Program, which issued its first call for applicants well after the SUDZ program came into being, exemplifies this broader appeal with a stated intent to “assist communities with the financial costs of the cleanup of brownfield properties that will be redeveloped into community assets . . . [and] . . . result in a public benefit.”¹⁶

¹⁵ The EPA also has recently issued guidelines to support pilot projects that “promote coordinated, multi-program approaches for cleaning up challenging, area-wide contamination problems.” (Horinko, 2003)

¹⁶ The Green Space and Public Facilities Grant Program was first included in the 2001–2003 biennial budget. DNR issued its first call for funding under this program in 2002, with applications for the \$1 million in funds due in early 2003. However, the budget repair bill referenced in footnote 12 eliminated all funding for this program before the agency awarded any grants.

Third and most technically, area-wide approaches have been developed in a number of areas to take advantage of economies of scale—whether in infrastructure for redevelopment or in remediation—and/or to pool or share risk across multiple sites. The clearest example may be for groundwater contamination, where a single source or multiple sources may contaminate groundwater that underlies multiple properties. A sampling scheme across these properties may identify general characteristics of the contamination, for example, and point toward a presumptive remedy and approval process that individual properties may qualify for.

These three manifestations of an area-wide approach are by no means mutually exclusive. For example, one can develop an area-wide program to take advantage of possible economies of scale in investigation and remediation in an area carefully delineated on the basis of groundwater hydrology and overlay on this a comprehensive land-use plan that defines economic, social, and physical objectives for an area defined by broader planning criteria. As we describe in Section 5.1, several parties proposed the establishment of a regional authority in the Menomonee Valley in Milwaukee to manage such an area-wide approach to groundwater testing and remediation. In principle, this organization could have taken on responsibilities for redevelopment of the area, providing services funded by levies assessed on properties located within the authority's jurisdiction to meet community objectives (for example, provision of open space).

3.2.2 SUDZ Proposal

The Brownfields Study Group's proposal for the SUDZ program largely adopted a technical perspective to area-wide remediation and redevelopment, recognizing that specific incidents as well as general industrial and commercial practices in many Wisconsin urban environments have contaminated multiple properties. To address this situation, the Study Group supported an approach of “. . . combining investigation and remediation efforts into a unified, one-time, effort . . . [that would] . . . help facilitate quicker and less costly cleanup, and redevelopment, of urban areas” (State of Wisconsin, 1999, p. 70). The text of the recommendation and comments by individuals noted the potential economies of scale from coordination on site investigations, monitoring, remedial actions, capital investments, O&M costs, reports, reviews, drilling, sampling, and legal services. (State of Wisconsin, 1999, pp. 72, 116)

Although the Study Group formally endorsed the area-wide concept as appropriate for soil as well as groundwater contamination, most of the language in its report focuses on groundwater. In particular, the report identifies a number of obstacles to area-wide groundwater

cleanups in current circumstances. In addition to the lack of financial resources, these include a lack of regional and site-specific hydrogeologic and analytical information (particularly at private sites); multiple contact points with regulatory agencies; reluctance of site owners and municipalities to participate in area-wide groundwater cleanup approaches due to uncertain liability and a concern that these parties might have to shoulder more than their “rightful” share of it; and uncertainty regarding the establishment of cleanup objectives across an area. The Study Group also noted that the public may lack a basic understanding of the possible benefits of an area-wide approach.

The overall SUDZ proposal articulated not only an economies-of-scale argument but also more general economic development objectives. For example, the Study Group proposed a package of features under the SUDZ program. These features included provisions for agreements between DNR and a local unit of government or business improvement district to investigate and clean up properties in a designated SUDZ and outreach to communities on the benefits of an area-wide approach. It also provided two sources of financial assistance: loans under the Clean Water Fund for disbursement through the Land Recycling Loan Program and income tax credits for investigation and cleanup of properties in SUDZ areas. Under these groups’ vision, for brownfields sites to be eligible for SUDZ designation, they would have to meet at least two of the following four criteria (State of Wisconsin, 1999, p. 72):

- multiple adjacent (or nearby) properties
- area is economically depressed
- known or suspected environmental conditions have slowed redevelopment of properties
- area-wide groundwater contamination may be a problem

The Study Group further recommended that the ultimate selection of eligible SUDZ areas by DNR depend on the promise of a winning proposal to promote economic development in the SUDZ and surrounding areas, provide environmental gains, further sustainable development in the zone, and attract the commitment of the local unit of government to the project.

Outside the confines of the SUDZ consensus recommendations, the Study Group also recommended improving information systems for area-wide investigation and cleanup of contamination and designating a single point of contact within DNR for an area-wide approach. In addition, in two of the more controversial proposals under the area-wide contamination rubric, a minority of members additionally proposed 1) modifying case closure requirements when

natural attenuation is used to address area-wide contamination by allowing institutional controls such as municipal ordinances to replace deed instruments and ; and 2) that standards determining what remedial activities are acceptable for area-wide groundwater contamination take into account groundwater use.

Comments on the SUDZ and more general area-wide recommendations—from several DNR offices, Department of Commerce, Natural Resources Board, City of Milwaukee, Wisconsin Manufacturers and Commerce, and two nongovernmental, public organizations—were largely positive with two notable exceptions. First, a number of commentators criticized the case-closure modification proposal and, especially, the proposal to tie standards and remedy selection to groundwater use. As we discuss in our regulatory history paper, protection of groundwater regardless of its use is a fundamental element of the state’s environmental politics. Advocates to relax groundwater standards—by classifying aquifers according to their allowable use for example—have pushed for reform almost since the 1984 passage of the state’s groundwater legislation, but to date opponents of such changes have prevailed. The Study Group recommendations and ensuing comments evidenced one more skirmish in that protracted struggle.

A second critical review of some of the recommendations targeted the core proposal to develop the SUDZ program. The Department of Commerce did not support the establishment of a SUDZ program, simultaneously noting that the program’s broader economic development objectives meant it should more appropriately be housed in Commerce and arguing that the program would largely duplicate the existing Commerce Brownfields Grant Program. This grant program, the comment noted, “already gives a priority to projects that are located in areas of economic distress, located in a CDZ or EDZ,¹⁷ and for projects which have significant environmental problems, such as impacts to groundwater.” (State of Wisconsin, 1999, p. 76) Commerce also pointed out that the applicability of the remediation tax credit available in SUDZ might be poorly understood and create confusion with Commerce’s own development zone remediation tax credit. As with the long-standing conflict over groundwater, part of Commerce’s objections to SUDZ likely reflected well-established tensions between DNR and Commerce over primacy in brownfields, as well as partisan politics, contrasting organizational styles, different missions, and dissimilar constituents.

¹⁷ Community development zone and enterprise development zone, respectively.

3.2.3 SUDZ on the Ground

The substantive language of the SUDZ program that ultimately appeared codified in Wisconsin Statute 292.77—the use of financial incentives to clean up and redevelop brownfields with funds to be used to investigate environmental contamination and to conduct cleanups of brownfields in those cities—embodied only a subset of the Study Group’s recommendations and excluded several of its core tenets. Most centrally, an area-wide focus did not appear in the legislative or final bill, nor did language pertaining to criteria for qualifying for SUDZ designation and for selecting SUDZ designees or to financing from repayments to the Clean Water Fund. Instead, in a compromise—or as described less euphemistically by several involved parties as a “pork barrel political process,” a deal made in the “political backroom”—legislators spread money around the state and designated five municipalities that were to receive SUDZ grants totaling \$2.45 million from the segregated environmental fund.¹⁸ By most accounts, the recipient communities were surprised to receive this earmark, likening it to “manna from heaven.” Ultimately, the governor used his line-item veto power to reduce this amount to \$2.38 million and to eliminate the other linchpin of the program that had appeared in the legislative proposal of 1999 Act 9, tax credits for persons conducting remediation at a project in a contaminated SUDZ zone.¹⁹

These changes to the SUDZ proposal and legislative bill, although perhaps driven only in small part by resistance to the area-wide focus itself, largely eviscerated the area-wide structure of the SUDZ program. Their demise likely reflected fiscal concerns even though the Department of Revenue’s comments were largely supportive, asking primarily for clarification. In addition, as already noted, some perceived that the program duplicated Commerce programs. Under the budget bill that the Governor signed, for example, enterprise development zones (EDZ)

¹⁸ This earmarking apparently surprised the original advocates of the SUDZ proposal and DNR, both of whom had envisioned a more competitively awarded grant program (notwithstanding the focus on Milwaukee). In the 2nd round of SUDZ grants in the 2001–2003 biennial budget, DNR reportedly again was surprised to see support in the legislature for an additional \$525,000 in SUDZ funds emerge from the Joint Committee on Finance on a 15–1 vote. The agency hoped that language in the final bill would permit it to set up a review group of DNR and external panelists to review competitive proposals for this money, but earmarking to two cities of \$400,000 in the final bill left only \$125,000 for the competitive portion. As already noted, the 2003 budget repair bill eliminated this money.

¹⁹ The legislative language in 1999 Act 9 indicated that the Department of Natural Resources coordinate with the Department of Health and Family Services, Department of Revenue, and Department of Transportation in setting up the SUDZ pilot program, as well as the Department of Revenue and Department of Commerce. Only the last two departments appear in the final codified bill.

administered by Commerce were eligible for tax credits on remediation expenses, perhaps diminishing the perceived need for these provisions in SUDZ. Moreover, the community development zone (CDZ) program allowed remediation credits in CDZs. Six of the seven SUDZ established by the 1999-2001 and 2001-2003 budget bills are located in CDZ communities and several individual parcels investigated and remediated under SUDZ fall in designated CDZs (such as, in the Menomonee Valley in Milwaukee).

On-the-ground efforts in the seven municipalities that have received SUDZ funding have not initially targeted area-wide contamination per se, with the possible exception of Milwaukee. As we have already noted (and will discuss in more detail in Section 5.1), Milwaukee—or more accurately the Menomonee River Valley, only one part of which is the target of the SUDZ grant—is in many ways the birthplace of the SUDZ idea and has moved the farthest toward an area-wide approach. With over \$ 3.5 million in funding from SUDZ and other assorted valley and site-specific grants from state and federal agencies, the area has benefited from a level of financial and technical support that the other communities can only envy. The nearly \$1 million SUDZ grant itself has been devoted to a contaminated 140-acre site formerly hosting railcar switching operations, the construction of railcars and engines, and railroad storage. This property, slated for development as an industrial park, represents a linchpin parcel for redevelopment of the valley as a whole (slightly more than half of the SUDZ grant has gone to investigations at the parcel, with the remainder going to cleanup once the city acquires the property through condemnation proceedings). However, even at this site—ground central for area-wide enthusiasts—area-wide contamination concerns have retreated to the background, in part because groundwater flows at the site are uniquely shaped by the property's near encirclement by the Menomonee River.

At the other six SUDZs, experiences on the ground range from a single-site emphasis to multiple-property efforts, with varying degrees of attention to wider neighborhood impacts. At the site-specific end of the spectrum, for example, Green Bay has used the bulk of its \$485,000 grant and some of its own internal funds on investigation, building demolition, and remediation at a 2.25-acre parcel that housed a former transit facility. Beloit also has focused its \$195,000 SUDZ effort on a single parcel, a seven-acre tract in the city center. The city owns the site and hopes to attract interest in redeveloping it for multiple use (single family residential with retail and perhaps multi-family residential) after it completes its investigation and remedial activities and receives a conditional closure from DNR. Even with these single-parcel emphases, both communities anticipate significant off-site impacts. In Green Bay the construction on the SUDZ parcel of a four-story office building is only one part of a \$30 million revitalization of a

overarching redevelopment district that includes a new high-end hotel, mixed residential-office development, and rehabilitation of a theater. For its part, Beloit has targeted the seven-acre parcel in part because it lies immediately adjacent to the downtown core and thus is highly visible with potentially beneficial spillover effects.

In contrast to these site-specific efforts, La Crosse has taken on two main tracts straddling the La Crosse River and another alongside one bank of the Black River. Each of these tracts consists of multiple parcels, some in city ownership but most in private hands and located within a tax increment financing district. Together the tracts have hosted a commercial concrete ready-mix facility, metal salvage operation, coal gasification plant, machine shop, tool and die operation, and salvage yard. Most of the money spent so far has gone to environmental investigations revealing some hot spot contamination across the parcels and extensive soil problems in some areas from fill activities and perhaps coal storage and burning. Widespread groundwater contamination is not apparent. With the SUDZ money and previous investigations funded internally and by the state, the city has been able to document the extent and severity of contamination. Portions of the area have attracted redevelopment interest consistent with long-standing city plans, in part due to the reduction in uncertainty over contamination.

In both Platteville and Fond du Lac, the two most recent SUDZ grantees, funding also has supported remediation and investigation at multiple properties. Platteville combined three properties that it acquired through a combination of tax foreclosure and acquisition into one lot, and used its \$150,000 SUDZ grant, support from the state's Site Assessment Grant program, and over \$100,000 of its own funds to tear down a building, remove several problems (underground storage tank, debris, and garbage), hire an environmental consultant to conduct Phase I and II assessments and monitoring and to develop a remediation plan, and landfill contaminated soil. It is proposing to develop the combined property for affordable housing. The building itself and parking structures will serve as a cap, with remediation taking place through natural attenuation. The City also has targeted additional land in the area for investigation and cleanup, focusing on redeveloping the entire neighborhood.

Fond du Lac has followed a similar path of combining funds from different sources to concentrate on three properties. These include a DNR Site Assessment Grant, Department of Commerce Brownfields Grant, its own money, and the \$250,000 SUDZ award, the last of which has largely been responsible for stimulating the city's interest. Over \$2 million of investigation, remediation, and redevelopment has taken place or is under way at the three properties, with the development having a "very positive" impact on surrounding neighborhoods beyond the confines of the targeted parcels themselves. Together with the other investments, the SUDZ grant has

supported building removal, Phase I and II assessments, remedial planning, mitigation including soil removal and capping, removals, and revegetation. One property is being privately purchased for a bank building—with proceeds funneled back for capping—while another is targeted for mixed housing and/or a riverside trail.

Oshkosh falls somewhere in the middle of the site-specific to multiple-property spectrum. Although it has expended its \$240,000 grant on investigation and remediation activities on a two-parcel, 10-acre tract near the Fox River, the city has subsequently reconfigured the tract to encourage a variety of redevelopment. This includes several commercial activities as well as the construction of over 100 residential units. Moreover, the redevelopment is part of a larger special planning district that the city's comprehensive plan had identified for transforming an industrial area into mixed use to tie together the University of Wisconsin's Oshkosh campus and the city. Together with funds from a Commerce Brownfields Grant, an EPA Site Assessment Grant, and the City's own tax increment financing funds, the SUDZ grant has helped attract roughly \$7 million in investment to the area.

3.2.4 SUDZ in Hindsight

The basic dynamic of the SUDZ program—the awarding of grants through legislative earmarking rather than an open competitive process with clearly specified criteria—may suggest that it is too much an example of a naked political process to glean insights into regulatory innovation. Yet, the shaping of the program itself exposes the fault lines that innovations must cross. In the SUDZ case, these include the very limited funds available for a new initiative for area-wide investigation and cleanup as well as interagency competition for resources and a programmatic home. The area-wide emphasis of the program epitomized a shift in regulatory focus toward the revitalization of local economies, but in so doing it brought arguably more influential Department of Commerce allies to the legislative table, some of whom may have viewed the proposed DNR program as a threat. This intragovernmental competition remains alive four years later at the time of this writing, with the Joint Committee on Finance rejecting a recent gubernatorial proposal to move all brownfields grant programs to DNR.

SUDZ highlights many aspects of regulatory innovation, both in the opportunities the program has taken advantage of or provided and in ways that the program has been constrained. In each of the seven pilot communities that has received funding under the program, private economic activity has been central to the progress of the SUDZ effort. Legislative language in the version of 1999 Act 9 submitted to the governor addressed private activity explicitly, calling for tax credits for remedial activities in SUDZ zones. Yet, this was excised from the final bill,

with the resultant language in the SUDZ earmark neither explicitly promoting nor discouraging private market involvement. Pragmatically, however, the small (relative to need) amount awarded to each recipient suggests a clear reliance on the leveraging of resources. The expenditure of SUDZ money has created incentives for private parties to participate in redevelopment of brownfields, providing site investigation and/or remediation at individual properties that lowers the costs to the private party of redevelopment. Presumably those private parties that have joined in the redevelopment of contaminated sites in the SUDZ communities have done so because they perceive that they will find profit in meeting the demand for the goods and services that their economic activity at the site will generate.

Yet, while the program thus has plugged into the power of economic incentives, the original goal of leveraging off of area-wide cleanup has remained elusive and, arguably, diminished in importance. For example, area-wide concerns appear only indirectly in the list of DNR's 6 preferences for selecting among grant applicants in the third round of SUDZ, a competitive process that was to award \$125,000 to one or more new SUDZ municipalities.²⁰ The 3rd highest priority was given to a "project area with two or more adjacent properties," and the 5th highest priority to a "project area that is a clear fit with local redevelopment and master plans and where redevelopment would support 'smart growth.'" (Wisconsin Department of Natural Resources, 2002b)

The area-wide effects of SUDZ investments in the communities that have emerged (or are likely to emerge) in the seven existing SUDZ communities largely follow from a traditional parcel-by-parcel approach to remediation and redevelopment, rather than from a process grounded in one or more of the three stylized area-wide perspectives described earlier. Such a parcel-by-parcel approach undoubtedly can yield strong area-wide benefits. The point, however, is that the regulatory innovation of the area-wide approach has not been able to fully gain entry to the brownfields arena because several barriers to incentive-based approaches block its access. Most fundamentally, an area-wide approach is prey to the very externalities it is trying to address. In the case of groundwater investigation and cleanup under the Brownfields Study Group vision, property owners understandably may be reluctant to participate in a process with uncertain rewards and uncertain liability for addressing contamination generated by others. In addition, transaction costs, both for establishing an institution to oversee the process and for

²⁰ This competition became moot when the budget repair bill eliminated funding.

participating in it once established, can be very large. This problem may be particularly acute at properties that have a large number of outstanding claims including, for example, a tax lien by the county for payment of back taxes, an IRS lien, various court judgments, raze orders, state tax warrants, mortgage claims, and so on.²¹

The SUDZ program also represents what can happen with a regulatory innovation vis-à-vis regulatory flexibility. Although SUDZ itself does not offer any liability relief, each of the SUDZ grantees has taken advantage of local government liability exemptions and/or the Voluntary Party Liability Exemption, with cleanup linked to intended uses at the sites. In addition, the very nature of the program suggests a much closer relationship between regulated parties (local government and private entities) and regulators than may have been the case a decade earlier. This reflects not only that officials represent predominantly state or sub-state regulatory offices rather than federal agencies, but also the structure of having an identified DNR project manager serve as the principal point of contact for all issues in each SUDZ zone. Moreover, the negotiation of a contract between DNR and each local government unit as to what constitutes allowable expenses and uses of SUDZ money and what properties are included in each SUDZ have clarified expectations.

This flexibility is supported by an underlying regulatory structure that provides a backstop for both the protection of public health and the environment and programmatic administration. With respect to the former, short of the complete elimination of liability for contamination, local governments and private parties will retain some concern about possible enforcement or vulnerability to regulatory pursuit and potential third-party lawsuits. The SUDZ does not directly address this, but the interaction of any area-wide approach and remaining liabilities will fundamentally shape behavior at any given contaminated property. The conceptual appeal of an area-wide authority to manage groundwater remediation, for example, must confront the reluctance of many private properties to take risks that may expose them to scrutiny. Because Wisconsin like many states requires the reporting of any releases discovered through site investigation—regardless of whether these investigations were voluntary or involuntary—property owners face a disincentive to allow testing if liability for remediation of the release may

²¹ The passage of Act 121 in 2000 allowed counties and the city of Milwaukee to transfer a tax delinquent brownfields property to a new owner for cleanup and redevelopment and to assign judgment in the tax foreclosure case to that owner. After doing a Phase II assessment of the property and entering into a cleanup agreement, the new owner has fee simple title to the property, with the foreclosure judgment removing most liens on the property (Wisconsin S. 75.106).

be placed on them. Along with a plethora of considerations related to redevelopment potential, site conditions, and personal characteristics, a property owner would include in her calculations of whether to participate in an area-wide approach the threat of an enforcement action if contamination were revealed through a voluntary investigation and the probability of contamination being discovered absent this investigation.

Aspects of program structure have shaped the development and adoption of the SUDZ innovation, manifested most visibly in the objections by the Department of Commerce's to recommendations of the Brownfields Study Group related to SUDZ. As noted above, Commerce objected to the SUDZ proposal partly because the agency believed the envisioned program would be untargeted and duplicate Commerce's own CDZ and EDZ programs. This may have encouraged the removal of stronger area-wide provisions that appeared in earlier versions of the SUDZ legislative language, such as tax remediation credits. More subtly, program structure within the Department of Commerce may have constrained innovative approaches to area-wide contamination. For example, although nothing prohibits the designation of a SUDZ within a CDZ, CDZ program criteria effectively preclude explicit targeting of areas that may have wide groundwater or soil contamination on a geographic basis.²² In addition, both the CDZ and EDZ programs stress job and employment benefits as criteria for designation, the former almost exclusively. The EDZ program does require that at least 10 of the allowable 79 EDZs in the state provide significant environmental remediation, but the program is site or enterprise specific and Commerce may certify only one person as eligible for tax benefits in each EDZ (Wisconsin Statute 560.797).

3.2.5 Lessons for the Future

In the end, perhaps we can learn the most vis-à-vis regulatory innovation from the SUDZ experiment by comparing the SUDZ program in the different communities. While the

²² Of the 22 CDZs allowed in the state, statutory language requires that 11 of these be located in metropolitan statistical areas and 11 outside of such areas, with two on Indian reservation lands. Because the state has 11 metropolitan statistical areas, and countywide designation in areas outside of metropolitan statistical areas requires county populations less than 75,000, there is limited flexibility in CDZ designation. Moreover, statutory language limits the actual CDZ to a fraction of the metropolitan statistical area—the CDZ can account for no more than 10 percent of the relevant jurisdiction's property valuation and, with the exception of Milwaukee, its resident population must not exceed 10,000. Each CDZ in a metropolitan statistical area other than Milwaukee may consist of at most two separate areas, with each area bounded by a contiguous border (county-wide CDZs may have up to four subareas and Milwaukee up to eight subareas). Collectively, these criteria mean that area-wide groundwater or soil contamination by itself is extremely unlikely to qualify that area for CDZ designation.

Milwaukee SUDZ may not constitute a success in strict terms, it has moved farther on the area-wide approach than the other six SUDZ have. The financial and technical resources available for investigation and remediation certainly has been critical to this effort, but other factors have made a difference as well. More than the other communities, the Milwaukee SUDZ has benefited from relationships built up over time among local and state government, business, property owners, civic leaders, and community organizations. To the extent that these relationships help build trust, individuals may be more willing to take risks that a more adversarial context would discourage. In addition, the wide scope of the brownfields problem in Milwaukee may facilitate an area-wide approach. One individual intimately involved in the Menomonee Valley process has suggested that small- and medium-size communities in Wisconsin find it more difficult to take on such an innovative approach because it is more risky, and by virtue of having a small (relative to Milwaukee) absolute number of other brownfields projects under way, smaller communities cannot offset the high risk of an area-wide project with other lower risk projects in a de facto risk-pooling scheme.

More generally, the influence of Menomonee Valley conditions in shaping the Brownfields Study Group's recommendation by most accounts was profound. Several individuals involved in the Brownfields Study Group asserted that SUDZ originated as an open effort to get money to the Menomonee Valley under the guise of a programmatic initiative. Whether this is accurate or mere hyperbole, Milwaukee area interests and representatives critically shaped deliberations in the Study Group. The conditions that made an area-wide approach to groundwater contamination attractive in principle are perhaps not as apparent in other areas in the state. These include not only the nature of the contamination itself but also the economic dynamic of the Milwaukee area, where there may be opportunities to retain or attract new economic activity to the urban setting and where annexation of additional land is not realistic. That innovation should follow from such a specific context manifests Sabatier's "advocacy coalition framework," where individuals from state and local government and the nonprofit and private sectors across a wide array of backgrounds coalesce around a shared set of beliefs related to the desirability of redeveloping the valley and the methods for doing so. The other SUDZ communities, who were mostly absent from the Study Group discussions, have had to create their own coalitions of advocates in an abbreviated time frame and with, perhaps, a less shared set of beliefs.

4. Citywide Brownfields Efforts

Up to this point, we have focused on policy innovation at the state level, but clearly legislative amendments and new administrative rules issued by DNR are only a first step. The solid and substantial impacts of the reforms will depend in large measure on local officials, for it is their responsibility to identify sites, attract developers, turn languishing properties into viable real estate, and facilitate deals with the private sector. In fact, much of the impulse to reform site cleanup policy has come from larger metropolitan areas in Wisconsin—Milwaukee, Kenosha, La Crosse, and West Allis—where a significant portion of the state’s industrial base is located. By the early 1990s, local officials in these jurisdictions and other cities in the state had numerous vacant and tax delinquent properties on their tax roles and many of these properties—particularly industrial sites—were thought to be or indeed were contaminated by years of careless, uninformed, and haphazard waste-disposal practices. In the place of tax revenues and jobs from ongoing industrial operations, cities found themselves increasingly burdened by these “upside down” properties, sites where the costs of environmental cleanup could likely exceed the value of the land. Given the liability provisions of the Spill Law, and what many local officials saw as a strict enforcement culture at DNR, most local governments were reluctant to take title to these properties and potentially face high cleanup costs.

It would be disingenuous, however, to claim that liability considerations alone were responsible for the brownfields problem. As a policy matter, the brownfields issue is intertwined with a larger and more intractable set of forces that has shaped metropolitan areas in the last quarter century: the transformation of urban economies through plant closings and downsizing; spatial restructuring stemming from the growth of suburbs, industrial deconcentration, diminished work opportunities for residents of the inner cities; and in many cases the retreat from public investment in the infrastructure of central cities. And yet the liability provisions of the Spill Law further complicated redevelopment and imposed significant but unintended social costs on the communities in which potentially contaminated properties were located. Abandoned and underused properties stigmatized neighborhoods and led to negative “spillover” effects such as lower property values for other parcels of land, which in turn undermined the economic competitiveness of the city. The broad net of liability had helped to create, from the perspective of municipal officials, a perverse incentive structure that compelled lending institutions and developers to locate new projects, not on older industrial and commercial sites, but on properties that carried little risk—greenfield sites typically beyond city boundaries.

In this section we consider how two cities with lengthy industrial legacies, West Allis, in southeast Wisconsin adjacent to Milwaukee, and Wausau, located in the central part of the state, responded to the regulatory initiatives and financial incentives made available to cities under the state's brownfields reforms.

4.1 Background

West Allis has been in many ways a test bed for the brownfields policy initiatives of the 1990s, as well as a trailblazer in creating innovative public-private partnerships to redevelop contaminated property. Indeed, the city's pioneering experiences with brownfields redevelopment has informed subsequent discussions in the legislature and has led to further refinements to cleanup policies. By contrast, Wausau, despite a committed and able municipal administration and support for brownfields among elected officials, has not been able to generate similar enthusiasm among the private sector for brownfields redevelopment.

How can we explain this difference in a policy's "traction?" Peterson (1981; 1995) has argued that the economic constraints faced by local governments drive how policies are carried out on the ground. In brownfields this is something of a truism. Market demand for real estate, the availability and timing of financing, comparative locational advantages, and workforce considerations clearly drive brownfields redevelopment. But others have countered that it is the interplay between economic constraints and local institutional practices that ultimately influences policy implementation (Sabatier, 1988; Stone, 1993). Some municipalities, for example, may be unwilling to pursue condemnation or acquisition of blighted industrial properties or to use financial incentives to attract industrial or commercial facilities, seeing these tools as unnecessary subsidies or giveaways that hinder efficient real estate markets. Others may take a conservative approach in acquiring contaminated property, not wanting to assume the financial risks and up-front costs often necessary to prepare contaminated sites for development (such as preliminary investigation, site assessment, infrastructure upgrades, and indemnifications). In some locales, site owners and developers, aware of past cleanup imbroglios and with acute memories of past DNR or EPA enforcement actions, may turn a deaf ear to any overture by city officials about the benefits and profits of brownfields redevelopment and purported changes in DNR's regulatory culture.

To better understand this interplay between economic constraints and local institutional practices, and how state sponsored innovations are translated into local action (or inaction, as the case may be), we will consider each city's approach to brownfields along two dimensions: first,

we will look at the fit between the state's brownfields innovations and the cleanup needs and development strategies of West Allis and Wausau; and second we will consider to what extent and by what means each municipality has been able to use these incentives to mobilize private actors to take on new opportunities in brownfields. In some instance, and particularly in robust local economies, brownfields redevelopment may occur with little or no public intervention (Meyer & Lyons, 2000). But this has not been the case in either Wausau or West Allis.

In many ways, neither city has followed a traditional approach to brownfields redevelopment. West Allis is more aggressive than many other municipalities in part due to its unique real estate dynamics, while Wausau officials have had to try to overcome deep-rooted suspicion of DNR among site owners and developers that stems from past regulatory enforcement actions. Many of the SUDZ municipalities such as Milwaukee, Green Bay, Oshkosh, and La Crosse and other cities in the state such as Kenosha and Glendale may have more typical, textbook approaches to brownfields redevelopment. Nonetheless, West Allis and Wausau show us that innovation in brownfields policy at the municipal level is not simply a matter of helping private actors better quantify their risk and make sound real estate investments. Rather it more profoundly hinges on persuasion as much as market opportunities. And this requires a level of trust, that rare commodity, to enable both local officials and private actors the freedom of maneuver to discern and exploit the new opportunities that legal and administrative reforms make possible.

4.2 Incentives for Local Government

For cities like West Allis and Wausau the raft of brownfields reforms enacted during the past decade has changed how government can approach contaminated properties. Starting with the Land Recycling Act of 1994 and through subsequent statutory amendments, the reforms have tried to dismantle three basic impediments cities faced in relation to brownfields:

- exposure to liability in acquiring contaminated property,
- lack of funding to conduct site investigations and cleanup, and
- the perception that DNR's approach to contaminated property was inflexible, not well coordinated, and poorly tuned to the pace and exigencies of development

4.2.1 Acquiring Property

Perhaps the most important change for cities wrought by the statutory reforms of the 1990s was to clarify the conditions under which a city could acquire property and not be held

liable under the Spill Law if contamination was later discovered. Following a series of amendments to the legislation, municipalities could acquire property through various “involuntary” means and qualify for a local government unit exemption.²³ Under this exemption, a local government can take title to a property through tax delinquency, bankruptcy proceedings, condemnation, eminent domain, or for slum clearance and blight elimination and not be responsible for cleanup if it can prove it did not cause the contamination, takes necessary action to limit access to the site, removes and disposes of any hazardous substances found in containers above ground, and notifies DNR of a release.

This regulatory flexibility provides local governments a number of options. For example, a city or county would not be obliged to investigate or cleanup a property it acquires through tax delinquency. On face value this may seem counterintuitive to the cleanup goals of the program, but the framers of the legislation recognized that in many cases it was not so much the environmental contamination on a site that discouraged developers or other private actors to redevelop the property, but rather the uncertainty surrounding the title and the accumulated back taxes and liens on the property. By taking vacant or tax delinquent properties out of limbo, the county or city could then market these properties more effectively. As an added inducement, the state legislature gave counties and the City of Milwaukee the statutory authority to forgive back taxes owed on a property when a developer or an interested party conducted a site assessment and found contamination on a property. The prospective purchaser could of course decide to forego the deal if extensive contamination made the deal untenable. He or she would not be on the hook for cleanup. By putting narrower boundaries on what some had called the endless pit of liability, brownfields policy reformers allowed municipalities to acquire potentially contaminated properties and negotiate back taxes and liens with interest parties, thereby returning these properties to the market. As an ancillary benefit, the reforms also slowly planted the seed in the minds of the development community—developers, lenders, and site owners—that brownfields could be addressed with greater efficiency than before.

The statutory reforms also encouraged local governments to be more proactive by conducting their own environmental site assessments in situations where the local government

²³ A local government unit is defined broadly to mean a city, town, village, county, county utility district, town sanitary district, public inland lake protection rehabilitation district, metropolitan sewage district, and redevelopment authority.

sees a property as important to its future development plans but the private sector is hesitant to proceed. In many instances such an investigation may show that the site is far less polluted than expected. Even if contamination is found, the investigation reduces the haze of uncertainty surrounding the property. As many developers noted in our interviews, it often is the uncertainty of site contamination and their own reluctance to pay for up-front costs to find out how contaminated a site may be that has hindered brownfields transactions.

Moreover, lowering transaction costs for brownfields by better quantifying the nature of environmental risks at a site is only part of the picture. Under the VPLE process, local governments have reason to remediate properties in order to sell them to interested developers. Particularly for sites that are likely to throw off large benefits in jobs or increased property tax revenues, a local government can justify enrolling the site in the VPLE process, investigate the property, and implement a DNR approved cleanup that provides protection from remedy failures, changes in standards, or the discovery of previously undiscovered contamination. In addition to cleanup, a city will typically improve the site infrastructure and street landscaping prior to marketing the site. With the site ready for development, the city could then pass on the liability protections granted by the certificate of completion to the subsequent buyer, undoubtedly a powerful incentive.

4.2.2 Funding

The extent to which cities actively engage in site assessment and cleanup begs the question of how they fund these activities, especially at sites where there is no viable responsible party on the hook or when a site is too small, poorly located, or configured in such a way that it is not economically attractive. One way that states have encouraged local governments to implement state sponsored regulatory innovations is to provide grants and loans. In the mid-1990s, for example, Wisconsin created the Brownfields Environmental Assessment Program (BEAP)—funded largely by the U.S. EPA—for municipalities to investigate brownfields sites. This program, which supported DNR assessments at over 40 sites, helped further redevelopment and exemplified how well targeted financial incentives at the local level could beneficially tie together two policy arenas that traditionally have had been cordoned off—economic development and remediation of contaminated sites. Yet for local officials they had a key drawback in common with other assessment programs. In the words of one city staffer, “when the results of the site investigation show me I’ve got a problem, now what am I going to do, how am I going to pay to clean it up?” Without funding to cleanup the contamination identified by the site assessment, such assessment programs can become something of Pandora’s box.

The state legislature has stepped in to partly fill the breach with the creation of the Department of Commerce's Brownfield Grants Program, which since 1998 has provided financial support for both local governments and private parties to pay for actual cleanups where there are no viable responsible parties. As fitting the mission of that agency, the grants can be used for land acquisition and infrastructure improvement as well as remediation and long-term monitoring. In many ways they reflect a changing de facto definition and attitude towards brownfields, insofar as the grants are awarded more on economic criteria—projected property tax increases, the number of jobs and type of wages resulting from the proposed project, and the amount of additional funding the applicant can leverage—than on environmental or health benefits associated with cleanup.²⁴

In addition, in 1999 Wisconsin created for local governments the Site Assessment Grant (SAG) program, which is funded by the DNR. The SAG grants are intended to help local governments jumpstart brownfields site assessments. They target properties that have suspected or known contamination and can be used for site assessments and investigations, demolition of structures, asbestos abatement, and removal of abandoned containers and underground storage tanks. Local governments are eligible to apply for grants even if they do not own the site but can demonstrate they have negotiated access to it, a distinction that recognizes that in some cases a municipality may prefer to assign its right to foreclosure judgment on a property to a prospective purchaser rather than take title to the property outright. During the first two rounds of funding the grants were oversubscribed. In fact, DNR was able to award less than one-half of the \$10 million requested by applicants.

Despite the successes of these assessment and cleanup grant programs, funding limitations make it clear that public support for brownfields site assessment and cleanup clearly cannot sustain the brownfields agenda on its own. With 8,000 contaminated properties in the state, the grants will put only a small dent in the total demand for remediation, helping primarily to close deals that might otherwise stall at sites where cost recovery from the person or entity that caused the pollution is not possible. Recognizing the funding and programmatic limitations of the brownfields grants, policy entrepreneurs from cities and towns were able to convince the state legislature to pass further statutory amendments that could provide local governments two additional mechanisms to help fund site assessment and cleanup dollars.

²⁴ Between 1997 and 2003, Commerce awarded some 70 grants amounting to \$29 million. Roughly half went to businesses, and some 60 percent of the awards were for industrial and commercial redevelopment projects.

First, in 1999 the state legislature amended the Spill Law to give local governments clear authority to recover costs from a previous owner or from a persons who caused the contamination at a site. This reflected a broader devolutionary trend in environmental policy that sought to match the scale of a problem with the appropriate unit of government to resolve it. In effect, the changes give local government more leeway to negotiate with private parties and to integrate redevelopment strategies with cleanup requirements by making the costs associated with investigation and remediation a more central part of the negotiations. The DNR of course already had the authority under the Spill Law to initiate cost recovery actions at contaminated sites where there are responsible parties. However, while taking or threatening such actions may work well at Superfund caliber sites, doing so at generally less contaminated brownfields sites is considerably trickier. Brownfields reformers recognized that it would be difficult, if not impossible, for DNR to win the hearts and minds of brownfields stakeholders if it were to make heavy work wielding the enforcement hammer at less contaminated sites; they also realized municipalities needed a viable legal tool to recover the monies spent on site investigation and cleanup at brownfields sites that they had acquired through involuntary means.

A second, potentially more powerful mechanism to fund cleanup costs, is the rather ungainly named Environmental Remediation Tax Increment Financing, or ER TIF. In the 1997–1999 biennial budget, the state created ER TIFs as one more tool for local governments to finance virtually every aspect of brownfields redevelopment, from property acquisition to site investigation, cleanup, and post-remedial monitoring. The fees would come from the increased property tax revenues generated by the redeveloped property. The notion of the ER TIF is based on the Tax Increment Financing (TIF) laws in Wisconsin. The concept, if not the terminology, is rather straightforward. Once a local government creates a tax increment district (TID)—either with a traditional TIF or an ER TIF—the current value of all taxable property in the district is considered the “tax incremental base value” and remains constant for the duration of the TIF.²⁵ The tax increment—and it is the increment that pays over time for the city’s expenditures on brownfields redevelopment or services a bond that financed capital improvements—equals the property tax levied on the current property value each year minus the “base value.” TIF districts can be a slight gamble. Without an increase in the value of taxable property within the tax increment district, no tax increment will be generated, projected revenues will fall short, and the city’s expenditures (that is, the costs to acquire and cleanup a contaminated parcel) will not be

²⁵ In Wisconsin, a traditional TIF can run up to 23 years. The maximum life of an ER TIF is 16 years.

met. If the deficit continues and the TIF district cannot meet its obligations, ultimately the city taxpayers will have to assume unpaid project costs.

Despite this potential problem, according to a number of local development specialists we spoke to, including those in West Allis and Wausau, TIFs are considered the most powerful mechanisms for financing brownfields development. They do not come cost free, however. The geographic area that is put under tax increment financing—the tax increment district, or TID—in essence skims off the increment at the expense of overlay taxing districts in municipalities, (for example, school districts, technical college districts, county governments) and for this reason Wisconsin municipalities are allowed no more than seven percent of their equalized value in tax increment districts.²⁶ A handful of cities in the state, including Wausau are “TIFed out,” which means they cannot establish new tax increment districts until they drop down to meet the threshold. There are no similar value limitations to the ER TIF. As we shall see, when we contrast the brownfields experiences of Wausau and West Allis, the importance of tax increment financing to spur brownfields redevelopment can hardly be underestimated.

4.2.3 Partnerships

A municipality’s approach to brownfields is shaped not only by the statutory amendments and reforms hammered out in the legislature in Madison. Local governments also work with DNR staff, and the latter may be able to smooth the rough edges of policy innovation on a case-by-case basis by letting local officials informally sound them out on a proposed project. DNR leadership—which has vigorously promoted this more cooperative approach to brownfields by urging its field staff to engage in informal discussions with local government officials and interested parties—has recognized the importance of negotiation to encourage local government officials and private actors to take up new and somewhat untested policies.

From the highest rungs of the state political ladder, DNR regional staff have been encouraged to “build partnerships.” The concept remains purposely vague in many ways but it serves to embody what numerous brownfields stakeholders have recognized as the need to transform regulatory culture and the expectations of regulated parties, including local

²⁶ The state’s TIF law includes two thresholds, and if both are exceeded, a city cannot establish a new TID. In the first threshold the equalized value of the proposed TID plus that of the city’s existing TIDs cannot exceed 7 percent of the city’s equalized value. The second threshold refers to the incremental, not base value of the existing TIDs. In this case, no new TIDs can be created if the equalized value of the proposed TID and the incremental value of existing TIDs within the city exceeds 5 percent of the city’s total equalized value.

governments. Partnerships are seen as a way to build consensus by demonstrating that common causes and interests exist. They are valued as a means of engaging the private sector to deliver public benefits, but perhaps most importantly the substantive worth of partnerships rests largely upon the claim that they synergistically create something new that would not have otherwise existed. Indeed, the term partnership has served as something of a lodestone not just in Wisconsin but also in national discussions of brownfields policy.

Yet, the reassuring rhetoric of the term conceals the difficulties involved in making it work in the field. Appeals for partnerships in brownfields are sometimes based on oversimplified ideal institutions—a well-integrated local government, for example—with parts that march in lockstep. In reality, however, an image of semiautonomous little worlds of disparate agencies and departments may more accurately characterize the situation, each bringing forth official programs and policies through the interaction of its own staff and constituencies. Can any one of these worlds integrate the many forces involved in brownfields redevelopment, including, among others, housing, jobs, health, public finance, transportation, and cleanup?

Moreover, even if local government departments create an overarching brownfields program, site owners and property developers may be unwilling partners. According to the concept of the “availability heuristic” people are likely to assess the likelihood of an event by the ease with which they can recall or imagine examples of its occurrence (Tversky & Kahneman, 1974). Among the private sector and even among municipal officials this can lead to serious bias in overestimating, for example, the risks of DNR enforcement or the possibility of EPA involvement at a site and of protracted cleanups, despite efforts by DNR and local officials to convince them of changes to the regulatory regime. To implement the many brownfields policy initiatives put forward by the state legislature, city governments and DNR will need to work cooperatively. They need to convince the private sector and other stakeholders that changes to what we have called the behavioral culture of the brownfields are not rhetorical but rather substantively expand the opportunities for cities and private parties to prosper.

4.3 West Allis

West Allis in many ways epitomizes a rustbelt brownfields community. Incorporated in 1906, it is the seventh largest city in the state with a population of some 61,000 and consists of some 2,400 acres, tucked between Milwaukee to the east and the newer suburbs to the west. As its name suggests its history has been tied closely to the fortunes of the industrial giant, Allis-Chalmers. The company’s principal predecessors began operations in the area in the 1840s, and

for more than 130 years Allis-Chalmers maintained its headquarters and an extensive network of manufacturing facilities in the city, employing thousands of workers to produce air quality control systems, tractors, and hydro turbines. In 1970, before Allis-Chalmers began to consolidate operations at its West Allis complex, 30 percent of the city's land tax base consisted of industrial land, but by the early 1980s financial problems forced Allis Chalmers to slowly shut down its operations in the city and to try to lease its un-utilized office and manufacturing space in West Allis to outside tenants. A glut of commercial and industrial appeared with other companies in the region facing similar difficulties. Unsuccessful at leasing any portion of the four million square feet of industrial buildings it owned, the company sold off many of its assets in the mid-1980s and filed for bankruptcy in 1987, the culmination of a decline leading to the loss of over 8,200 manufacturing jobs.²⁷

To maintain its tax base and to provide adequate services to its citizens, the city of West Allis has had little choice but to focus its economic development strategy on vacant and underutilized property. Approximately 98 percent of the city's land is currently developed, and since there is little opportunity for annexation or for construction on greenfields, local officials have recognized that future tax base growth is tied to the city's ability to redevelop its land resources, which include a large number of brownfields. Consequently, it is not surprising that over the last decade West Allis has been in the forefront of brownfields redevelopment and has led the way on many of the new state policy reforms. As we describe in more detail in the next section, the city was an early leader in moving a site through the post-1994 brownfields regulatory terrain, the first to garner state approval for redevelopment before a remedial action was fully complete. The city also was the first to test the local government liability exemption of the Land Recycling Act when it bought the Allis-Chalmers Tractor Plant, a 26-acre parcel, in 1993. The city redeveloped this property as the West Allis Business Park, and has since sold off most of the property to various companies that have constructed office space, manufacturing facilities, warehouses, and corporate headquarters. In addition, it helped the Allis-Chalmers Reorganization Trust sell former office buildings and the company's former headquarters to private developers for multitenant office space and to manufacturing tenants. The city clearly has not been the lone actor in these and other projects, but due in large part to its enterprise, the

²⁷ During this period, one should note that about half of this job loss was made up by an increase in service sector jobs.

businesses occupying the former Allis-Chalmers complex account for slightly more in percentage terms of the city's property tax base in 2002 than the conglomerate did in 1977.

In addition to these efforts at highly visible sites, West Allis has pushed forward on a kind of a *de facto* area-wide brownfields strategy by taking advantage of brownfields policy innovations to help move toward the goals of its comprehensive land use plan. The plan identified some 40 areas in the city for redevelopment, but before the redevelopment can fully be realized, land assembly and infrastructure upgrade are required in those areas comprised of smaller, dilapidated properties. A number of these latter properties are tax delinquent and the city (working with the county) has acquired these through eminent domain and foreclosure and transferred them to new owners. Under brownfields related legislation this acquisition and subsequent transfer does not pull the city into the chain of title.²⁸ The legislation requires that a Phase II environmental assessment of the parcel be carried out before the foreclosure judgment or the title of the property can be assigned to the new owner. If the new owner accepts the judgment, he or she is then required to enter into a contract with DNR to remediate the property. Thus not only has the city been able to expedite the transfer of contaminated tax delinquent property to a developer or interested party, but the foreclosure judgment essentially rids the title of any delinquent property taxes, mortgage liens, or cleanup liens that may have complicated the transaction. By having the political support to take aggressive action (for example, foreclosing on tax delinquent properties) West Allis has been able to make the real estate transaction more attractive to developers and other interested parties, presenting them with a clean title to a property that when remediated and redeveloped will be returned to the tax rolls.

West Allis clearly has benefited from the state's brownfields policy reforms, but one should not underestimate the extent to which the redevelopment stories from West Allis have helped the DNR and the other supporters of brownfields reform point to a much needed early accomplishment. In brownfields success begets success and in recognition of its status as a leader in brownfields redevelopment, West Allis has been duly awarded six Site Assessment Grants, totaling \$400,000 as well as three brownfields grants from the Department of Commerce for \$1.05 million. The dollar amount of these awards are not insignificant—they provide important resources for the city or private parties to conduct site assessments to ascertain the extent of contamination—but in the context of multimillion dollar redevelopment projects, their

²⁸ This provision can be found in Wis. Stats. 75.106

prime importance for West Allis has been as leverage to accelerate the process for getting cleanup plans approved by DNR and to enable projects to move forward.

A far more essential source of public dollars in West Allis has been Tax Increment Financing. Since 1993 West Allis has created five TIF districts to pay for property acquisition, demolition, improvements to public infrastructure, and cleanup costs at prominent brownfields sites and in other areas targeted for redevelopment and blight elimination. Little political disagreement has emerged within the city about creating TIFs for these purposes. As noted earlier, once an area is declared a tax increment district, the incremental tax revenue is used solely within the TID and in the case of West Allis, this increment has helped to service bonds issued to support the upfront costs of property acquisition and cleanup. More significantly perhaps, the city has used TIDs to promote a second brand of area-wide brownfields economic redevelopment that rests on recycling TID revenues. By cleaning up a site and attracting a big box retail establishment or large manufacturing facility, the tax revenues from the facility provide “cross subsidies” for other brownfields redevelopment projects that would not throw off the same level of tax increment, such as mixed-use and residential development. The increment can additionally pay for land assembly, site assessment, at other brownfields sites in the TID.

In making use of liability exemption and funding vehicles, West Allis has managed to implement state sponsored brownfields reforms and on-the-ground redevelopment in ways few municipalities in the state can match. These successes in part reflect the locational advantages and longstanding efforts at economic diversification after Allis-Chalmers and other large industrial firms went bankrupt in the mid-1980s. The city has been able to recruit new businesses and tenants to its brownfields properties because these firms recognize the central location of the city in a metropolitan area that still remains a major manufacturing center, with a skilled labor force and ready highway access to major markets in Southeast Wisconsin and farther a field in Chicago. Market demand also worked in the city’s favor. West Allis benefited from a regional shortage of urban industrial space, a crucial condition for sustained and successful brownfields redevelopment. Without an adequate demand for industrial and commercial space, even the most adroit brownfields program is unlikely to have many success stories. Less obviously, the city’s location provides easy access to a number of the state’s top legal talent—including attorneys with lengthy experience and familiarity working with DNR regional staff—to help it craft innovative solutions to brownfields. In a similar vein, the city was able to participate in the state’s influential Brownfields Study Group held in nearby Madison and thereby establish a close working relationship with DNR, which allowed it more latitude than it otherwise might have had in implementing state initiatives.

Yet, the successes clearly do not rest on favorable market conditions and locational advantages alone. The city's Department of Development could move assuredly on brownfields because it did not need to spend inordinate resources of time and money to dispel fears among the development community that brownfields were too risky, too complicated, and ultimately not worth doing. The city was able to demonstrate through creative use of TIF districts and other tools, that it had the competence to redevelop contaminated properties with the private sector, making use of brownfields initiatives to lower transaction costs, accelerate deals, and to the extent possible clarify long-term liability issues. At the center of West Allis's approach to brownfields is a political consensus that brownfields reforms at the state level are not only relevant to the city's economic development strategy, but can enable it also to target market demand for industrial and commercial property to those areas where environmental contamination and other factors had impeded redevelopment. Many observers have noted West Allis's swashbuckling attitude to brownfields policy—its innovative bent and penchant for risk taking—but it is the careful way the city has been able to integrate brownfields as a citywide development strategy that is most noteworthy and explains in large part the sustained success of the city's approach to brownfields.

4.4 Wausau

Like West Allis, Wausau, a city of some 39,000 people located in central Wisconsin in Marathon County, has a long history of industrial activity. In the 19th century lumberman set up sawmills along the banks of the Wisconsin River to exploit the region's vast pine forests, and when the forests were depleted and the sawmills and lumber treatment plants closed at the turn of the 20th century, papermaking enterprises attracted by the location's water power took their place. Many of the industrial properties along the river are now vacant, mothballed, and possibly contaminated. They have become the primary focus of the city's brownfields efforts. These properties are located not at the periphery of the city, but at its very center within the central business district, placing a heavy burden on the city's redevelopment efforts. In its recently completed master plan, the city had given priority to revitalizing its downtown river corridor, to "promote downtown Wausau as a destination and orientation point for cultural and sports-related tourism" (City Visions, 2000, p. 15). The city believes this strategy will allow it to compete more effectively with the rapidly growing communities in the sprawling landscape of Marathon County. But as the master plan delicately puts it, the large tracts of formerly industrial land along the river "may be impacted by the actual presence or the perception of environmental conditions which affects their reuse. Redevelopment of these lands for residential, business and high tech

uses will be critical to connecting the CBD to the river and stimulating economic opportunity” (City Visions, 2000, p. 15).

Taking up the brownfields charge with alacrity, the city has driven the redevelopment of one showcase property, the Marathon Rubber site, relying on a number of brownfields reforms to revitalize the three-acre former manufacturing site (which has closed in 1999 and stood empty for several years). The city undertook a limited site investigation of the property and found soil and groundwater contamination. With the results of the investigation, the Community Development Authority began condemnation proceedings and eventually acquired the property, qualifying for the local government liability exemption. The city was awarded a SAG grant by DNR to better characterize the contamination on the site and to demolish various dilapidated structures. To pay for cleanup and redevelopment, the city used funding from the U.S. Department of Housing and Urban Development, an earmark from their congressional representative, and transportation money for infrastructure upgrades. A portion of the site has been transformed into a neighborhood park, with much of the rest targeted for low to moderate income multifamily housing. The city also will receive revenue from the sale of single-family sites and benefit from increases in the assessed property values of the housing units.

Yet, in contrast to West Allis where brownfields efforts were buoyed by a robust market for industrial and commercial development, the brownfields context in Wausau is quite different. Due in part to traffic flow problems and poor access from the highway to Wausau’s central business district, few business owners have approached the city with ideas about acquiring riverside property in the city, preferring to locate their businesses in outlying areas with better access to the region’s highways. Yet, limited demand is only part of the problem. A more fundamental barrier has been the reluctance of many of the property owners along the river corridor to improve their properties or to sell them to someone who would. As one local observer noted “there’s a lot of paranoia out there.” Many property owners, afraid of finding contamination from past or present uses, opt to pay taxes and maintain underperforming properties rather than risk putting the properties on the market and sending up red flags to regulators.

In many ways, this owner hesitation implicitly acknowledges the market dilemma that Wausau’s brownfields efforts face: if property values are not strong enough to carry the environmental cleanup costs of a transaction and compensate for heightened investment risk, then redevelopment of contaminated properties becomes less attractive. The city could in theory go after some of the properties. But while West Allis has been very aggressive in foreclosing on tax delinquent properties and using the VPLE process and the local government liability

exemption to acquire and then market properties, Wausau has had far less opportunity to do so. Most of the properties in question are not tax delinquent and the city is not willing to use inspections or other means, such as condemnation processes, to push the owners to sell. As one city official noted, that while the city has the authority for condemnation, “the political legitimacy is not there most of the time.”

While the most visible success of the brownfields redevelopment effort has been the Marathon Rubber site—a target of opportunity as one official called it—the city’s major brownfields efforts continue to struggle with the more obdurate problem of the river corridor. Realizing it needed help to make inroads with the private sector, the city created the Wausau Brownfields Committee, a group comprised of private sector developers, technical consultants, lawyers, city council members, and others with an interest in brownfields. The chairperson of the group, in particular, brings considerable experience to the table, having been a mayor of Wausau, a state representative, an engineer with experience on some of the most contentious cleanup investigations in the region, and (currently) a regional DNR official. The main task of the Committee is to convince local developers, property owners, and lenders—the key movers in real estate transactions—that there has been a sea change in contaminated site cleanups. To this end, it has organized community-wide presentations on various aspects of brownfields and brought in DNR regional staff to explain how the agency can help local communities address contaminated properties and to, in effect, show the local community that the DNR does not have horns.

One can argue that the city’s decision to form a brownfields committee is not so much about promoting a culture of openness and transparency or initiating a deliberative processes—all of which have resulted from the Committee—as it is about frailty and the lack of policy traction for brownfields development in the community. In contrast to West Allis—where the city administrators did not need to create the façade of a partnership since they could count on market demand, good location, and a history of more aggressive policy toward foreclosure and eminent domain to help implement the state’s brownfields initiatives—the brownfields committee in Wausau has had to promote brownfields in an environment where market demand for commercial real estate is soft and where suspicions of both DNR and particularly EPA enforcement have deep roots. In the mid-1980s, for example, over 1,350 parties in the area were part of a voluntary settlement to cleanup an abandoned privately owned landfill in the area. The remediation of the landfill and its transformation into soccer fields arguably is a success, but the extent of victimization appears to be widespread.

This sentiment can be illustrated more concretely if we look at the city's progress on an EPA brownfields pilot grant that it received in 2000. Under the terms of the grant, the city proposed that it would conduct Phase I environmental site assessments on 40 properties along the river corridor. If contamination were found, it would work with property owners in additional assessments and to minimize the impact on public health and then remediate and redevelop the sites as appropriate. Despite the continuing and good faith efforts of the city, at the time of this writing 12 property owners have refused to participate, only ten Phase Is have been completed, and only four Phase IIs have been carried out. For the most part, these have been on city-owned sites, with the intention of marketing the properties to developers.

The city unfortunately is not in a strong position to negotiate with recalcitrant property owners or to provide financial incentives that can induce them to market their properties. As one local official told us brownfields are "all about cash" and, in his opinion, 90 percent of brownfields issues in the area center on whether money is available to clean them up. Unlike West Allis, which heavily relied on tax incremental financing to pay for property acquisition and cleanup at key parcels and to create opportunities for an area-wide approach within a tax increment district, Wausau has not been able to employ TIDs to the same affect. This reflects a current shortage of viable development projects to create an increment that over time can cover the city's expenditures, as well as legal barriers. Wausau is one of ten Wisconsin cities that is "TIFed out," having bumped against statutory caps on the percentage of its equalized value in its existing TIDS. This means that the city cannot create a new TIF district to attract developers. While the city could create an ER TIF to help pay for cleanup and redevelopment on a brownfields site and adjacent properties, a city official noted there little support for this kind of subsidy among the local residents.

In sum, the state's brownfields reforms have a narrowed applicability in Wausau largely because demand for industrial and commercial redevelopment is limited. Exacerbating this, property owners along the river corridor find little in the state initiatives to move them to sell their properties, a symptom of the tendency of brownfields programs to offer initiatives targeting potential buyers of properties more than sellers. The conundrum is that without the enforcement hammer, brownfields redevelopment in a place like Wausau is hard to jumpstart, but a more heavy handed policy—site inspections, condemnation and foreclosure proceedings—might alienate the key stakeholders in brownfields redevelopment. The mixture of regulatory inducements and a supportive behavioral culture as manifested through the brownfields committee are necessary but not sufficient conditions to spur brownfields redevelopment in Wausau. The absence of sufficiently robust structural conditions for economic incentives to

work—low transaction costs, availability of public subsidies, and a basic demand for the goods and services that a redevelopment activity would provide—creates an imbalance that frustrates redevelopment efforts in the community.

5. Lessons from the Ground

The efficacy of regulatory innovations ultimately depends on what happens “on the ground” in specific settings in practice. The most innovative policy on contaminated land and the most well designed brownfields initiatives do not create actual brownfields redevelopments. Important structural conditions that may allow such redevelopment to proceed are essential, yet it is individuals who actually make projects happen.

In this final section of the paper, we discuss a number of specific instances where developers, environmental consultants, public officials, and lawyers—what we will refer to as “brownfields entrepreneurs”—have navigated through the complex milieu of redeveloping contaminated land to take advantage of the brownfields innovations and programs offered by public entities. We organize this discussion around three arenas or realms. These include the institutional realm, where coalitions of different interests have emerged to press brownfields projects forward; the regulatory realm, where entrepreneurs have used legal interpretations and regulatory changes and flexibility to pursue remediation and redevelopment work; and the financial realm, where entrepreneurs use combinations of incentives to structure financial packages that bring together buyers, seller, and local officials. Our analysis is based on interviews of an array of practicing brownfields entrepreneurs who have worked on actual brownfields projects. Although we do not present formal studies of the projects, we bring in details of them as appropriate to reveal entrepreneurial practice.

5.1 *The Institutional Realm*

The original focus of the SUDZ effort discussed in Section 3.2—the 1,500-acre Menomonee River Valley in Milwaukee—provides a good launching point for examining how innovations root in the ground and how different institutions can coalesce to push brownfields redevelopment efforts. Here we use the term “institution” loosely, referring not only to formal organizations with names and bylaws, but more broadly as “ordered relationships among people which define their rights, exposure to rights of others, privileges and responsibilities.” (Schmid, 1972, p. 892). Thus, we focus on the interplay of individuals and groups from different

perspectives, regardless of whether these perspective are embodied in or represented by organizational storefronts.

5.1.1 Early Valley Background

Historically, the Menomonee River Valley—currently bounded by I-94 on the north, Milwaukee River on the east, Bruce Street and the Soo Line railroad tracks on the south, and 44th Street on the west—has served as a major shipping area for both rail and maritime trade, with a variety of industrial and other economic activities including railcar manufacturing, foundries, breweries, slaughterhouses, coal storage, tanneries, and stockyards. During the 1920s more than 50,000 people worked in these operations but industrial decline after World War II has dropped employment levels below 10,000. Surrounding neighborhoods currently have high concentrations of people of color, unemployment, and poverty, while hundreds of acres in the valley remain vacant or underutilized (for example, used as storage facilities). Real or perceived contamination at landholdings is endemic. In particular, there has been a perception of pervasive groundwater contamination across the area abetted in part by possible back and forth groundwater flows across parcels resulting from hydrologic features of the river and Lake Michigan. As discussed earlier, this perception has contributed to the development of the state’s SUDZ program and financial support from various EPA, HUD, and state sources that aims to revitalize a wide swath of a community through more comprehensive remediation and redevelopment rather than a parcel-by-parcel approach.²⁹

An early example of this interest was the informal “brownfields and bagels” gatherings in Milwaukee during the mid–1990s, which predate the Brownfields Study Group that we discuss in our regulatory history paper. Although not concentrated exclusively on the valley, these

²⁹ On top of the SUDZ grant, the state has awarded another \$750,000 from the 2002 Commerce Brownfield Grant competition to purchase and remediate brownfields properties in the Menomonee Valley and grants of more than \$500,000 to individual sites in previous rounds of the Commerce competition. The valley also has garnered \$350,000 from the EPA in assessment pilot money in 1998 (supplemented in 2000) and a \$1 million capitalization of a brownfields cleanup revolving loan fund in 2002, in addition to a share of a \$400,000 EPA cleanup grant awarded in 2003 to Milwaukee. In addition to receiving designation as an EPA Brownfields Showcase Community, the valley is part of the Milwaukee Renewal Community named by the federal Department of Housing and Urban Development (HUD). It also received more than \$1 million from a recent earmark in HUD’s budget. Dedicated revenues from gaming operations of the Potawatomi Casino fund some of these efforts (for example, the \$750,000 Commerce grant originated in the 2001–2003 biennial budget, which provided \$2 million in earmarked funds for remediation and redevelopment in the valley), as well as other efforts in the valley (such as \$20 million for the West Canal Street reconstruction, split between the city and the state).

gatherings attempted to bring together individuals from the private (for example banking, energy, real estate) and public (for example, DNR and the city) sectors to share brownfields experiences and to help mitigate the problem of parties working in isolation, walled off from interaction with each other both by work on separate projects and by interest and familiarity with singular professional concerns. On the private side, the principal organizer of the gatherings worked at an electric and natural gas utility and was interested in addressing brownfields more comprehensively in part to maintain the economic vitality of the communities the utility served. From the city side, individuals from Milwaukee's council, health and development departments, and the mayor's and assessor's offices were concerned with distressed areas of the city that hosted potential brownfields sites, hundreds of which were tax-delinquent properties that the city was loath to acquire because of liability fears. The city's interest in revitalizing these areas in a *de facto* area-wide fashion arguably has resulted in a presence on brownfields redevelopment that might otherwise have been missing.

The EPA brownfields assessment project awarded in the late 1990s represented an area-based effort to address contamination in the valley. Originally, its "aqua-shed" approach envisioned extensive investigations at two dozen or more properties in the valley to characterize and identify commonalities in contamination across properties, followed by some form of regional authority to pool risk and manage cleanup under a broad, area-based agreement with DNR. This vision, however, did not come to fruition. Some parties attributed this to a regulatory resistance to moving away from a site-specific approval process—as well as the city's apparent disinterest in a more regional approach that would entail it taking on more potential liability than it felt comfortable with—but more broadly the realization both that most contamination reflected site-specific rather than extensive, cross-property soil conditions and that groundwater quality generally did not exceed enforcement standards, curtailed area-based enthusiasm. Concerns over legal access to individual properties and recalcitrant landowners added additional

complications.³⁰ Moreover, enough environmental information on key parcels existed to allow some significant movement forward.

Despite the failure of this effort to realize risk pooling and benefits from economies of scale in remediation, interest remains alive in revitalizing the valley comprehensively rather than parcel-by-parcel. The 1998 Menomonee Valley Land Use Plan (City of Milwaukee, 1998), upon which the EPA pilot rested in part, continues to guide integrated development efforts. The plan itself notes roadblocks that environmental concerns pose to redevelopment of the valley, identifies four priority areas for redevelopment, and provides eight recommendations to revitalize the valley as an urban industrial and mixed-use district. Among these, the plan suggested the creation of a public/private partnership to implement the plan and financial support for environmental assessment in the four priority areas. Co-sponsors of the plan included the Milwaukee Metropolitan Sewerage District and the Menomonee Valley Business Association.

5.1.2 Menomonee Valley Business Owners and Beyond to the Menomonee Valley Partners

The Menomonee Valley Business Association has brought a substantial degree of private sector buy-in to the valley's brownfields effort and, ultimately, helped yield an ongoing private source of money to promote integrated redevelopment. Representing the interest of business owners in the area, the association originally formed in the late 1980s out of concerns with the appearance of the valley and fear that new business activity would force out existing activity. However, its first formal interaction with the city did not occur until discussion and subsequent commitment of \$20,000 to co-sponsor the 1998 Land Use Plan (funded by voluntary donations by business association members). Subsequently, the association helped form the Menomonee Valley Business Improvement District (BID) in the late 1990s to provide a more regular source

³⁰ In addition, investigations revealed that 27th Street sharply demarcates groundwater flows in the area. On the east side of the divide, groundwater recharge almost exclusively moves and flows to Milwaukee's Deep Tunnel project. Although the large drawdown caused by the tunnel can cause a headache for stormwater overflow in wet conditions, relatively low contaminant concentrations and the centuries-long movement of groundwater to the tunnel facilitates the natural breakdown of the contamination. In addition, minimal exposure pathways to contaminated groundwater poses relatively low environmental and public health risk in this area. West of 27th Street, the river and canals are the major potential receptors of groundwater flows (depending on the season) but, again, relatively low contaminant concentrations and slow groundwater movement mitigate the potential problem.

of funds.³¹ According to one of the BID's principal architects, the keys to its formation—a unanimous vote to approve the BID by affected business after a failed effort in the early 1990s to do so—were extensive door-to-door lobbying by one influential business of his business neighbors, and a willingness to both tightly cap the assessment on any one parcel and to provide a clause to sunset the BID after five years if it were not successful.

The Menomonee Valley BID could function to fund and implement an area-based approach for addressing contamination, although in reality its members have not expressed interest in such risk sharing on their individual properties or in the aggregate through the BID. However, the district does devote its assessment revenues (roughly \$30,000 annually) almost exclusively to Menomonee Valley Partners (MVP), a 501(c)(3) organization that promotes redevelopment in the valley. This entity was initially formed in 1999 following the recommendation in the 1998 Land Use Plan's recommendation for a public-private partnership. Its board includes representatives from state and local government, private business, tribes, and community and academic organizations, while financial support comes from a variety of private companies, foundations, and state agencies in addition to the BID.

Although the MVP has a range of objectives that are not necessarily related to brownfields—among other functions, it provides information on financial incentives and its partnership with the City's Department of City Development and the Sixteenth Street Community Health Clinic seeks to promote aesthetic sustainable development in the area—contamination is a consistent theme. Members of MVP's environmental committee—whose mission is to “ensure parcels are cleaned up for redevelopment”—have worked with federal, state, and local agencies in their investigations of soil and water contamination and recently developed a guide to provide technical and financial assistance for owners and prospective purchasers of contaminated sites. In addition, the Menomonee BID's contract with the MVP provides funding explicitly to solicit the cooperation of property owners in environmental investigation, promote the VPLE program, and negotiate with the DNR over the implementation of the 1998 Land Use Plan.

³¹ Business Improvement Districts in Wisconsin are designed to promote or develop areas within their boundaries. They are created by municipalities and funded by special assessments on commercial and industrial properties located within the boundaries of the BID. The stated objective of the Menomonee Valley BID is to assist and facilitate in the implementation of the 1998 Menomonee Land Use Plan (Menomonee Valley Business Improvement District, 2002). It is funded by a special assessment of \$2.00/1,000 square feet of land area, with a minimum and maximum assessment per parcel of \$100 and \$1,000, respectively.

Neither MVP nor the city can fully control what redevelopment activities take place in the valley, but both emphasize and support environmentally friendly land uses and economic activities that provide “living wage” jobs to residents living to the north and south of the valley. They also have supported significant infrastructure improvements. Most of the western part of the valley remains zoned for light industrial use while the eastern end, which lies adjacent to downtown, is targeted for mixed commercial, office, light manufacturing, and perhaps residential uses. Roughly half of the 50 current owners in the valley plan to continue to their current uses of their properties. Most of these owners are neither actively involved in redevelopment planning nor strongly interested in property value enhancements per se, although they generally do support the significant infrastructure improvements under way. The city, state department of transportation, sewerage district, and railroad, who collectively own roughly one-quarter of the parcels, largely support redevelopment efforts, and half a dozen of the remaining properties are being actively marketed. The handful of remaining business owners resist investigation and continue to hold on to underutilized properties for speculative purposes.³²

Perhaps the major successes of the MVP and predecessor institutions involved in redevelopment in the valley relate to the provision of information on the valley’s contamination, a characterization of the environmental situation that has removed some of the uncertainty and given an impetus for development to proceed. The development of these institutions also has promoted interaction among different brownfields parties, with current owners, city officials, DNR, MVP, and developers working in a much more integrated fashion than would have been the case several years ago.

5.2 Regulatory and Legal Realm

The Wisconsin Department of Natural Resources implements its policy on contaminated lands chiefly through administrative rules published in the NR 140 (groundwater) and NR 700 series. Among other features, these rules govern site discovery, investigation, remediation, and closure requirements; detail liability limitations; and establish programs for attaining exemptions

³² The owner of the linchpin parcel in the western part of the valley discussed earlier has resisted city efforts to purchase the land and negotiation and condemnation efforts have dragged on for five years. However, the Redevelopment Authority of the city of Milwaukee and the owner have recently agreed to the Authority’s acquisition of the site through eminent domain, releasing the owner of remaining environmental liabilities. The owner will not contest the eminent domain claims although it has the right to appeal the valuation of the site to seek more compensation. (Bergstrom, 2003; Millard, 2003)

or grants. Their application motivates site-specific negotiation, as we illustrate in the following vignettes.

5.2.1 Contained-Out Policy and Remediation

The 1976 federal Resource Conservation and Recovery Act (RCRA) governs the generation, transportation, treatment, storage, and disposal of hazardous wastes and sets up the framework for managing nonhazardous wastes. The law initially targeted hazardous wastes themselves, with a variety of listed substances such as drycleaner fluid and industrial degreasers falling under the definition of hazardous wastes, as well as characteristic substances (such as pesticides and metals) that through tests are deemed hazardous. Both listed and characteristic substances are regulated and must be disposed in landfills approved to receive hazardous wastes (RCRA Subtitle C landfills). In contrast to this clear delineation, RCRA did not explicitly cover in detail a process for managing soil and groundwater contaminated with hazardous substances. Thus, for some time there was some confusion as to how cleanup of these media would fall under RCRA. Over time, however, a body of regulatory rules, policy, and guidance has developed at the federal level, which provides some flexibility in the cleanup of contaminated media. Within Wisconsin and in the chapter NR 600 and 700 series—EPA has authorized the state to implement much of RCRA—the applicability of RCRA to such contamination hinges not on whether the contaminated media contains a listed or characteristic substance, but on whether the exposure is problematic. If the concentrations fall below critical limits for the relevant exposure pathways, the contamination is deemed “contained-out.” This essentially allows waste that would be regulated under RCRA were it occurring in isolation (for example, TCE from dry-cleaning operations) to be managed or disposed of outside of Subtitle C landfills, in a less expensive facility such as a municipal landfill that can receive solid waste (RCRA Subtitle D landfills).

A recent brownfields project in Milwaukee illustrates the benefits of this flexibility. In the project, a residential redevelopment at the site of an old barrel-plating factory, some 2,000 tons of metal-contaminated soil posed a financial constraint to redevelopment of the property. Removal of the soil and its off-site disposal in a Subtitle C landfill probably would have cost at least \$120/ton (\$240,000 total), but an alternative on-site approach to reduce the contaminant concentration below critical limits promised a substantial reduction in costs. State DNR rules (NR 630.04) allow a properly containerized treatment process “designed to change the physical, chemical or biological character or composition of any hazardous waste so as to neutralize the hazardous waste or so as to render the waste nonhazardous, safer for transport, amenable for

recovery, amenable for storage or reduced in volume.” (Wisconsin S. 291.01). The use of this containerized treatment and the application of the “contained-out” policy cost roughly \$50/ton for treatment and \$18/ton for disposal, saving over \$100,000 in remediation and disposal costs.

5.2.2 Historic Landfills

A commercial redevelopment of an old landfill site provides a second simple example of applying a flexible regulatory approach to the reuse of contaminated land. Throughout most of the last century, construction on old landfill sites in Wisconsin was largely free of routine environmental restrictions, leading to concerns about deleterious effects that could result from development that released leachate, methane, and other contaminants from past disposal practices. This concern was particularly acute in some urban areas, where old landfill sites that were established before 1970—when DNR began licensing landfills—offered attractive space for expansion. In response to this, in 1988 the state promulgated rules (NR 506.085) that prohibited at pre-1970 landfills the use of the disposal area for agricultural purposes, establishment or construction of any buildings, and excavation of the final cover or any waste materials without the explicit approval of the DNR. These rules severely curtailed the ability to reuse such sites in urban areas and elsewhere, even in those cases where such reuse might not pose any harm.

Recent guidance from the DNR changes this development dynamic, however, by providing criteria for exemptions to these prohibitions on a case-by-case basis. The exemption process requires an application by the individual proposing to develop the site, payment of fees, and investigations to demonstrate that the proposed activities would not pose additional threats to public health, safety, and welfare. One recent commercial developer looking for a large tract of land in southeast Wisconsin for example—who had been closed out of considering old landfill sites in the past—applied to the exemption, conducted a \$7,000 investigation, and garnered approval to move ahead with the development. This \$7 million project—\$2 million for acquisition costs and \$5 million for development—combated sprawl and encouraged ancillary expansion that has turned into a \$10 million development. The associated increment in annual tax revenues exceeds \$100,000.

5.2.3 A Catalyst from the Bench

A final example of activity in the legal and regulatory realm reflects how entrepreneurs can take advantage not just of regulatory flexibility but also of openings provided by legal interpretations in specific cases. Regardless of whether a particular ruling establishes a recognized precedent or is merely idiosyncratic, it can spur innovative redevelopment practice.

By way of background, in the early 1970s DNR began in earnest to regulate solid waste and to require the licensing of landfills at manufacturing facilities. These requirements generally became stricter as time passed and regulatory approaches developed. At one metal foundry in central Wisconsin that started operations in the mid-1960s, for example, the DNR began to require in 1972 that the owner both run a licensed solid-waste disposal facility to deposit foundry wastes (initially more of a designated spot than an engineered site) and control emissions with a wet bag system, with subsequent disposal of hazardous waste collected by the system in surface impoundments on the property. Following continuing problems with compliance in both disposal areas and elsewhere on the property, the agency issued a series of enforcement letters and began monitoring for a variety of violations in the early 1980s. It entered into an agreement with the foundry to formally close the landfill in 1985, but observing continuing violations of monitoring and disposal, it continued to pressure the owners with enforcement letters through 1988. In that year the foundry discontinued its operations, arguing that it could not remain a viable operation with all of the oversight. The owner ceased the disposal of foundry waste and removed four underground petroleum storage tanks after determining that a release had occurred, but continuing investigations found above allowable concentrations of lead and cadmium in the surface impoundments sediments. In 1992, the state's Department of Justice filed suit in state District Court on behalf of the state and DNR against the foundry for violation of state hazardous, solid waste, and air pollution laws.

These events and the apparent near insolvency of the foundry set the stage for a prototypical brownfields story of abandonment, underutilization, stigmatization, and continued problem with contamination at the site. However, in this case, the District Court issued a Stipulation and Judgment that the state, DNR, and the foundry entered into that required the foundry to turn over all its remaining assets to the court and the state's environmental fund. It also required DNR to "clean up and close, as it deems necessary and in accordance with applicable state laws and regulations, the facility's landfill and hazardous-waste storage surface impoundment."³³ Following this judgment, DNR screening inspections subsequently led to a \$2.4 million EPA removal action in 1994, the relocation of much of the waste to an engineered

³³ We do not know why the court chose this path. We can speculate that from the judge's perspective that although the DNR itself had a strong legal case, the department was culpable for the waste problem because of what it forced (and approved) the owner to do.

landfill at the site in 1995, further investigations in 1996, and long-term monitoring supported, at least indirectly, by liquidation of the site's assets.³⁴

Collectively, these actions provided sufficient comfort to an outside investor who purchased the property in 1998. DNR provided a case closure for portion of the site as well as a General Liability Clarification Letter to the purchaser (and subsequent owners), which detailed what contamination remained at site and what the risks were.³⁵ These risks appeared relatively minor. The Stipulation and Judgment had put DNR on the hook for investigation and remediation of the site's landfill and surface impoundments, with only a cap necessary for closure. Groundwater, the only significant uncertainty remaining that the private party would be exposed to, was seen as readily controllable. Almost immediately, the new purchaser marketed the property to a developer who quickly reached an agreement with DNR to put an asphalt cap over portions of the site. This developer won a \$350,000 brownfields grant to address lead paint and asbestos in the foundry and refurbish the building. The site currently hosts sand and gravel mining and two manufacturing enterprises that employ over 100 employees with a payroll of \$3 million. The property is assessed at \$388,600 and in its first three years of operations generated \$26,000 of property taxes.

5.3 The Financial Realm

Brownfields redevelopment is first and foremost a real estate investment deal. Regardless of the degree of regulatory flexibility and political will, most successful brownfields redevelopments will hinge on adequate project finances. Often brownfields projects start at a real or perceived disadvantage, but in any given market available contaminated properties may offer a wider range of sizes, better locations, more existing infrastructure, and, if we assume fully equilibrated land markets, lower acquisition costs. In addition, innovative use of financial mechanisms can further level the playing field or even tilt it the opposite way. However,

³⁴ Use of revenue from the liquidation of assets to support continued work at the site itself required some innovation, or "jimmying things around" as one interviewee put it. At that time, the state's Environmental Fund did not allow the placement of revenues from the site to a segregated account, although the parties at the site did manage to dedicate the revenues from the asset sale to site activities.

³⁵ General Liability Clarification Letters are a widely used tool for reducing uncertainty over liability at a site. As their name suggests, they help clarify, for a specific party and property, the DNR's interpretation of the party's liability for cleanup of environmental contamination for the property. Although they do not themselves provide a specific liability protection, they can provide reassurance to site developers, lenders, and purchasers of DNR's interpretation of the liability.

fundamental real estate financial practices bind what takes place in a brownfields project and influence brownfields regulatory innovations, both prospectively as a financial innovation is being shaped and in practice after such an innovation is implemented. In this section, we first discuss in broad outline aspects of real estate practice in the brownfields context and then three sets of examples of how public and private players have used these innovations in brownfields redevelopment.

5.3.1 The Contract Offer and Beyond

Redevelopment of a previously used site by a new owner requires a number of discrete and time-consuming steps, starting with preliminary background information gathering and scoping by a prospective purchaser, environmental investigations, site acquisition, development site preparation including an approved remediation if necessary, demolition, and the actual “sticks and bricks” of construction. Just the period between the time a prospective purchaser makes a contract offer on a property and acquisition of the property alone can take six to nine months or more, depending on the motivation of both the seller and buyer and project-specific features such as whether rezoning is needed. As part of the contract offer, the prospective purchaser may have a dozen contingencies that must be satisfied before closing on a property including, among others, ones for survey work, soil borings, various project and associated infrastructure approvals (utilities and stormwater, for example), financing, and, of course, environmental investigations. Discharging these contingencies require expenditures, commonly referred to as “pursuit costs.” For competitive properties that have attracted interest from multiple parties, a seller may require earnest money that is stepped, with money committed upfront and periodically added to as contingencies are met. This money and more generally pursuit costs are “at-risk” dollars; that is, if a potential purchase collapses because the prospective purchaser abandons the project prior to acquisition because of an unsatisfactorily resolved contingency, the at-risk money is lost.³⁶

The contingencies frequently play a large role in deciding whether to move ahead with an offer and, particularly for larger developments, in influencing project economics. For example, pursuit costs related to garnering site design approval for a residential undertaking may run

³⁶ Developers’ experiences with pursuit costs are highly variable. One interviewee noted a 50 percent probability of having to abandon pursuit costs in any given prospective project, although most others developers indicated much less common abandonment.

\$5,000 per unit, meaning a 100-unit project will require upfront costs of half a million for design approval alone. In commercial or retail developments, analogous design costs may be lower but lenders typically require contracts with end users (tenants in a mall, for example). If these tenants are large, Fortune 500 companies, securing contracts with distant corporate offices for whom the potential storefront may not be a high priority may take many months beyond that necessary for garnering site design or state regulatory approvals, time in which there is no income stream on the property.³⁷

Such delays and approvals can impose much more significant cost on the developer than delays and the out-of-pocket money associated with environmental issues. In addition, although concerns about contamination by lenders also could add delays or drive up loan rates and therefore affect project economics, most of our developer interviewees indicated that contamination stigma no longer prevailed within the lending community.³⁸ However, an environmental assessment still can be an influential matter to both the seller and buyer of a contaminated property. Typically, a prospective buyer will do a Phase I environmental assessment within 45 days of making a contract offer.³⁹ Based on this assessment, that buyer may waive a Phase II assessment if the site does not have contamination, abandon the site if the contamination looks like a nightmare, or decide to move to a Phase II assessment.⁴⁰ If the buyer takes the latter course, depending on site size, the severity of the contamination, and the intended use of the site and the site plan, combined Phase I and II assessments can incur substantial costs.

³⁷ Complicating matters, a private purchaser may want to keep much of this hidden from a private seller since the perceived value of the end use drives the purchase price. At publicly owned sites with private parties responding to an RFP, in contrast, a developer may want to showcase a high end use value to make his proposal appear attractive, although this sets a target for later tax assessments.

³⁸ Stigma also appears to be less of a concern at the opposite end of the pipeline when a completed redevelopment project that may have some remaining environmental liability (an institutional control for example) is sold, leased, or rented. This is particularly the case with projects in which the developer is selling a project to a commercial entity. These typically have environmental and legal experts on staff who are sophisticated enough to understand the limited scope of the liabilities after remediation and redevelopment. In contrast, for residential projects sold to individual homebuyers, home mortgage providers may react more negatively to environmental liabilities since their business is predicated on quickly processing large volumes of homogenous, uncomplicated loans.

³⁹ Phase I assessments seek to determine whether contamination is likely at a site by relying chiefly on existing information regarding previous site activities, regulatory records, and general site reconnaissance. Phase II assessments more thoroughly characterize contamination by sampling soil, surface water, and groundwater and laboratory analyses of these samples.

⁴⁰ The prospective purchaser also may try to get a lower purchase price, a generic practice known as “retrading” in which the prospective purchaser and the owner renegotiate a purchase price based on information revealed in the process of fulfilling one or more of the offer’s contingencies.

A previous survey of 40 brownfields projects (Wernstedt, Meyer, & Yount, 2003) revealed median combined assessment expenditures of \$50,000, with assessments of \$150,000 or more at one-quarter of the projects. It is extremely rare that such efforts obtain outside financing, thus requiring up-front dedication of the prospective buyer's own capital.

Partly for this reason and because the high costs can impose enough of a burden to curtail further interest, the DNR has offered its Site Assessment Grant program for units of local government.⁴¹ These have helped to push projects forward, not only making project economics more favorable in a simple direct way that appears on the bottom line, but also by reducing uncertainty and removing some of the at-risk investment embedded in site assessments. However, they are not available for privately purchased properties and do not address the potentially more nettlesome problem of information disclosure; that is, site owners continue to face a disincentive to conduct environmental assessments by virtue of their obligation to disclose information collected from such assessment on site conditions to the state.

Looking beyond the contract offer period when a buyer has actually acquired the site, the likelihood of securing financial support for remediation and or redevelopment also can influence a decision to invest in a brownfields project that otherwise may have been undesirable. A residential redevelopment described below, for example, likely would have stalled absent a \$700,000 grant from the Department of Commerce. However, as with site assessment money, remediation and redevelopment subsidies need to be placed in the context of the wider real estate investment decision. The median value of the more than 70 grants awarded in the Commerce Brownfields Grants Program is less than \$350,000, yet project costs can run into the ten of millions of dollars. In such cases, more generous financial inducements directed at project features other than those related to contamination might be far more critical, as we describe below.

Although most of our developer interviewees indicated that subsidies for remediation and redevelopment can provide comfort to those who must decide whether to commit capital to a deal, the subsidies are not critical to the bottom line per se. In contrast, the timeline of a project plays a far more critical role in project economics. On this score, subsidies can be problematic insofar as application deadlines and notification dates may not coincide with the pace of

⁴¹ In the four rounds of awards since the program started, the agency has provided over 150 grants to communities for as much as \$100,000 per grant.

development decisionmaking. In short, brownfield-specific financial incentives are but one piece of a larger puzzle of making the economics of a brownfields deal work. As we see in the following three short vignettes, innovation in the field can come from packaging such incentives with other interventions to move a redevelopment forward.

5.3.2 Public Middleman for Financing⁴²

In Wisconsin, local tax revenues are based on the assessed value of land and buildings but not on capital equipment that the land and buildings may house. This can create problems for cities with extensive capital-intensive industrial activities if lagging industrial plants drag down the value of their own property and structures or that of their surrounding neighbors. Moreover, plant owners may lack the incentive to sell since assessments remain relatively low and unused capital stock is not taxed. Potential redevelopment of such sites for retail services may appear initially attractive since it would yield higher tax revenues on a per acre basis. However, industrial enterprises, unlike retail establishments, typically generate basic (that is, exported out of local area) products that bring in new dollars from outside the community. In addition, industrial activity typically will provide higher paying jobs than retail activity. Prospective brownfields redevelopments often must face this dilemma head on, since many are situated on formerly industrial sites with underutilized capital stock in declining areas with a low tax base and an underutilized labor force.

The City of West Allis faced one such situation in the early 1990s with a 40-acre property caught in a no-man's-land of redevelopment. A manufacturer of heavy machines and tools had purchased the property in 1989 from a former competitor, intending to use it for its own activities but instead put the property back on the market due to ensuing consolidation of its operations at another location. One possible deal to level the site and redevelop it as a shopping mall appeared and fell through, but after some time a printing company interested in acquiring the site for a new plant for its operations entered into purchase negotiations with the owner. These negotiations dragged on for several years, with the two parties remaining over \$1.5 million apart on the selling price reflecting, in part, a paucity of information about the property's environmental contamination. The site consequently remained contaminated and underused for

⁴² Much of the material in this section comes from Chudzik (2001). The site also is referred to as the Giddings & Lewis property.

more than five years, generating minimal tax revenues and supplying no jobs to a community hard hit by the demise of a high number of manufacturing enterprises.

As negotiations between the owner and prospective buyer broke down, West Allis stepped in as a middleman. In a complex brokered deal in 1994, the city first got results from prior investigations at the site—information that the seller had been reluctant to circulate because the prospective buyer could use it to negotiate the price down—and then reached an agreement with the seller for the city to purchase the property. Subsequently, the city conducted further site investigations in an accelerated two-week time period, gained approval from the DNR of its response plan to remediate the site, and ultimately resold the site to the printing company.

Funding for these activities came from a number of sources including the state Petroleum Environmental Cleanup Fund Act (PECFA) program, Milwaukee County, and a tax-increment financing district that the City established in the area. The City furnished \$5 million of protection to the printing company against additional response liability for residual contamination that had not yet been attenuated below enforcement standards,⁴³ supported by \$.5 million from the TIF and a \$2 million interest-free loan from the state, with this money put in an interest-bearing account that would result in a \$5 million balance in ten years. Milwaukee County pledged an additional \$2.5 million if the full \$5 million were required before the ten year build-up period had passed. Subsequently, West Allis purchased a \$5 million policy, with a \$500,000 deductible, with the city named as the beneficiary. This substantially relieves the county and state of their respective pledge and loan, with remaining principal and interest in the account sufficient to pay premiums for ten years.

The site effectively went through much of the regulatory approval process before the current program became fully enacted (although it subsequently entered the VPLE process in 1996). Relying on environmental investigations at the site, it was perhaps the first site to get state approval for redevelopment before completion of the remedial action—now a common occurrence in the VPLE program at sites that rely on natural attenuation—yet it was as much the financial mechanisms as these liability assurances that convinced the printing company to “take a leap” with a less-than-complete characterization of site conditions. Tax on the incremental value of the land after five years—that is, the tax on the \$13 million difference between the value of

⁴³ This \$5 million insurance consisted of a \$2.5 million indemnification for unknown environmental problems as well as a \$2.5 million fund for covering any remedial costs encountered during the printing company’s redevelopment of the site. The seller would be responsible for costs in excess of \$5 million.

the land in 1995 when the tax increment financing district was created and its value in 2000—was nearly \$400,000. Based on this, repayment of the city’s expenses for land purchase, investigation, and remediation should take a dozen years or less. In addition, the printing facility employs roughly 250 West Allis residents at an average annual wage of nearly \$40,000.

5.3.3 Public and Private Money for Cleanup at a Quirky Site

All properties of course do not offer major manufacturing, commercial, or residential opportunities. In fact, the majority of brownfields sites in the country likely take up less than two acres (see, for example, Miller et al., 2000), limiting their use for significant housing construction, employment, or tax revenue gains. At such smaller, more ubiquitous properties the motivation for public involvement may center more on traditional regulatory concerns about possible environmental harms rather than on redevelopment possibilities.

A second case in West Allis exemplifies this. It involves a former dry cleaning business, where the owner wished to retire, sell his property, and use the proceeds to move out of state. The property had a market value of roughly \$180,000 in clean condition, but contamination at the site from dry cleaning activities reduced this to a negative value. In prospect, the state’s Dry Cleaner Environmental Response program—a state program funded by license fees on dry cleaners and fees on suppliers of dry cleaning solvents—would cover most of the costs of investigation and remediation at the site, but this program operates on a reimbursement basis. The costs of addressing the site appeared as if they would exceed \$150,000, an amount beyond the capacity of the owner to front. In addition, the owner would need to pay a \$10,000 to \$15,000 deductible under program requirements.

At this point, the city and parties brought in by it stepped in and constructed a financial package to move investigation and remediation forward. This started with helping the owner obtain a \$60,000 loan from a private lending institution (secured against the value of the property) to fund the investigation. When the investigation determined that the remediation would cost roughly \$180,000, the owner took out a \$90,000 bank mortgage on the property and received an additional \$40,000 interest-free loan from the city. Together with a \$50,000 reimbursement for site investigations from the Dry Cleaner Environmental Response program—the cost of investigation minus the deductible—these sources funded a \$180,000 cleanup bank. The project went forward, the site was cleaned up, and the site the owner received reimbursement for the cleanup minus the deductible to pay back the \$150,000 of bank loans (plus interest and fees) and the \$40,000 interest-free loan from the city. In the end, the owner

walks away with the \$180,000 purchase price, minus a \$15,000 deductible, the city is made whole, and the property is cleaned.

5.3.4 Mainstreaming the Links

Much of the early activity in brownfields redevelopment in the post-CERCLA era has rested on entrepreneurial public acquisition and redevelopment of contaminated sites, sometimes accompanied by intensive efforts to attract private capital and interest on specific properties. The West Allis cases of the printing company and the dry cleaner showcase this style on the public front. On the privately driven side, a variety of brownfields specialists have emerged in niche markets, including so-called “environmental merchant bankers” (Meyer & Lyons, 2000). These are generally small and nimble firms with high risk tolerances that are able to realize exceptional investment opportunities in brownfields as a result of their specialized expertise in real estate, engineering, and regulatory aspects of redeveloping contaminated property and by relying heavily on environmental insurance to manage residual risks.

The success and visibility of highly entrepreneurial and aggressive public and private parties, however, should not obscure the fact that brownfields practice has matured, become mainstreamed in many aspects, and begun to yield projects that rely less on uniquely structured deals specific to the environmental characteristics of the site and more on standard real estate practice. It stretches credulity to claim that brownfields practice has become a routine matter, yet selling brownfields properties has become more normalized as common real estate issues rather than problems related to remediation have begun to fundamentally (and in some situations almost exclusively) drive redevelopment at contaminated sites. Moreover, as such redevelopments become more common, more mainstream firms have begun to take on the redevelopment of contaminated land.

In Milwaukee, for instance, several high-end residential developers have responded to market demand for downtown living in older, formerly industrial areas along the Milwaukee River and Commerce Street corridor. One of these developers, the Mandel Group—which has constructed and developed over \$200 million worth of residential and retail development in Milwaukee and adjacent suburbs since forming in the early 1990s—has completed moderate and high-end apartment and condominium projects at a variety of contaminated sites. At the recently completed Trostel Square development, which houses nearly 100 upscale apartments and more than two dozen luxury condominiums, the firm redeveloped a former tannery site contaminated with heavy metals and sulfites. This effort was boosted by a Commerce brownfields grant and DNR’s flexibility in portioning of the site so that the hot spot of contamination could be covered

with a clay cap and left intact as public space. Another much larger, on-going project of the firm that lies across the river at the site of the former Pfister & Vogel tannery also has benefited from a \$900,000 Commerce grant to help in remediation.

Outside of the residential realm, a nearly \$60 million, 600,000-square-foot regional mall redevelopment in the city of Milwaukee provides an example of mainstream commercial players dealing with contamination, in this case petroleum and asbestos. The partnership redeveloping the site consists of Boulder Venture, a Milwaukee-based development firm specializing in retail, office, and senior housing facilities (with over \$500 million of development in the last 10 years) and Canyon-Johnson Urban Fund, a California-based real estate investment fund with over \$300 million of equity capital concentrated in urban properties. Neither of these entities is a specialized brownfields player, yet because the mall redevelopment made economic sense and satisfied the investment fund's objective to address needs of underserved residents of urban neighborhoods, it was attractive to both.

Unlike the residential projects just described, the mall redevelopment has not received any direct subsidies from the DNR or Commerce related to the brownfields nature of the site. With more than \$3 million in demolition costs alone on top of more than \$35 million for redevelopment and \$8 million for site acquisition, any realistic remediation or redevelopment subsidy would be at best a relatively minor incentive. Instead, the city provided a more generic \$6.5 million tax increment financing district mostly for infrastructure improvements, paid for by dedicated property tax revenue from the project. In addition, in another example of regulatory flexibility, the state allowed the recrushing of 100,000 tons of moderately contaminated concrete, brick, and other demolition debris from the site and the backfilling of this as a base for the new mall. This avoided \$12/ton charges for handling and disposal of the debris in a landfill and \$8/ton charges for bringing in new stone and gravel, for \$2 million in savings (as well as reducing truck traffic, lessening the need for local sand and gravel extraction, and placing less demand on landfill space).

Clearly some form of public subsidy has benefited both these residential and commercial projects all of these projects. However, in perhaps a sign of the maturing of the field, the strength in the redevelopments' financial situation has centered less on aspects related to contamination and more on market dynamics. Developers of the regional mall, for example, have said that in contrast to the cluster of retailers in most parts of the city, in the midtown area of the mall they have the "market all to ourselves." (Daykin, 2003) In referring to the Trostel Square project, a representative from Mandel referred to the city's master plan for the area, noting that "the fact that there was a scheme for the entire corridor was a huge incentive to make a long-range

investment” possible (Gould, 2002). In the case of the Pfister & Vogel property, a large part of the site’s economic attractiveness for residential development rests on its proximity to downtown, location along the river, and tie-in to the city redevelopment authority’s surrounding 60-acre plus Park East redevelopment area. This latter entails a mixed residential, office, retail redevelopment, a substantial part of which is made possible by the demolition of a freeway and a coordinated effort to renew a declining and contaminated neighborhood.

6. Summary

The above description of redevelopment efforts in Milwaukee demonstrates how various regulatory inducements and economic incentives interact to influence what we have called the behavior culture of brownfields. Most fundamentally, the redevelopment community has tapped into the lode of economic incentives, using brownfields grants to improve project economics in settings with a market demand for goods and services. By virtue of visible successes in brownfields developments, current owners of other underutilized contaminated properties have become more interested in selling their properties and more sophisticated in working with potential buyers to accommodate their concerns. In addition to these economic factors, developers also have utilized the flexibility afforded to them in site remediation, a principal regulatory inducement that the state has fashioned in the last ten years. Thus, for example, sites have been partitioned and left with residual contamination—with parking lots and other structures serving as caps and natural attenuation relied on to dissipate the contamination—or creatively configured to improve project economics. The flexibility has emerged from a regulatory culture that encourages frequent interaction among DNR staff, city officials, and private entities and that rewards (or at least does not punish) entrepreneurs from these different groups. All of the groups had some commitment to rebuilding the urban neighborhoods in which the brownfields redevelopments took place at the cost, perhaps, of taking criticism from those more comfortable with traditional approaches. Finally, the site-specific examples we discuss highlight the role of regulatory structure, albeit in a more ambiguous manner. On the one hand, statutory amendments and regulations by design have limited use of the innovative mechanisms to interested parties who are not responsible for the contamination. This maintains a formal process that provides integrity to remedial responses, including natural attenuation. On the other hand, longer-term aspects of the regulatory oversight of site remediation and redevelopment—the monitoring of sites with residual contamination, for example—appear less formalized and perhaps are still evolving. These may be potential vulnerabilities in the regulatory structure. Until they become settled, our understanding of the implications of the regulatory innovations

vis-à-vis regulatory accountability, consistency, enforcement, and long term reliability is incomplete.

Similarly broad themes of regulatory innovation appear in the West Allis and Wausau brownfields redevelopment efforts. Each of the two communities has committed to build consensus at the local level to resuscitate brownfields properties, with both showing entrepreneurial initiative to take on risk and skills in moving their respective communities away from the status quo of writing off properties that are underutilized and contaminated. And both West Allis and Wausau have had successes in redevelopment by taking advantage of the regulatory flexibility and funds that the state's brownfields programs have offered. Yet, the economic environment differs substantially between the two. In West Allis, locational advantages, more competitive market conditions, and, perhaps, a greater interest of private sector participants to respond to market signals, has facilitated public efforts to redevelop public and private sites. In contrast, a relatively weak market for redevelopment within the city limits of Wausau makes economic incentives beyond the limited state grant programs much less accessible and relevant.

Finally, from the bird's-eye perspective, the VPLE and SUDZ programs highlight different elements of policy innovation. Development of the SUDZ program, for example, rested squarely on the Brownfields Study Group and the trust developed among its members as a result of their regular interaction. Many participants in this group also exhibited entrepreneurial skills—in the public and private sectors—and a willingness to take the risk of accommodating others and possibly compromising their own agendas. The implicit approach of collective responsibility for contamination in an area-based approach may not have been comfortable for some, while the possibility of presumptive or standardized remedies likely was resisted by others. In the end, endemic weaknesses in the innovation of an area-based approach—the lack of a transparent process and agreed upon criteria for selecting SDUZ communities and inattention to incentives that might encourage real area-wide remediation and redevelopment—may have relegated the initiative to its limited visibility as a demonstration program. The VPLE program, by contrast, has a wider, direct relevance to the overall development of the state's brownfields program, despite the fact that less than 160 properties are actively enrolled or been awarded certificates of completion. Most fundamentally, the VPLE has effectively targeted incentives at key public and private parties to stimulate brownfields redevelopment. At the same time that it has clarified the regulatory framework to deal with contamination—certainty of cleanup standards, clear program eligibility criteria, and prescriptive language to direct the actions necessary to achieve a certificate of completion, for example—it has provided tremendous

flexibility and incentives through relaxed liability. This reflects a more collaborative approach among regulators, regulated entities, and other parties, cooperation founded on relationships built over years of regular interaction and negotiation in open forums.

Across these different scales, our four framing features—economic incentives, regulatory inducements, regulatory structure, and a fertile behavioral culture—thus help explain how brownfields policy innovations have arisen, evolved, and been implemented in Wisconsin over the last several decades. In addition, a number of other features not easily categorized under these four have helped move the shifting sands of brownfields innovation. Political jockeying among different ideologies, geographic areas, and state agencies have provided constructive tensions that bound initiatives to those which are politically acceptable. Many of these initiatives have been pretested in the Brownfields Study Group, a prototype model of the larger political environment. In addition, much of the progress of brownfields innovations can be fairly characterized as a trial and error process, with policies and programs that emerge in formal statutory and regulatory language often bearing the chisel marks of a long string of implementers at the local level who have iteratively sculpted the innovations as they appear and recycled these back through the policy process for reformulation and formalization. And perhaps most critically, the ignition of brownfields innovations has required an entrepreneurial spark. Throughout Wisconsin—at the site, city, program, and statewide policy levels—individuals have stepped forward to push beyond the boundaries of the status quo to move brownfields policy and practice to a higher plane.

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Appendix A: Individuals Interviewed

Phillip Aiello
Barry Ashenfelter
Les Blum
Linda Bochert
Steve Born
Brian Borofka
Loren A. Brumberg
Greg Bunker
Joe Carroll
Jerome S. Chudzik
Beverly Craig
Charles S. Cuttell
Ralph Dashner
Chris De Sousa
Jim Dunning
Kathryn M. Erdmann
David A. Erickson
John Evans
Michael Flesch
Darsi Foss
Lilith Fowler
Nancy Frank
Donald P. Gallo
Mark Giesfeldt
Kory Groetsch
Brian Hahn
Arthur J. Harrington
Steve Hiniker
Jeffrey L. Hosler
Geoffrey F. Hurtado
Bruce A. Keyes
Jackson Kinney
Larry Kirche
Larry Lapachin
Dee Allen Mayo
Peter McAvoy
Patrick McCutcheon
Steven P. McDowell
Robert B. Monnat
Michael Morrissey
Thomas J. Mueller
Tom Nelson
Robert J. Neumann
Mark Patronsky
Peter Peshek
Judy Pratt-Shelly
Dean Prohaska
Brian Reilly
John Robinson
Wayne Rollin
Robert E. Schmidt III
Jason Scott
Gary Shuettpelez
Michael D. Siegel
John F. Stibal
John Stimac, Jr.
Michelle Syring
James Tarantino
Caryl Terrell
Peter Thillman
Mark Thimke
Anna Thomas
Dan Tyrolt
Bruce G. Urban
Christine Van De Yacht
Tina Van Zile
Scott Williams
Blair W. Williams
Russell W. Wilson