



Linking Brownfields Redevelopment and Greenfields Protection for Sustainable Development

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AND
GREENFIELDS PROTECTION
FOR SUSTAINABLE DEVELOPMENT**

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Linking Brownfields Redevelopment and Greenfields Protection for Sustainable Development

Foreword

The Great Lakes are the largest system of fresh surface water on earth. They bring to mind breathtaking vistas, magnificent beaches and plentiful fishing. The Great Lakes also support prominent cities and places of commerce along their shores and anchor a region of agricultural productivity and economic opportunity.

These majestic bodies of water and the land portion of the Great Lakes ecosystem that surrounds them are affected by the continuing growth of metropolitan areas and the virtually uncontrolled sprawl of low-density residential areas. The presence of brownfields and the loss of productive agricultural lands and open space rank high among the detrimental consequences of these trends. Many central city areas have deteriorated, leaving idled contaminated sites and related socio-economic problems in their wake. Meanwhile, new development migrates to outlying greenfields, with commensurate loss of agricultural lands and open space. In this report prepared by the Great Lakes Commission, the National Wildlife Federation and the Council of Great Lakes Industries, we illustrate opportunities to address these trends in an integrated fashion that can stimulate productive change.

With the support of the C.S. Mott Foundation, the primary goal of our effort has been to promote and link brownfields redevelopment and greenfields protection efforts in the interest of advancing sustainable development. We are pleased to add our research findings to the body of work that supports the recommendations from the President's Council on Sustainable Development ("Sustainable America," 1996). Paramount among those principles of sustainable development is that environmental progress will depend on individual, institutional *and* corporate responsibility, commitment and stewardship. We agree. The project undertaken in preparing this report models this type of collaboration on a regional level. A series of strategic actions are the focal point for moving the findings from concept to practice. We encourage you to read this report and take up your responsibility to a sustainable future for the Great Lakes region.



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Great Lakes Commission

The Great Lakes Commission, chaired by Nathaniel E. Robinson (Wisconsin), is a nonpartisan, binational compact agency created by state and U.S. federal law and dedicated to promoting a strong economy, healthy environment and high quality of life for the Great Lakes-St. Lawrence region and its residents. The Commission consists of state legislators, agency officials and governors' appointees from its eight member states. Associate membership for Ontario and Québec was established through the signing of a "Declaration of Partnership." The Commission maintains a formal Observer program involving U.S. and Canadian federal agencies, tribal authorities, binational agencies and other regional interests. The Commission offices are located in Ann Arbor, Michigan.

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The Charles Stewart Mott Foundation

Through its Environment Program, the Charles Stewart Mott Foundation supports the efforts of an engaged citizenry working to create accountable and responsive institutions, sound public policies, and appropriate models of development that protect the diversity and integrity of selected ecosystems in North America and around the world. The Environment Program focuses on advancing the conservation and restoration of freshwater ecosystems in North America, with emphasis on the Great Lakes and other globally significant ecosystems.

Introduction

This report is the result of more than two years of collaborative research and outreach to advance and link brownfields redevelopment and associated greenfields protection in the Great Lakes basin.

In releasing its “Sustainable America” report in March 1996, The President’s Council on Sustainable Development offered a series of operating principles that must guide efforts toward a sustainable future. One such principle states that “environmental progress will depend on individual, institutional and corporate responsibility, commitment and stewardship.” The report also highlighted the need for government/private sector/citizen group partnerships. Further, it placed a special focus on “sustainable communities” and the role of brownfields redevelopment and greenfields preservation in achieving sustainability. Five years later, these principles still hold true.

Beginning in 1998, the Great Lakes Commission, the Council of Great Lakes Industries and the National Wildlife Federation-Great Lakes Natural Resource Center embarked on a multiyear collaborative effort called Bridges that responded directly to several recommendations from the President’s Council on Sustainable Development. The project also responded to research conducted by the Great Lakes Commission in the mid-1990s in which an array of brownfields policy and greenfields protection experts from the Great Lakes basin affirmed the need for greater linkages between brownfields redevelopment and greenfields protection.

Bridges aimed to build bridges among Great Lakes basin jurisdictions: the eight Great Lakes states and their localities, and the provinces of Ontario and Québec. The collaborative nature of the project also aimed to build bridges among the public, private and not-for-profit sectors, represented by the project partners. The focus of the work was to build bridges between brownfields redevelopment in urban areas and greenfields protection on the urban fringe within the Great Lakes watershed and the region at large.

Though numerous tools exist to promote brownfields redevelopment and greenfields protection, adoption and implementation of such tools has been uneven in the Great Lakes basin. Where the tools have been used, these two issues have been addressed by separate business, policy and community leaders with different priorities. The focus has largely been either on brownfields cleanup and redevelopment, or on protection of open space and agricultural lands. The increasing and pervasive problems associated with current land use and economic trends indicate that we can no longer afford to pursue a fragmented approach to these two issues. Governors from several Great Lakes states are beginning to address these issues in a more coordinated fashion through smart growth initiatives.

This report is a first step in providing a basinwide approach to linking brownfields redevelopment and greenfields protection policies and tools so that they reinforce and complement one another. If adopted and implemented by public, private and non-profit sectors, the strategic actions presented in this report will do more than simply redevelop a brownfields site or protect a farm from development. They will promote more efficient use of the land and, in doing so, can revitalize urban areas, create viable communities where people live and work, and preserve the unique quality of rural areas and open spaces. Moreover, by highlighting successful policies and programs as well as weaknesses and gaps, this report aims to promote the transferability of successes to other jurisdictions and policy reform and/or development for basinwide application.

The Bridges project involved five principal activities:

1. Information management and outreach through development of a regional web site on sustainable land use issues (www.glc.org/bridges) and its integration with an online clearinghouse for greenfields protec-

tion information (www.glc.org/green) and an online clearinghouse for brownfields information (www.glc.org/robin);

2. Research and analysis of Great Lakes brownfields cleanup and redevelopment policies;
3. Research and analysis of Great Lakes greenfields protection policies;
4. Conduct of two local workshops to garner input into development of community-level recommendations for improving community involvement in brownfields decisionmaking; and
5. Development of strategic actions for linking brownfields redevelopment and greenfields protection for adoption/implementation by the public, private and non-profit sectors.

This report is the culmination of items 2-5. Section I offers an overview of development and farmland conversion trends, and provides a context for the remaining sections of the report

Section II provides an overview of brownfields redevelopment issues and barriers and describes Great Lakes state and provincial brownfields cleanup and redevelopment policies to overcome those barriers.

Section III offers a perspective on the importance of community involvement in brownfields decisionmaking. Summaries and findings of two local workshops held as part of the project are provided. This section also summarizes Great Lakes state policies related to public participation in brownfields decisionmaking.

Section IV provides an overview of greenfields issues and barriers to greenfields protection with a focus on agricultural lands. This section also describes Great Lakes state and provincial agricultural land protection policies as well as private sector practices for protecting greenfields.

Section V, entitled New Policy Directions, provides an analysis of selected gaps and weaknesses in existing state and provincial brownfields and greenfields policies. Brownfields and greenfields policies are evolving at a rapid pace in response to other policies as well as economic development and land use trends. This section is not intended to be comprehensive, but rather a starting point for government leaders and policymakers to evaluate brownfields and greenfields policies and approaches for potential improvement. Section V also provides a context for many of the strategic actions presented in Section VI.

A special section presents a series of 32 strategic actions developed by project partners to promote and link brownfields redevelopment and greenfields protection. Some strategic actions are developed specifically for linking brownfields and greenfields, while others are specific to brownfields redevelopment or greenfields protection. These strategic actions represent the results of more than two years of research and community outreach and, in many ways, are the mainstay of this report. Their significance is highlighted physically by pages that are colored at the edges for easy identification. Each strategic action is accompanied by a “rationale” and, where appropriate, examples of similar policies or programs in the Great Lakes region. Great Lakes public, private and non-profit leaders are urged to carefully review and consider each of the strategic actions and adopt and implement those that reverse damaging land use trends and enhance and complement existing efforts to promote sustainability.

I. Development and Farmland Conversion in the Great Lakes Region

A. Overview

On a night flight from Chicago to Detroit the plane gains altitude over the city, an expanse of lights glimmering to the western horizon. The rectilinear grid of lights is interwoven with rivers of light on diagonal and sinuous routes carrying heavy traffic. From the plane the Lake Michigan shore provides a dramatic line of contrast between development and the area's geographic and natural resource centerpiece. As the flight crosses into the state of Michigan, the lights of development reappear. The higher altitude affords a different perspective. Small towns are visible and separate whereas the larger cities with their radiating highway connections reveal more contiguity with nearby communities. City lights show clearly the pattern of development and urbanization that is occurring.

What we see in the heart of the Great Lakes region is not unlike development elsewhere in the country. The areal expansion of urban areas is the hallmark of postwar America. The Natural Resources Conservation Service's National Resources Inventory (NRI) has revealed that from 1982 to 1997 developed land in the United States increased by 25 million acres. Table 1 shows that the nonfederal developed land in the eight Great Lakes states increased by 5,173,100 acres from 1982 to 1997, a 27 percent increase. Much of this development is attributable to residential development in suburbs fueled by migration from rural places and central cities. Inner ring suburbs have also gotten in on the act after nurturing a generation or two and then sending residents to "greener" pastures on the urbanizing edge. An increasing rate of household formation along with larger lots and houses have enhanced the residential land rush. Much has been written about government policies such as highway funding and social/cultural factors, which have encouraged and abetted this trend. Suburban areas now account for half of the U.S. population and much of the metropolitan employment base is there too. Tract subdivisions have been the traditional model but more open, less settled areas have seen an increasing share of homes on larger acreages. The far ex-urban fringe, whether isolated rural retreats or small communities, is also in the picture, but barely, with a balance between commuting and retirement/telecommuting. Infill housing in built-up areas, including apartments and condos, has not been that significant to dampen the propagating waves of land consumption on the outside edge.

Table 1
Developed Nonfederal Land between 1982-1997
(1,000 Acres)

	1982	1997	1982-1997 Net Gain
Illinois	2,688.6	3,180.9	491.3
Indiana	1,834.8	2,260.4	425.6
Michigan	1,725.3	3,545.5	820.2
Minnesota	1,719.9	2,185.5	465.2
New York	2,635.8	3,183.6	547.8
Ohio	1,782.8	3,611.3	828.5
Pennsylvania	2,818.8	3,983.2	1,164.4
Wisconsin	1,989.2	2,417.9	428.7
Great Lakes States Total	19,195.2	24,368.3	5,173.1
U.S. Total	73,245.8	98,251.7	25,005.9

Source: National Resources Inventory (revised December 2000), Natural Resources Conservation Service.

Development is not just homes; it is everything else from factories, stores, roads, schools, quarries and a hundred other manifestations of human activities. Houses and newer development usually do go hand-in-hand but not often in close proximity because of zoning codes. In these suburban settlements markets are created, building a web of interaction among residents, businesses and employees. All forms of low-density sprawl development have consequences, particularly for open space and infrastructure costs. A myriad of negative impacts ranging from increasing surface imperviousness to the effectiveness of transit, have been studied in the growing smart growth debate. Though one point gains wide agreement: once open space is built upon, development, as a general land use, is very difficult to dislodge. For all practical purposes, it becomes a permanent landscape feature. The same holds true for central cities and their first ring suburbs. These places in the Great Lakes region have experienced many changes in their industrial, commercial and residential histories. These places are continuing to evolve, but they will always remain urban.

B. Metropolitan Population Changes

Between 1990 and 2000 the eight Great Lakes states gained 5,075,888 in population. This represented a 6.6 percent increase or less than half of the U.S. increase of 13.2 percent. The range among the Great Lakes states was 3.4 percent for Pennsylvania to 12.4 percent in Minnesota. The total population of the region's states was 81,332,027 in 2000 or 28.9 percent of the U.S. population of 281,421,906. The additional Great Lakes population over the last decade lives mostly in urban areas. Those metropolitan areas have generally been gaining population as is the case in the United States. However, there are exceptions. Of the Census Bureau's 66 metropolitan statistical areas (MSA) wholly or partially in the Great Lakes states, 15 actually lost population between 1990 and 2000. The greatest loss was for Utica-Rome, New York MSA where 5.3 percent or 16,737 fewer people reside. The smallest loss was for the Dayton-Springfield, Ohio MSA where the decline was only 712 persons or 0.1 percent. City populations have fared worse in terms of population. Among the 35 cities in the Great Lakes states with 100,000 or more, nearly half (17) lost population from 1990 to 2000. The city that gained the most outside of New York City was Chicago (112,290) and the city that lost the most was Detroit (76,704).

The Great Lakes-St. Lawrence River, the largest system of freshwater in the world forms the northern boundary of the U.S. Great Lakes region. Each state has shoreline on at least one of the Great Lakes and all have land within the hydrologic basin. Water, as an industrial input and transportation factor, attracted development and settlement to the shores of the Great Lakes. Early waterfronts were dominated by industrial/warehouse uses. Residential development secured prime shoreline areas and as cities grew, development continued out along the shores driven, in part, by amenity values. The 85 U.S. Great Lakes coastal counties contain about 25 percent of the region's population. Michigan and Illinois have about half of their states' populations residing in coastal counties, and Wisconsin has more than a third. Illinois' coastal counties are the most densely settled and if calculated on a shoreline mile basis the state has the highest number of persons per mile in the United States. Beyond the Great Lakes coastal counties, the region's urban areas are dispersed, having developed over time during the river, rail and highway transportation eras. Many of the large cities and their suburban peripheries are located near productive farmland and to a significant extent have already taken over prime farmland. This urban/farmland connection is underlined in the Great Lakes basin where nearly two-thirds of farmland is within 31 miles of medium and large cities. Much of the region's high level of farmland loss/conversion is directly attributable to urban encroachment on agricultural land.

C. Development and Agricultural Land

One of the most significant land-use issues in the Great Lakes region is the continuing growth of major metropolitan areas and sprawl of residential areas and other development. For example, disinvestment in

older, built-up areas is accompanied by escalating infrastructure investment requirements for newer areas. The encroachment on agricultural lands and natural areas has its own set of detrimental consequences. Farmland and open space preservation issues have generated widespread public interest. State and local governments are responding with tailored policies, but the problem is large and continues to grow. In many of these places, good cropland is being replaced—taken out of production for at least the foreseeable future, if not forever.

Topography, climate and good soils have combined to make the Great Lakes region the most diverse and productive rain-fed agricultural area in the country. The microclimates and the lay of the land near the Great Lakes have bestowed ideal growing conditions for fruits and other specialty crops. For example, the Great Lakes basin accounts for about a quarter of the U.S. apple crop and the area around western Lake Erie is the second largest concentration of tomato growing and processing north of Mexico. The great American Corn Belt, legendary in its monoculture proportions, occupies a broad swath through the region west of Pennsylvania. Dairy is another significant sector with “around-the-clock” operations and vulnerability to changing markets. Even with all this agricultural activity, it is important to realize that a range of factors are changing the land base and the future for farming. What is at stake is not just reducing urban sprawl but maintaining the agricultural economy itself.

Illinois is Farm Country

The state of Illinois epitomizes the agricultural intensity of a major portion of the Great Lakes region. Eighty percent of the state is farmed and about two-thirds of that land is planted in row crops with the rest in pasture, forage crops, orchards and woodlots. Productivity has been greatly increased over the years with more mechanization, soil treatment and development of higher yield crop varieties. For example, Illinois corn yields were 50 bushels per acre in 1945 and are now more than 120 bushels per acre. Changes in average farm size, the number of farms and farmland conversion rates in Illinois represent trends throughout the region. The number of farms is declining as farms are sold and consolidated or lost to development. Since 1950, the average Illinois farm size has more than doubled from 150 acres to 350 (1990). From 1950 to 1990, 3.6 million acres of Illinois farmland were converted to other uses—mostly for development with buildings but roads, reservoirs/man-made lakes and strip mines also took their toll.

Development and its impact on farmland can be gleaned from the NRI. The inventory uses a scientific sampling procedure utilizing many data sources including aerial photography. The NRI’s purpose is to assess the status of nonfederal lands, the condition of natural resources and how land-use patterns have changed over time. The NRI shows that of the 25 million acres of land developed from 1982-97, farmland gave up about 14.6 million of those acres with forests accounting for most of the remainder. Of the farmland, two-thirds was considered prime farmland (see Section IV for more discussion). Within the farmland category, cropland contributed more than 7 million acres, 4.2 million acres of pastureland was converted, as was 3.2 million acres of rangeland. When compared to the previous 10 years, land conversion trends during the 1992 to 1997 period show the pace of development has increased. For the last five-year period, 11.2 million acres were developed, which translates into a rate of increase near 12.8 percent. This level compares to an 8.5 percent increase during the 1982-87 period and 9.5 percent increase from 1987-92.

The extent and rate of farmland loss differs among the eight Great Lakes states. Minnesota, New York and Wisconsin lost a total of 5,982,837 acres from 1982-1997, according to the Census Bureau. This amount represented 53.5 percent of the total loss for the region (see Figure 1). During the 15-year period, only 15.4 percent of the total farmland change occurred during the last five-year agricultural census period. This fact suggests forest lands have had an increasing role in the development onslaught.

Figure 1: Net Farmland Loss in the Great Lakes States, 1982 - 1997 (acres)

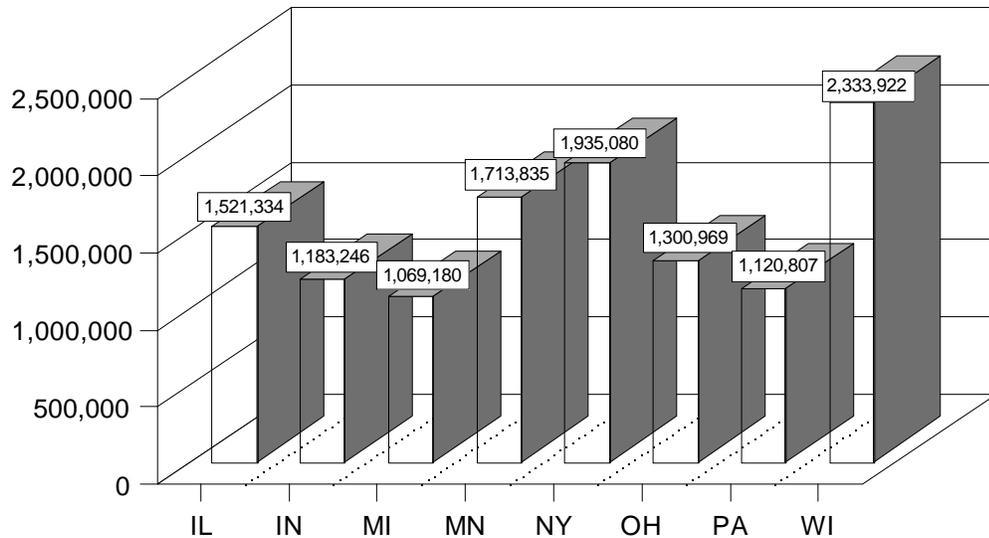
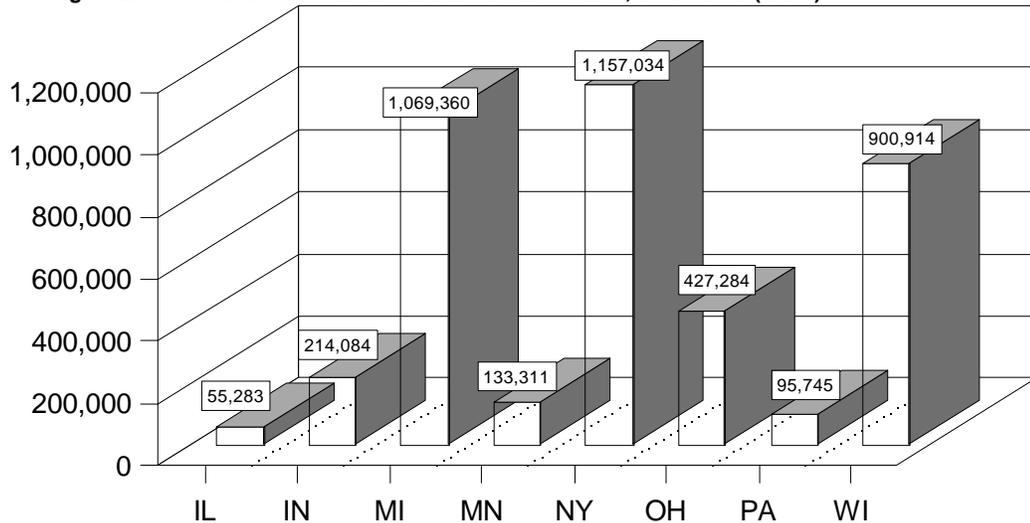


Figure 2: Net Farmland Loss in the U.S. Great Lakes Basin, 1982 - 1997 (acres)



For the Great Lakes basin, where 35 percent of land area has an agricultural land use, the conversion of farmland also reveals a disparate pattern. Some jurisdictions have relatively small basin land areas (e.g., Illinois) and others have less farmland in their portion of the basin (e.g., Minnesota). U.S. basin farmland loss amounted to 4,053,015 acres from 1982-1997. (See Figure 2.) This represented nearly 49 percent of the total farmland loss for the eight states.

Similar to the region, the rate of loss in the basin for the 1992-97 period slowed from the previous 10 years, with only 16 percent of the total loss for the later period. For the entire province of Ontario, the total loss for 1991 to 1996 was nearly 375,600 acres. This compares to a loss of 1.12 million acres in the previous 10 years just for its basin area. Since 1981, more than 12.6 million acres of farmland were converted in all Great Lakes jurisdictions, including Ontario. This amount is greater than the size of lakes Erie and Ontario combined. In the Great Lakes region, counties with growing urban populations or those near expanding metropolitan areas have seen the greatest loss of farmland. In fact, such counties account for the greatest amount of farmland change, most of which is due to conversion for development purposes. For example, in Northeastern Illinois,

a ten-county area (including Chicago) had a net loss of 108,536 acres of farmland between 1992 and 1997. One of these counties, Kane, actually had an increase in farmland as did some other Illinois counties (see case study on p. 57). The net loss of farmland for the entire state was 45,560 acres, clearly indicating the pressure on farmland in the Chicago region.

Table 2 shows population and farmland changes for selected metropolitan areas in the Great Lakes states. The data is for the last census periods for which data is available. Those metropolitan areas that are growing had a proportionate increase in farmland loss. In two places, Akron, Ohio, and Buffalo-Niagara Falls, N.Y., farmland was lost even though the population grew little or declined. It is apparent that development pressures on farmland can occur irrespective of significant population growth. The spreading out of the urban landscape has many causes, and solutions to this inefficient and environmentally damaging growth pattern will need to be equally varied.

Table 2
Farmland Changes and Population Growth in Selected Great Lakes Metropolitan Areas

Metropolitan Area	Net Farmland Loss 1992-1997 (acres)	Percentage Population Growth 1990-2000
Chicago-Gary-Kenosha, IL-IN-WI (thirteen counties)	119,963	11.1
Indianapolis, IN (nine counties)	71,945	16.4
Ann Arbor, MI (three counties)	29,007	18.1
Grand Rapids, MI (four counties)	19,946	16.1
Minneapolis-St. Paul, MN (thirteen counties including two in Wisconsin)	100,653	16.9
Buffalo-Niagara Falls, NY (two counties)	10,584	-1.6
Akron, OH (two counties)	10,693	5.7

Source: Census of Agriculture (1997), Population Census (2000), U.S. Bureau of Census

II. Brownfields in the Great Lakes Region

A. Overview

The relationship of brownfields to the Great Lakes themselves is significant. Many Great Lakes cities grew up around manufacturing industries that established operations on or near the lakes. As the economy shifted after World War II, many firms and businesses left the central city for the suburbs. Older and less efficient operations closed or relocated away from the waterfront, leaving brownfields in their wake.

Brownfields present particular challenges and opportunities for the Great Lakes region. In addition to the financial, administrative and legal challenges faced by all brownfields, Great Lakes brownfields face an additional hurdle by virtue of their sheer scale. An extensive and historic industrial legacy has left the Great Lakes region with a proportionately greater share of brownfields compared to other regions in North America.

Research conducted by the Urban Land Institute shows brownfields as a percentage of total land for several Great Lakes cities. (Figure 3). These figures provide a good indication of the extent of the brownfields problem. Best estimates indicate that the Great Lakes region contains tens of thousands of brownfields. Whichever way you look at it, percentage of land or estimated number of sites, evidence suggests that brownfields have a major presence in the Great Lakes region. Brownfields are an indicator of urban disinvestment and decay. Beyond cleaning up polluted areas, brownfields redevelopment is critical to revitalizing urban areas in the region and ameliorating associated socio-economic problems.

Brownfields:

Abandoned, idled or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination.

~U.S. EPA

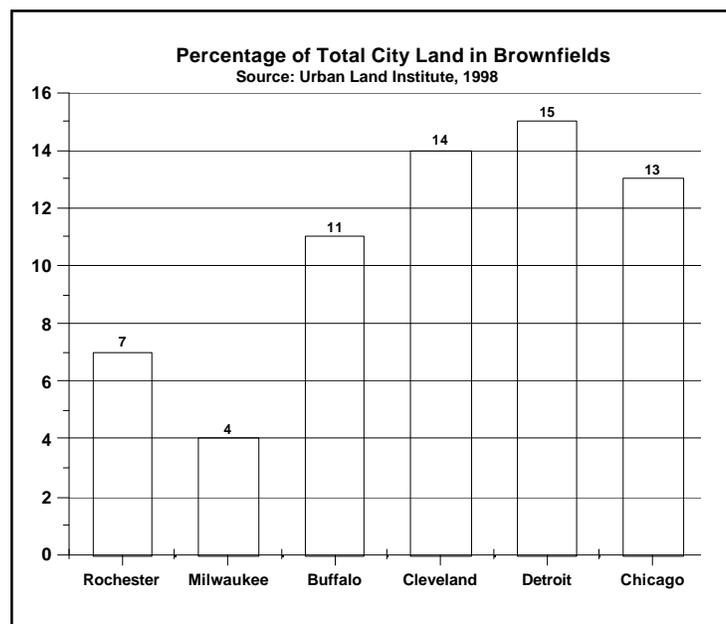


Figure 3

B. Barriers in Brief

Much has been written about the obstacles to brownfields redevelopment. Beyond the broader socio-economic issues of urban disinvestment, poor schools and crime, most of the technical barriers to brownfields redevelopment can be translated into

Costs of Brownfields Redevelopment

Brownfields-Specific

- site assessment
- demolition
- cleanup
- land assembly

General Development

- property acquisition (lower for brownfields)
- legal; engineering; architectural fees
- financing charges
- consultant fees
- construction
- utility installation/extension
- insurance
- local land use zoning/permitting

higher costs. The costs of brownfields redevelopment are higher relative to a comparable development project on a greenfields site because of the additional steps and associated time necessary to redevelop brownfields, including site assessments/investigations, demolition, cleanup, land assembly and liability management. Each of these steps can mean additional costs on top of those that are generally incurred for standard development projects. Though the types of costs can vary widely from project to project, the bottom line for brownfields projects is almost always costlier.

1. Getting the Land

Land acquisition is a cost consideration for any type of development project. Costs for acquiring a brownfields property are usually lower than a greenfields site because of its real or perceived contamination and other factors that reduce property values. Conversely, greenfield properties are usually more expensive to acquire than brownfields, but general development costs of greenfields are usually significantly lower, thus offsetting the higher initial land prices.

2. Preparing the Site for Redevelopment: Site Assessments, Demolition, Land Assembly, Cleanup

All brownfields must be assessed to determine whether the property needs to be cleaned up before it can be reused. A site assessment generally involves two parts: Phase I and Phase II. A Phase I assessment can include, but is not limited to, reviewing records, interviewing persons and conducting physical inspections of the property in question. A Phase II assessment is conducted to physically confirm the presence or absence of environmental contamination at a site. The Phase II environmental assessment should include, but is not limited to, field sampling of media, laboratory analysis of samples and visual confirmation of environmental contamination at the property. It is not meant to determine the nature and extent of contamination. If a Phase II confirms the presence of contamination, further sampling and analysis is conducted to determine the degree and extent of contamination. This is sometimes called a site investigation, a Phase III site assessment or a Baseline Environmental Assessment, which may also include recommendations for cleanup and can be very costly if contamination is serious or widespread. Frequently, there are also the costs of demolishing old structures on the property. And, of course, there are costs for actual cleanup.

A common, but often underestimated, cost is that of assembling the land to meet the developer's needs. Years ago, much manufacturing was done in multi-storied buildings and required less land. Today's more spread out manufacturing operations require larger parcels. Many urban brownfields are not large enough to meet these needs. Land must be acquired and assembled. Costs associated with this task can escalate quickly depending on how many parcels need to be assembled and the status of their ownership. For example, more legal and consultant services are likely needed if a parcel has several owners, or if the issue of who actually owns the parcel is unclear or if any of the owners are unwilling to sell.

3. Special Expertise and Insurance

Attorneys, consultants and insurance costs can come into play at different stages of a greenfield or brownfield project, but are frequently much higher for brownfields simply because there are more factors to consider when developing on a brownfields site. Legal fees are higher, for example, to clarify and manage contamination liability or resolve multiple ownership issues. Environmental consultant fees are greater to address cleanup issues.

As with other sectors of society where risk is involved, an array of insurance products have become available to transfer the risk of brownfields cleanup and/or redevelopment. In addition to insurance

policies associated with standard development projects, there are insurance products to address the specific needs of brownfields projects. New insurance products on the market enable remediation contractors and insurance companies to assume risks associated with brownfields redevelopment once borne by buyers, sellers and lenders. Most common among these are: cost cap insurance, which protects the insured against cleanup costs that run substantially over budget; insurance for owners or the principal party involved in the cleanup to protect against third party claims, which includes claims based on the acts or omissions of other parties involved in the cleanup; and property transfer insurance, which protects new property owners from costs associated with the cleanup of unknown, pre-existing or new contamination conditions and against third party claims for costs to cleanup off-site contamination caused by the brownfield. Specialized brownfields insurance can add cost to the overall project, but it can also provide a level of certainty around cleanup costs and liability that can bring developers on board where they otherwise might have walked. Despite new insurance products tailored to the brownfields market, environmental insurance is still the exception and is used mainly for large projects.

4. **Financing**

The final aspect that makes brownfields costlier is financing. The two aspects of brownfields projects that make financing difficult are cleanup costs and timing. Fortunately, contamination or the stigma of contamination is not the obstacle it once was. Years ago, lenders used stricter formulas to calculate the amount they were willing to lend for brownfields project, based on the perception of higher risk involved, which increased the amount of equity the developer would have to provide for the project. This practice of “brownlining” has been virtually eliminated among the principal lending institutions in the Great Lakes region. Today, lending institutions by and large view brownfields projects like any other; basing their decision to lend on the three “Cs”-- character (is the borrower credit-worthy?), cash flow (capacity to repay the loan), and collateral value.

Nonetheless, banks don't finance cleanup costs and this alters the overall collateral value and, ultimately, the amount a bank will loan on a brownfields project. For example, a borrower interested in purchasing a “clean” abandoned warehouse valued at \$1 million would typically be eligible for a loan up to 75 percent of the appraised value, or \$750,000. If that same property were burdened with contamination that, for example, cost \$200,000 to clean up, the collateral value (i.e., appraised value) on that property would be reduced to \$550,000 (\$750,000-\$200,000), or 75 percent of the appraised value minus the cost of cleanup. In both cases, the bank is willing to lend up to 75 percent of the appraised value, but cleanup costs reduce the collateral value of the property and, ultimately, the amount that can be borrowed. The result for the borrower is that he or she must come up with more money to make the redevelopment happen. For the clean property scenario, the borrower only needs to come up with \$250,000; for the contaminated site, s/he must come up with \$450,000.

Timing is key to the success of any development project. The longer a project takes, the more it costs. Because brownfields projects typically involve more steps than new development on a greenfields site (e.g., site preparation managing liability, cleanup, special permitting or zoning issues), more time is required to complete the project. Though the interest rate on a loan may be the same for a greenfields or brownfields project (based on the three “Cs” noted earlier), the relatively longer time frame for brownfields projects means greater overall financing charges. One way to avoid this is to seek private sector financing after the property is ready for construction or rehabilitation (i.e., after site investigation, cleanup, land assembly and other potentially time-consuming steps) and rely on state financing programs (discussed below) or voluntary actions for getting the property ready for construction/rehabilitation.

These obstacles are not distinct. They can overlap and one can affect another. For example, liability for real contamination leads to higher site development (i.e., cleanup) costs, and longer lead times for legal and consultant work increase finance charges. What they have in common is that all of these obstacles translate into higher costs. Notwithstanding the availability of brownfields insurance products to keep costs under control, higher costs and the uncertainties as to how high those costs might be has made developers shy away from brownfields and has helped fuel greenfields conversion on the urban fringe.

5. Local Land Use Zoning and Permitting

Among all Great Lakes states, authority over land use lies with local units of governments: cities, villages and towns/townships. Regardless of whether it's a greenfields project or a brownfields project, developers must comply with local zoning ordinances and meet local permitting requirements for just about all development activities: demolition/excavation, infrastructure installation/improvement, construction, etc. The ability of local land-use decisionmakers to act promptly is critical to successful brownfields redevelopment projects. Unfortunately, many local governments don't have enough staff or the qualified staff needed to make such timely decisions. Cumbersome and time-consuming local regulations also increase the time required to get a project completed. Local government staffing, land-use regulations and permitting are common timing issues for all development projects, but for brownfields redevelopment they can be even more time-consuming when additional permits are required or zoning changes or variances are needed to accommodate the specifics associated with brownfield redevelopment projects (i.e., special permits associated with pollution cleanup; conversion from commercial to mixed use). Additional delays at the local level due to cumbersome permitting processes, inflexible zoning regulations and or staffing issues can squelch brownfields redevelopment.

C. State and Provincial Policies to Reduce Barriers

Great Lakes states have responded to many of these barriers to brownfields redevelopment. Comprehensive cleanup and redevelopment policies established by most Great Lakes states in the 1990s, which set up new or revamped older programs, have made significant progress in reducing or eliminating barriers to brownfields redevelopment. The policies shifted largely from those aimed at pursuing liable parties to get sites cleaned up to encouraging innocent private parties to "voluntarily" clean up properties and get them back into productive, primarily tax-generating, use. New state policies have also streamlined administrative procedures to provide greater certainty and transparency to the process. Most Great Lake states have a unique name for their program, but they are known collectively as Voluntary Cleanup Programs (VCPs). Developers who participate in such programs are called voluntary parties and what they do is called voluntary action.

In Canada, Ontario and Québec also have made important steps in promoting brownfields redevelopment, though to a lesser extent, in part because some of the barriers to redevelopment were less defined and problematic, such as those related to liability. Potential problems in Québec were averted relatively early when in 1986—well before most Great Lakes states—the province established generic land use-based cleanup standards.

Today, each of the Great Lakes states has a voluntary cleanup or environmental response program that offers:

- a range of risk-based, cleanup standards for the contaminated property and its intended use;
- some form of liability protection to innocent parties who clean up brownfields;
- financial incentives to promote brownfields cleanup and redevelopment; and
- technical assistance in the form of documents, online information and assigned personnel to facilitate cleanup and redevelopment.

1. Future Land Use-Based Cleanup Standards

Streamlined, risk-based cleanup standards developed by Great Lakes states have done much to answer the question of “how clean is clean?” With such standards, the amount of cleanup required depends not only on the amount of contamination, but also the potential for that contamination to harm human health or the environment. The specifics of how the risk-based standards are applied vary from state to state, but for soil cleanup, most use a method known as “risk-based corrective action” for determining what level of cleanup is protective given the contaminants present and the intended use of the land. Some risk-based standards have broad application while others are more site-specific. In the area of groundwater, there is even more variation among the states. By establishing an “urban setting designation,” for example, Ohio allows groundwater contamination to go unremediated if it can be shown that there is no current or future use of the groundwater by residents for drinking, showering, bathing or cooking in the area surrounding the site and that no other non-potable risks from the groundwater exist (e.g., vapor intrusion into a basement). In contrast, Wisconsin has no risk-based standards for groundwater; groundwater must be remediated based on numeric standards that apply to specific contaminants regardless of the future use of the land.

New York has two sets of cleanup standards: one for each of its brownfields programs. For its Voluntary Cleanup Program, which is targeted to private sector cleanup, standards are based on an internal departmental policy, which has no statutory basis. For New York’s Brownfields Program, which targets municipally owned brownfields, cleanup standards are based on the state’s Superfund program. On June 2, 1999, the New York State Superfund Working Group submitted its final report to Governor Pataki, which included recommendations to reform and finance the state’s remedial programs, including the establishment of a single statutory-based brownfields program.

2. Liability Protections

Liability issues once loomed among the most difficult barriers to brownfields cleanup and reuse on the U.S. side of the basin. The U.S. federal environmental liability scheme under the Comprehensive Environmental Response and Cleanup Act (CERCLA), known also as Superfund, holds any and all owners of contaminated property liable for cleanup costs regardless of who actually caused it or when it occurred. Today, liability concerns have been significantly reduced in the Great Lakes region thanks to efforts at the federal and state levels. The eight Great Lakes states and the province of Ontario provide liability protection to financiers and fiduciaries—those who finance but don’t participate in the management of the contaminated site and who are not responsible parties. In New York, liability protections are available to lenders by departmental policy, but this is not based in state law. Pending legislative reforms for brownfields and hazardous waste cleanup in New York would provide a statutory basis for state lender liability relief. At the federal level, in 1996 Congress enacted the Asset Conservation, Lender Liability, and Deposit Insurance Protection Act. The Act established that those who finance brownfields cleanup but do not actually manage the project or the property (i.e., those who merely hold a security interest in a contaminated property) and governmental entities who involuntarily acquire brownfields (e.g., through tax reversion or condemnation) are exempt from liability under CERCLA. All of the state VCPs have a means of protecting non-responsible parties who engage in brownfields redevelopment from being held liable for past contamination. Some sort of cleanup is usually required (which can include engineered or institutional controls) to get this protection. Six of the Great Lakes states also provide liability protection to innocent prospective purchasers. Since VCPs only address potential liability for cleanup under state law (or department policy as is the case with New York’s VCP), potential federal liability may remain associated with a property despite it having been investigated or cleaned up under a state VCP.

To mitigate the threat of federal liability, U.S. EPA Region 5 has entered into CERCLA Memoranda of Agreement (MOAs) with Illinois, Indiana, Michigan, Wisconsin and Minnesota. These MOAs signal U.S. EPA's approval of the state's VCP and reassure lenders and developers that U.S. EPA will not take legal action where cleanup/redevelopment has occurred in accordance with the state's cleanup program.

Table 3
Liability Exemptions/Protections

	IL	IN	MI	MN	NY	OH	ON	PA	QC	WI
Financiers/ Fiduciaries	x	x	x	x	x*	x	x	x		x
Prospective Purchaser		x	x	x	x*			x		x
Non-responsible Parties	x	x	x	x	x*	x	x	x	x	x
State-EPA MOA	x	x	x	x						x

Great Lakes Commission, 2000
*not based in statute

New York, Ohio and Pennsylvania do not have CERCLA MOAs with U.S. EPA. New York's liability protections are limited and exist only under its VCP, which has no

statutory basis. As such, liability issues still present significant obstacles to brownfields redevelopment in New York State. The New York Superfund Working Group report (referenced earlier) recommends significant liability scheme reforms to be more in line with other state brownfields liability reforms and federal changes to CERCLA. Ohio is actively pursuing a CERCLA MOA with the U.S. EPA.

3. Financing

Great Lakes states are addressing the issue of the higher costs of brownfields redevelopment and tougher financing terms, directly and indirectly. All of the Great Lakes states and the province of Québec provide some type of financing for cleanup and for various aspects of redevelopment. They include a combination of grants, loans and tax credits/abatements, and tax increment financing.

With limited resources to finance brownfields cleanup and redevelopment, states must grapple with the best way to get the most “bang for their buck.” To date, this has lead most states to focus their financing programs in two areas: 1) addressing those sites that pose the greatest environmental or public health risks and 2) supporting projects associated with specific redevelopment plans and/or proactive brownfields strategies.

Several Great Lakes states have passed environmental bond initiatives that have provided a major funding source for state-initiated brownfields cleanup and redevelopment. In 1996 New York voters approved a \$1.76 billion Clean Water/Clean Air Bond Act, which included \$200 million for brownfields cleanup. In 1999 Michigan voters approved the Clean Michigan Initiative, a \$675 million bond with \$335 million dedicated to brownfields cleanup and another \$50 million for waterfront revitalization, which can cover brownfields. In November 2000, Ohio voters approved a \$400 million bond initiative that dedicates \$200 toward brownfields cleanup and redevelopment (with the remaining \$200 million toward greenfields protection). These initiatives provide an important funding source to clean up properties that pose human health or environmental risks and jump-start redevelopment for orphaned or tax-reverted properties whose redevelopment is impeded by real or perceived environmental problems.

a. Cleanup-Related Grants and Loans

All eight Great Lakes states and the province of Québec provide some type of grant or loan financing to clean up brownfields. These programs vary in all the jurisdictions by type and eligibility require-

ments. Eight of the nine jurisdictions that provide cleanup financing provide grants for site assessment or characterization. Some programs provide assistance for a range of cleanup-related activities. For example, Wisconsin’s site assessment grant established in the 1999-01 biennial budget provides financing to local units of government, tribes and community development/redevelopment authorities for site investigation, removal of abandoned containers and storage tanks, and demolition. Ohio is the only Great Lakes state that does not provide grants for site assessment/characterization, though it does offer loan programs that can assist with this activity. No state provides cleanup grants for responsible parties, though responsible parties who engage in cleanup can receive funding through some state loan programs (e.g., Ohio). Responsible parties in Québec may receive grant money for cleanup if it is part of a specific redevelopment project and the responsible party is not under investigation or the subject of related legal actions. Michigan, Minnesota, New York, Pennsylvania, Wisconsin and Québec also provide grants for actual cleanup.

**Table 4
Cleanup-Related Grants and Loans**

	IL	IN	MI	MN	NY	OH	ON	PA	QC	WI
Assessment	X	X	X	X	X	X		X	X	X
Cleanup	X	X	X	X	X	X		X	X	X
Site/Prep/Demolition	X	X	X		X	X				X

Great Lakes Commission, 2000

b. Redevelopment-Related Grants and Loans

All of the Great Lakes states provide grants or loans above and beyond cleanup to deal with the various associated aspects of redevelopment such as job creation/job training, infrastructure develop

**Table 5
Redevelopment-Related Grants and Loans**

	IL	IN	MI	MN	NY	OH	ON	PA	QC	WI
Job Creation/Training	X		X			X		X		X
Infrastructure	X		X	X	X	X		X		
Construction/Renovation	X	X	X	X	X	X		X		X
Land Assembly	X		X			X				X
Capitol Access	X					X				
Inventory Development	X							X		

Great Lakes Commission, 2000

ment, construction costs and land assembly. All Great Lakes states provide some type of financing for construction, renovation or expansion of buildings on brownfields properties. Some of these programs are brownfields-specific. For example, Ohio’s Brownfields Grant Assistance program provides funding to non-profits to help cover land acquisition, infrastructure improvement and building renovation. Costs associated with brownfields redevelopment are part of broader state economic or business development programs from which brownfields can benefit. Tables 4 and 5 indicate types of activities for which state/provincial grants and loans are available. Some programs, such as Indiana’s new “forgivable brownfields loans,” offer flexibility to cover a variety of activities associated with brownfields cleanup and redevelopment.

c. Tax Benefits and Tax Increment Financing

Tax benefits from which brownfields projects can benefit exist in all eight Great Lakes states. Some are triggered by cleanup, some by redevelopment and others are a hybrid. As with other types of financial assistance, eligibility requirements also vary. For example, Illinois and Wisconsin offer a tax credit to cover part of environmental remediation costs, while Michigan has a single business tax credit for brownfields redevelopment that covers most everything except remediation. (Remediation costs can be covered by Michigan's brownfields TIF program, described below.) Legislation passed in mid-2000 greatly expanded the amount of credit available and the parties eligible to receive the Michigan single business tax credit. Ohio's Voluntary Action Program (VAP) provides for an automatic 10-year property tax increment increase exemption for properties that have received a Covenant Not To Sue under the VAP (i.e., an exemption for increased taxes due to increased land value after remedial activities). Additional local property tax exemptions are available in Ohio on a discretionary basis for increased value due to redevelopment activities. Tax abatements for brownfields are offered in Indiana for properties located in brownfields zones. In New York, Industrial Development Agencies (IDAs) can provide property and sales tax abatement to non-retail businesses located on (former) brownfields. Proposed reforms in New York (as of late 2000) would create brownfields redevelopment areas that would be eligible for special state financial incentives.

Brownfields-Specific Zones	
IN	designated brownfields revitalization zone (property tax abatement)
MI	brownfield redevelopment zones approved by a local brownfields redevelopment authority (TIF financing)
MN	designated redevelopment areas or hazardous contamination subdistricts (TIF financing)
WI	community development zones (remediation and job creation/retention tax credit)

Notably, each of the eight Great Lakes states has some type of tax incentive that applies in specially designated areas or zones. As with other forms of redevelopment assistance, many of the redevelopment-related

tax incentives were not created specifically for brownfields, but for stimulating economic activity in certain impoverished or blighted areas or zones, which usually contain brownfields. Specially designated zones in all of the Great Lakes states offer a combination of tax incentives, most of which include full or partial tax abatement (forgiveness of current and future taxes) for businesses who invest in real estate within those areas. Wisconsin is the only Great Lakes state that authorizes forgiveness of back taxes. Wisconsin counties and the city of Milwaukee can forgive delinquent property taxes for contaminated properties, based on an agreement between the municipality, the owner and the state Department of Natural Resources.

Great Lakes State Tax Benefits for Designated Zones*	
IL*	Enterprise Zone Program
IN*	Urban Enterprise Zone Program†; Brownfields Revitalization Zone Program
MI*†	Renaissance Zone Program; Brownfields Redevelopment Zone Program
MN*†	Enterprise Zone Program; Redevelopment/Hazardous Contamination Subdistricts
NY	Economic Development Zone Program
OH	Enterprise Zone Program
PA*	Local Economic Revitalization Tax Abatement (LERTA) Program
WI*	Development Zone Program, Enterprise Development Zone Program, Community Development Zone Program†, Sustainable Urban Development Zone Program

* state also has program for TIF districts
 † brownfields-specific

Tax Increment Financing (TIF) is unlike other tax benefits in that the benefit isn't attributable to a reduction in taxes for a particular project. Instead, TIFs provide an institutional framework for financing brownfields projects in a given area. When a TIF district is created, the amount of revenue that a taxing body receives from that area is frozen at a set level for a specified number of years. Monies derived from the increase in incremental tax revenue due to new construction or investments in the district go to a separate TIF authority that manages the money and disburses it for specific purposes (e.g., brownfields cleanup and redevelopment). Illinois, Michigan, Minnesota, Pennsylvania and Wisconsin have TIF programs that can apply to brownfields. Wisconsin and Michigan are the only states that tie their TIF program directly to financing environmental cleanup/redevelopment (brownfields). In Michigan, tax increment financing for brownfields occurs through locally established brownfield redevelopment authorities, which operate like TIF authorities but are specific to brownfields. Michigan's brownfields redevelopment authorities were given expanded authority in 2000 to capture taxes over a broader area and cover associated non-remediation activities such as site preparation and infrastructure improvements. In Wisconsin, TIF programs (there are two) are similar in that municipalities create TIF districts and plans designed to finance environmental remediation and public improvements. The Wisconsin Environmental Remediation TIF (ERTIF) was made more brownfields-friendly in the 1999-2000 Wisconsin budget when it was expanded to cover costs that are typically associated with brownfields redevelopment, such as land acquisition and demolition, and by allowing local governments to use ERTIF money to clean up brownfields even when they do not own the property—a common obstacle to brownfields cleanup. The Illinois and Pennsylvania TIF programs are generic for locally established TIF districts, which may or may not be used to finance brownfields cleanup/redevelopment. Minnesota's TIF program is somewhat of a hybrid—TIF districts can be either designated redevelopment areas or “hazardous waste contamination subdistricts.”

4. Improving Capital Access

Several Great Lakes states (Illinois, Michigan, New York and Ohio) have programs to indirectly support redevelopment financing through loan guarantees, loan participation or credit enhancement, which makes it easier for private lending institutions to provide a larger loan or type of loan where they might not otherwise have. Also, most private lending institutions in the region have developed staff expertise in evaluating loans for brownfields redevelopment. Such staff expertise enhances the lending community's ability to process brownfields loans in a timely manner, so more loans can be given for brownfields redevelopment. The combination of good economic conditions and improvement of state brownfields programs to clarify liability and cleanup standards and provide incentives for redevelopment has created strong incentives within the lending community to provide loans for brownfields. The result today is a borrower's market where banks are competing with one another to provide loans to qualified borrowers for brownfields redevelopment.

5. Technical Assistance

Technical assistance for brownfields redevelopment exists throughout the binational Great Lakes region. The most common types of technical assistance target a range of needs, including on-site environmental assessments, cleanup guidance, site selection, and information about innovative technologies. All of the Great Lakes states and provinces provide assistance in the form of publications or online guidance for cleanup and assessments. In Indiana, technical assistance for site selection includes state-sponsored community meetings and education outreach.

Free on-site environmental assessments (Phase I and Phase II) are the next most common form of technical assistance and are offered by Illinois, Indiana, Michigan, Minnesota, Ohio, Pennsylvania and Wisconsin. Who is eligible for such free assessments and how much money is available varies from state to state. The Illinois EPA conducts targeted brownfields assessments (Phase II) at both privately and publicly-owned/operated sites, but most are conducted in association with municipalities. In Indiana, environmental assessments are conducted at the request of the local governments which must also identify an end use and have legal access to the property (but this need not be a business/commercial enterprise). In Michigan, site assessments are conducted by the state for properties that are prospective Superfund sites and for those that have been identified under the state's Clean Michigan Initiative. For the latter, the state will do site assessments (and undertake remedial actions) where there is an imminent threat to human health or the environment and for priority brownfields as identified by local governments. In Minnesota, assessments are conducted where there is no identified responsible party if the property poses "an imminent or substantial threat to human health or the environment." In Ohio, the state only conducts such assessments for sites using federal grant money for cleanup/redevelopment. In Pennsylvania, assessments are conducted for sites participating in the state's Key Sites Initiative where municipalities and non-profits recommend sites to the state Department of Environmental Protection for consideration in the program. To be eligible, sites must have an environmental threat, an interested developer, a fear of unknown liabilities, and a prospective occupant willing to share cleanup costs. Though most states offer free environmental assessments, the demand for such assessments continues to outpace states' abilities to perform them. Most states will pursue reimbursement for costs of assessment and cleanup by responsible parties where they exist.

Several Great Lakes states make technical staff available to work with developers or brownfield project leaders to assist with site selection, selecting innovative cleanup technologies and other types of technical assistance. Technical assistance of this nature is most effective when experienced staff are available to assist those who are new to brownfields redevelopment. Illinois has taken technical assistance a step further with "personal brownfields representatives" who assign and make available senior division personnel to provide "one-stop" technical and administrative services for brownfields-related activities.

D. Summary Perspective

Comparing and contrasting state and provincial brownfields programs gives a sense of how Great Lakes jurisdictions are organizing their roles in facilitating brownfields redevelopment. It provides a snapshot of how the Great Lakes region as a whole is addressing brownfields and helps to identify gaps and potential needs for state and provincial program improvements. State/provincial brownfields policy advances in the late 1980s and early 1990s have primarily been aimed at removing obstacles created by public policies regarding contaminated site cleanup. As some barriers have been addressed, other barriers have become more apparent. These emerging brownfields issues are discussed in Section V, "New Policy Directions in Brownfields Redevelopment and Greenfields Protection."

A description of Great Lakes state and provincial brownfields programs was included in a 1998 publication by the Council of Great Lakes Governors entitled *A Blueprint for Brownfields Redevelopment*. That publication summarized brownfields policy for each Great Lakes state and identified several exemplary brownfield program elements that could be transferred to other jurisdictions, called "Ideas That Work." The *Blueprint* publication identified 27 Ideas That Work in the areas of financial, partnerships, and laws and policies.

III. Community Involvement in Brownfields Decisionmaking

A. Overview of Community Involvement

Neighborhoods in Great Lakes cities are confronted with cleaning up and restoring a variety of brownfields of different sizes and degrees of contamination. Brownfields vary widely in terms of land area, prior land use and degree of contamination, from former neighborhood dry cleaners to large steel mills. Brownfields exist in many Great Lakes communities and affect the neighborhoods in which they are located. These sites offer excellent community development opportunities. Not solely an issue of environmental contamination and land abandonment, the fate of these sites is inextricably linked with the environmental and economic future of the surrounding urban areas and their residents.

This section reflects the findings and conclusions of several months of community outreach and two neighborhood brownfields workshops held in the winter of 2000: one in Milwaukee, Wis., and one in Detroit, Mich. Although these cities differ in terms of geography and demographics, the brownfields situation in the two neighborhoods is very similar in that the redevelopment priorities for the city government appear to be quite different from those of the neighborhood residents. Local governments in these locations seem to be focused primarily at large “high profile” projects and residents tend to be more engaged in issues relating to smaller businesses and quality of life. The findings and related strategic actions developed by working with these midwestern communities are potentially applicable and transferable to other Great Lakes municipalities to the extent that their communities experience similar challenges.

B. The Milwaukee and Detroit Workshops

The goal of the workshops was to provide an information exchange between local policy decisionmakers and residents who are involved in or interested in brownfields redevelopment. A primary focus was on broadening the base of information available for residents.

a. Milwaukee Workshop: Walnut Hill and Washington Park Neighborhoods

On Feb. 12, 2000, a Neighborhood Renewal Workshop was held in the Walnut Hill and Washington Park neighborhoods in Milwaukee, Wis. The Milwaukee workshop focused on redevelopment alternatives for brownfield sites, including economic development and restoring natural habitat for the creation of green spaces. Participants heard presentations on Wisconsin state brownfields policy and general information on brownfields, but were most moved and encouraged by the story of a

Esperanza Unida: A Case of Citizen-Led Brownfields Redevelopment

A single successful redevelopment project is often the catalyst for the revitalization of an entire neighborhood. An example is Esperanza Unida, a community organization located in Milwaukee, which bought a four-story building from the city that had sat vacant for decades and was set to be demolished and replaced with a parking lot. With strong community leadership and creative persistence, the group was able to secure a combination of grants, loans, capital campaign monies and volunteer time to renovate the four-story structure. Today, the building contains office space, a school for at-risk youth, a restaurant and several stores. The surrounding neighborhood, which previously suffered from empty storefronts, vacant homes and general disinvestment, has revived as a direct result of this project. There are now several popular restaurants, and businesses located in the area. Residents have made improvements on their homes and the health of the community has improved drastically providing incentive for additional redevelopment and new businesses to locate in the area. This type of citizen-led and supported redevelopment project is vital to the renewal of older urban neighborhoods. Esperanza Unida's success occurred despite many obstacles to public participation and local involvement in brownfields decisionmaking. Leaders of Esperanza Unida navigated many financial and political hurdles to gain the financing and political support necessary to move the project forward. Changes in current policies and practices to encourage and empower proactive citizen involvement, including funding for non-profit organizations involved in revitalization, will make successful projects like Esperanza Unida's a more prevalent occurrence in the Great Lakes basin.

community group in southern Milwaukee, Esperanza Unida, which used a brownfields redevelopment project as a way of revitalizing its neighborhood. (See box on previous page.)

One of the goals of the workshop was for the participants to share their own knowledge and discuss some of the obstacles of citizen-led redevelopment. One couple, Pastor and Mrs. Petits, have dreamt for three years of creating a community center with a day-care and restaurant in their Milwaukee neighborhood. These citizens had redevelopment ideas in mind, but prior to the workshop, lacked the information, contacts and support to accomplish their dream and make the project a reality. The example of the Petits is common and demonstrates a need for policy changes that include improved public outreach and technical assistance. Workshop participants also heard from Milwaukee Mayor John Norquist who spoke to the group and then addressed neighborhood residents' questions and concerns about brownfields-related issues.

b. Detroit Workshop: Detroit's East Side

The Detroit workshop took place on March 25, 2000, in a neighborhood known as the far east side of Detroit. Participants at the workshop included neighborhood residents, community group leaders, bankers, business owners, representatives from the city of Detroit, and residents of adjacent neighborhoods. The focus of this workshop was slightly different than that in Milwaukee. The agenda focused on types of direct action that participants could take to redevelop their neighborhoods. Speakers presented information on the history of the neighborhood, the priorities of the city of Detroit, and successful redevelopment projects. The second half of the workshop focused on learning from participants about specific sites of concern and discussing what action participants could take to begin revitalizing their neighborhoods.

C. Workshop Findings

In both neighborhoods studied, residents were anxious to begin redeveloping vacant storefronts and abandoned factories. However, the focus of the city government was on revitalizing the downtown areas. These competing priorities are illustrative of a more widespread lack of neighborhood-driven planning for redevelopment. Also, neighborhood organizations often lack access to funding sources or other types of brownfields redevelopment incentives typically available to municipalities. Redevelopment progress in large cities will be facilitated by providing neighborhood residents with an extensive "tool box" of legal and financial mechanisms, a regulatory framework that encourages collaboration between local government, for-profit and not-for-profit partnerships and fosters positive working relationships with a variety of decisionmakers. This type of context will enhance the ability of neighborhood residents to implement their visions for their communities.

Brownfields redevelopment usually requires an array of action at various governmental levels and a financial commitment from private sector interests, as well as support from the community. Unfortunately, true neighborhood involvement in the brownfields decisionmaking processes is often limited. It is important to understand that this is a result in many cases of a lack of neighborhood-driven planning or recognition that neighborhood involvement is much different than public participation. Public and private initiatives may not include meaningful neighborhood input as a result of weak public participation requirements in state policy, cumbersome bureaucratic processes, and/or beliefs that the neighborhood-level involvement might otherwise slow down or impede redevelopment activities. Residents are often seen as hindrances to the redevelopment process. Their perceived lack of expertise about financial, developmental, environmental or economic issues leaves them standing on the sidelines of redevelopment. The complexity of the brownfields redevelopment process, coupled with the dynamics of municipal governance and neighborhood investment, often results in

much frustration for urban residents. Without input from neighborhood residents, poor assumptions are made about appropriate redevelopment activities and can foreshadow outcomes that are not likely to achieve desired goals.

Neighborhood involvement in reclaiming brownfields is key to revitalizing urban neighborhoods and restoring healthy communities. If a neighborhood is organized and involved in the brownfields redevelopment process, it can ensure that the property remains an asset and generates local benefits. Yet a great weakness of the many redevelopment projects is overlooking the inherent expertise of neighborhood residents. These people know their neighborhood's cultural and economic history, employment resources, development needs and environmental health history. They know what businesses were previously located on the site and how they positively or negatively impacted the neighborhood. If neighborhood residents are included in a redevelopment project from the first planning meeting, they can be a base of support for the new businesses—from providing political support to a local workforce to increased security with eyes on the street.

Achieving successful community involvement in brownfields redevelopment is challenging and requires a balance of sharing with the community the tools citizens need for effective participation as well as learning from the community their interests, needs and concerns. State agencies and private sector developers can better realize the financial, social, environmental and human health-related potential of reclaiming brownfields in a community-based, sustainable way by making a concerted, good-faith effort to include community participation in redevelopment processes from the start. The result will be revitalized, environmentally healthy and economically sound communities that attract and retain residents who are committed to the revitalization and maintenance of their neighborhoods.

D. Public Participation Requirements in Brownfields Programs Among the Great Lakes States

Relatively few Great Lakes programs specify requirements for public participation or meaningful neighborhood involvement in brownfields redevelopment activities. Significant stakeholder groups are potentially excluded from the redevelopment processes, and so opportunities are lost to use their expertise or generate broad local political support. The Great Lakes states are no different in this regard. The most common public participation element in each of the Great Lakes state programs is notification (e.g., placing an announcement in local newspapers). Although notification is important, it should be seen as only a part of a more comprehensive plan for public involvement. In many cases a neighborhood's sole opportunity for becoming involved with brownfield redevelopment occurs primarily with rezoning requirements, when zoning boards/planning commissions encourage public input through public notice and meetings. However, not all cleanup/redevelopment projects require zoning changes that require public meetings.

Illinois has inconsistent public participation requirements. For example, the Illinois Site Remediation Program has no public participation requirement. However, the Illinois Brownfield Cleanup Revolving Loan Fund does require that borrowers conduct "community relations activities," but it falls short of doing anything more than offering suggestions as to the types of community relations activities that are considered appropriate.

Since 1993, Illinois has dedicated resources to sponsoring a series of conferences known as All Cities Brownfields Conferences. These biannual conferences have been held in conjunction with support from the Illinois Municipal League and have featured interactive workshops on financial assistance tools, risk-based cleanup programs, and other topics related to brownfield cleanup and redevelopment.

The **Indiana** Department of Environmental Management oversees a number of programs relating to brownfield cleanup and redevelopment. Two of these, the *Brownfields Program* and the *Voluntary Remediation Program* are the principal means of addressing these issues. The Brownfields Program administers grants, loans and public assessment; while the Voluntary Remediation Program can yield certificates of completion and covenants not to sue. Funding applications to the Brownfields Program have required categories for community involvement. According to the Indiana Department of Environmental Management, applications with strong community involvement plans are scored higher than those without and are more likely to receive funding. In addition, the Voluntary Remediation Program requires a community relations plan designed to improve the notification process.

Indiana also has a multi-departmental brownfield advisory team with members from agencies such as the departments of Natural Resources, Commerce and Transportation, and is in the process of revising its Community Relations Plan for the Voluntary Remediation Program. This plan is a component of the Remediation Work Plan, which is required for all participants in the Voluntary Remediation Program. Among the important elements of this guidance are specific requirements for notifying those affected or likely to be affected by remediation activity on a site.

Michigan does not specifically provide for public involvement in its brownfields programs. However, public notice is required if the project is state funded or if there is significant public interest. The establishment of local Brownfield Redevelopment Authorities (BRAs), authorized by the Brownfield Financing Act of 1996, also encourages some degree of public involvement in brownfield cleanup and redevelopment decisionmaking. A BRA may issue revenue and tax increment financing bonds and notes, and establish revolving funds to encourage brownfield cleanup and redevelopment. The local executive generally appoints BRA members, although sometimes seats on the Authority are set aside for community representatives. Some of the BRAs, such as Detroit's, have created Citizen Advisory committees to give community members a means of representation before the BRA.

Minnesota, as a matter of state policy, notifies local governments when the state is leading a brownfields cleanup. However, state policy does not require public notice or any other type of public outreach/participation for brownfields remediation as part of the state brownfield programs.

New York's Brownfields Program has the most extensive public involvement requirements for state-funded brownfields activities among Great Lakes states. Under the New York program, municipalities are required to prepare and implement a public participation plan prior to remedial activities at a property when funded with state grant monies. The public participation plan must include "communication between the public and municipality prior to the selection of a course of action, disclosure of information, public notice of the availability of a draft remedial plan, a 45-day comment period, technical assistance, and a public hearing if substantive issues are raised." New York's Voluntary Cleanup Program, which is targeted to private sector cleanup, does not contain similar public participation requirements. The New York State Superfund Working Group, commissioned in August 1998, submitted its final report to Gov. Pataki on June 2, 1999, which included recommendations specifically on citizen participation. Key elements of these proposed measures focus on an area-wide approach called *Brownfield Redevelopment Areas*, and also include technical assistance grants to make available education and outreach materials on the Internet and notification of activities and actions published in the state's *Environmental Notice Bulletin*. Several of these have been incorporated into proposed brownfields legislation by the governor. The legislation would also combine the Voluntary Cleanup Program (private) and the Brownfields Program (municipal) into one state cleanup program.

In **Ohio**, public participation in the state Voluntary Action Program (VAP) is primarily in the form of a public notice published in the local newspaper to alert residents that a “covenant not to sue” has been issued or denied for a specific piece of property. The covenant not to sue is a document that certifies state approval of a completed cleanup. Public notice also is required when the Ohio Environmental Protection Agency issues a variance from state cleanup standards. There is no such requirement to inform residents of cleanup plans prior to completion. The exception is in the case of Urban Setting Designation (USD), which pertains to a larger geographic zone, where the VAP has additional public participation requirements. A USD recognizes that cleaning up the groundwater to drinking water standards is not necessary in urban areas where drinking water is provided through community water systems. Before the Ohio EPA approves a USD, public meetings must be held to provide residents with information about the designation. Meetings are usually held four to six weeks after a USD request has been received and are announced through Ohio EPA news releases to the media and known citizen groups in the area.

In **Pennsylvania**, public participation in brownfields activities is generally defined by the requirements of the state Hazardous Sites Cleanup Act which authorizes the Department of Environmental Protection to investigate and assess potential releases of hazardous substances. The person/party conducting the cleanup must notify the public of the cleanup activity as well as the background and statewide health standards for brownfields cleanups. Both the notice of intent to remediate the site and the notice of submission of the final report must be submitted to the affected municipality. A summary of the notice of intent and notice of submission of the final report must be published in a general circulation newspaper serving the area. If a brownfield is being cleaned up to a site-specific standard that is less stringent than the statewide health standards, more extensive public participation is required. In those instances, the notice of intent to remediate the site is submitted to the municipality and a summary of the notice is published in a local newspaper, followed by a 30-day public and municipal comment period. If requested by the municipality, the person or party responsible for the cleanup must develop and implement a public involvement plan, which includes measures to involve the public in the development and review of the remedial investigation report, risk assessment report, cleanup plan and final report.

Wisconsin relies primarily on public notification as its public participation strategy. Public notice is required for all state funded projects. For evaluation or remediation of facilities, the notice must contain a description of the contamination. The notice must include a description of the type, volume and characteristics of contamination, as well as response actions underway to contain, reduce or eliminate the threat from the contamination. Also required are the phone number and address of persons to contact for more information. Along with the state’s general public participation guidelines there is a stipulation that certain actions do not need to be taken if there is little or no public interest, similar to Illinois’ regulations.

Great Lakes State and Provincial Brownfields Redevelopment Policy Matrix

	IL	IN	MI	MIN	NY	OH	ON	PA	QC	WI
Liability Exemptions/Protections										
Financial/Industries	X	X	X	X	X	X	X	X	X	X
Prospective purchaser		X	X	X	X	X	X	X	X	X
Non-responsible parties who undertake remedial activities	X	X	X	X	X	X	X	X	X	X
Intergovernmental MOU/IOA (state/federal)	X	X	X	X	X	X	X	X	X	X
Cleanup-Related Financing										
Site Assessment/Characterization	X	X	X	X	X	X	X	X	X	X
Cleanup/Remediation	X	X	X	X	X	X	X	X	X	X
Disposal/On-site Preparation	X	X	X	X	X	X	X	X	X	X
Statewide Bond for Brownfields Cleanup			X		X					
Redevelopment-Related Financing ¹										
Job Creation/Job Training	X		X		X		X		X	X
Infrastructure	X		X	X	X	X	X	X	X	X
Construction/Modernization/Restoration/Extension	X	X	X	X	X	X	X	X	X	X
Land Assembly/Acquisition	X		X	X	X	X	X	X	X	X
Capital Access/Low Cost Guarantee/Low Participation/Credit Enhancement	X		X		X	X	X	X	X	X
Brownfield Inventory Development	X								X	
Tax Incentives										
Tax Increment Financing	X		X	X	X	X	X	X	X	X
Tax Incentives in Designated Areas or Zones	X	X	X	X	X	X	X	X	X	X
Technical Assistance										
Free On-Site Environmental Assessments (Phase I and II)	X	X	X	X	X	X	X	X	X	X
Business Development	X									
Free Assessment/Cleanup Guidance	X	X	X	X	X	X	X	X	X	X
Innovative Technologies		X		X					X	
Site Selection	X	X				X	X	X	X	X
Database of Sites/Site Listings (not necessarily brownfields specific)	X		X	X		X	X	X	X	X
Land Assembly										
Institutional Partnerships										
State Interagency	X									X
State/Local	X	X						X		
Public/Private	X									X
State/Federal	X		X							
Federal/State/local	X	X	X							
Community/Public Outreach or Notice										
Public Notice & Comment		X				X	X	X	X ²	X ²
Community Meetings/Public Hearings/Forum Required							X	X	X ²	X ²
Program Encourages Public Participation	X		X		X		X	X	X	X

Great Lakes Commission, 2000

¹ Financial Assistance does not include Community Development Block Grants, which some states allow to be used for brownfields redevelopment projects (particularly Wisconsin).
² Public notice/participation requirements come into effect in Quebec only if site is being reused without being cleaned up as specified by provincial cleanup criteria.
³ Public Notice and Comment is required in Wisconsin for state-funded projects only.

IV. Greenfields in the Great Lakes Region

A. Overview

Greenfields play an important role in the Great Lakes basin, from economic, environmental and social standpoints. Despite, their historic and current significance, greenfields are under tremendous pressure from urban expansion. Loss of greenfields and their contribution to the economy, the environment and society has been a consequence of post-war economic restructuring and associated land-use trends.

Greenfields are generally parkland, undeveloped open space and agricultural lands located near the outskirts of towns, cities and larger metropolitan areas. These areas help delineate one village, city or town from another, or where development is occurring and where it is not. When they are protected, greenfields can serve to promote growth in already-developed areas and curb urban sprawl. As parks and greenways, they also provide the green infrastructure essential to livable communities.

Urban growth in the beginning of the 21st century continues largely to follow land development patterns that gained hold in the last 50 years, which are characterized by new low-density development on previously unbuilt land. This development pattern is commonly known as sprawl. Sprawl is characterized by new, low density construction, widespread strip commercial development along roads, economically segregated subdivisions, new wide roads, utility expansion/extension, automobile dependency and segregation of land uses by zones.

By and large, sprawl occurs on former open space and agricultural lands that once served as rural vistas and land to grow food. These open space and agricultural lands are often referred to generically as “greenfields.” Broad-scale greenfields conversion presents a serious threat to the regional economy and environment.

The reasons behind sprawl and its attendant greenfields conversion are complex. To a certain extent, greenfields conversion is the result of people expressing their preference for a low density, automobile-oriented, suburban lifestyle. Highways, truck transportation, cheaper land prices, horizontal assembly processes and campus-like office parks and corporate offices all encouraged a movement of industry away from center city locations. Social and cultural factors have also provided impetus for a “flight from the city.”

Whether looking at it from the perspective of all Great Lakes states and Ontario, the Great Lakes states alone, or the Great Lakes basin alone, the amount of farmland lost to development is significant. The fact that nearly two-thirds of Great Lakes basin cropland is located within 31 miles of medium-sized cities and large metropolitan areas indicates the risk to agricultural land. The conversion of farmland on the urban fringe is a major greenfields issue.

However, these factors only explain some of the reasons behind extensive greenfields conversion. Other forces make sprawl much more prevalent than it would otherwise be. These include the changing agricultural economy and subsidies and incentives for greenfields conversion.

B. Barriers to Greenfields Protection

1. State of Agriculture

Many changes in rural society and farming have conspired to induce farmland conversion. The family farm has become larger, more capital-intensive and burdened by debt. Land rich but cash poor is a good description. The farmsteads also have become fewer in number and the dependent small towns every so

many miles have likewise diminished. The whole market/supply infrastructure, such as elevators and farm implement dealers, has thinned across the changing landscape. Farm careers have less appeal among many children of today's farm parents and with the ever-increasing age of farmers, the question of who will take over the farm is suddenly very real. The bright lights of the city have captured many nearby farmers and their futures. When development approaches, the business of farming becomes more difficult with traffic/tractor conflicts and the odor, noise and dust problems that inevitably crop up. And finally, when the estate tax rears its ugly head or when a developer offers big bucks, the deal to sell the farm is really an offer one can't refuse.

Table 6

Great Lakes States' Farm Real Estate Values
1996 and 2000
(Average Value Per Acre of Buildings and
Land in dollars)

	1996	2000
Illinois	1,900	2,220
Indiana	1,740	2,210
Michigan	1,420	2,100
Minnesota	1,030	1,270
New York	1,260	1,410
Ohio	1,820	2,250
Pennsylvania	2,270	2,620
Wisconsin	1,130	1,500

Source: National Agricultural Statistics Service, USDA

The agriculture sector of the economy is as variable as the weather. Farm marketings fluctuate with growing conditions and the circumstances of the market. Land values also change over time reflecting commodity prices, interest rates, governmental policies and development potential. Real estate taxes can also be a factor. Relatively low commodity prices during much of the 1990s have made turning-a-profit more difficult for the average American farmer. Overseas competition and large supplies of major crops have put more pressure on farmers to operate as efficiently as possible. With respect to the value of agricultural land, income from government payments has helped prop up land values and even increased them. The U.S. Department of Agriculture (USDA) estimates that between 1990 and

1997 government payments increased farmland values by 13 percent and since then by 25 percent. For farmers near metropolitan area, the prospect of development is probably the largest factor influencing land values. Table 6 shows the change of average farm real estate values between 1996 and 2000 for the Great Lakes states. For those states with significant increases or higher land values, the USDA attributes "urban influences" as a major cause.

Farmland conversion to development has an impact on food and fiber production. When prime farmland is involved, the effects are more significant. Prime farmland is defined by the USDA as that which has the best combination of physical and chemical characteristics for producing food, feed forage, fiber and oilseed crops and is also available for these uses. There were 331.9 million acres of prime farmland in 1997, which was down about 10 million acres from 1982. Nearly two thirds of the prime farmland is in cropland, but large amounts are in pastureland (35.5 million acres) and forest land (48.7 million acres). Planting decisions, changes in livestock and dairy operations and other land management practices are all subject to change over time. Federal policies on price supports and conservation programs as well as weather and market conditions can have a bearing on land moving in and out of agricultural activity. Marginal land or land less suitable for farming under existing conditions may be the first to be removed either temporarily or permanently. A lot of farmland has been converted to development, but the 10 million acres of prime farmland lost between 1982 and 1997 represents a more worrisome situation. Table 7 shows the changes in prime farmland acreage for the Great Lakes states from 1982 to 1997. The loss of 2.6 million acres of prime farmland represents more than a quarter of the U.S. total. The disappearance of prime farmland is an indicator that the pressures on farmland are so great in some places that even the best farmland with its productive potential can't ward off the forces of development.

Table 7
Change in Prime Farmland, 1982-1997
(1000 acres)

	1982	1997	1982-1997 Net Loss
Illinois	21,299.9	20,894.0	405.9
Indiana	13,242.7	12,940.3	302.4
Michigan	7995.4	7,725.3	271.1
Minnesota	20,969.8	20,717.3	252.5
New York	4,739.1	4,551.1	188.
Ohio	12,172.3	11,597.6	574.7
Pennsylvania	4,188.5	3,856.7	331.8
Wisconsin	9,106.3	8,830.8	275.5
Great Lakes States Total	93,715	91,113.1	2,601.9
U.S. Total	341,853.9	331,860.7	9,993.3

Source: National Resources Inventory (Revised December 2000),
Natural Resources Conservation Service

2. Subsidies for Sprawl Through Greenfield Development

Provision of subsidies and other incentives for greenfield development are the subject of much debate regarding the cost of sprawl. Such incentives pervade all types of policies at all levels of government, from infrastructure to real estate and tax and planning policies. These actions and policies favor suburban development and present barriers to the establishment of effective mechanisms for greenfields protection. In many cases, subsidies and incentives for greenfields conversion can be categorized as transparent or hidden.

a. Transparent Incentives/Subsidies

Transparent subsidies/incentives are those that are readily apparent or relatively easy to recognize and quantify. The costs associated with the development and maintenance of infrastructure is the most common and widespread transparent subsidy. Typically this occurs through property tax increases to cover the costs associated with new development. Impact fees attempt to shift more of the burden of new development from the general public (taxpayer) to the beneficiaries of the new development (i.e., home buyers, developers). However, impact fees are a one-time payment, which means long-term infrastructure maintenance is still likely to be financed by taxpayers.

A prime example of transparent subsidies for greenfield development is transportation funding policies that favor new road construction over the improvement of existing roads or similar mechanisms that maximize the usefulness and accessibility of existing roads and highways. Federal funding for interstate highways over several decades improved access to land on the fringes of urban areas, providing a major impetus for greenfields conversion. Though federal transportation policy changes in the early 1990s led to increased spending on transit and road repair, by the late 1990s the portion of federal funds going to new and wider roads grew by 21 percent, just as the portion of funds going to transportation alternatives fell by 19 percent. Though the interstate highway system is now virtually complete, the Federal Highway Administration continues to fund new highways and four-lane expressways in areas not currently served by such facilities, literally paving the way for development. Need based on average daily traffic is not a consideration. According to the Transportation Research Board, the greatest expansion in road capacity occurs at the urban fringe. Research indicates that 53

percent of federal roadway funding goes to rural areas and low-density suburbs, where only 37 percent of the population resides, and that more than twice as much is spent per capita for small towns and low-density suburbs than for urbanized areas.

Water and sewer infrastructure funding policies are a similar example. Between 1972 and 1990, federal investments in wastewater systems totaled more than \$60 billion. These federal subsidies for new construction or expansion of municipal water systems facilitated growth. Tax incentives for new, usually large development projects that favor greenfields (e.g., office parks), with access to large parcels of unobstructed land and highways, are another incentive. This type of incentive is fueled by states and localities that compete to attract new and expanding companies by offering the “best deal.” This usually means larger tax incentives in exchange for the companies’ commitments to locate in their jurisdiction, with the hope that those same companies will provide jobs and increase the tax base. However, companies rarely guarantee any long-term investment in community infrastructure and services needed to serve the population working for the companies or living nearby. Also, mortgage and property interest deductions embedded in tax policy encourage the purchase of larger homes on larger lots, which are most likely to be located on the urban fringe—another bias in favor of greenfields development.

Average cost pricing—assigning fees and rates equally across the board—effectively promotes a cross-subsidy where more efficient, denser developments subsidize low-density greenfields development. This occurs when service providers charge the same rate for all users and do not take into account that serving decentralized populations is often more time-consuming and more expensive; yet the people who receive these services pay the same rates as those who are more centrally located. This practice is common in both the private and public sector and includes phone and cable service, school bussing and emergency services. Also, development impact fees that are imposed by housing type and not necessarily by density ignore the fact that the average cost for providing infrastructure to smaller lots is less costly per unit than for larger lots. Many studies have demonstrated that new, particularly low-density, residential development costs more in services than it pays in taxes, while farmland pays more in taxes while costing less in services. This creates another type of cross-subsidy whereby farms, which are already at an economic disadvantage due to low commodity prices and other factors, are effectively subsidizing residential development.

Even as some areas are beginning to face up to the costs of infrastructure and public services, virtually all types of development ignore the indirect or hidden socio-economic and environmental costs.

b. Hidden Incentives/Subsidies

Hidden incentives/subsidies for greenfields development are those that are difficult to assess and quantify but are nonetheless very real. Major subsidies occur where public policies fail to incorporate the costs of non-market services and amenities provided by greenfields into development projects. Environmental valuation, the science of placing economic values on traditionally non-market environmental amenities, is an emerging practice that can assist in exposing hidden subsidies and making sure the true costs of greenfields are accounted for when they are converted to other uses.

Some of the non-market amenities/services provided by greenfields include flood control, water filtration/purification, open space, opportunities for recreation and solitude, habitat for fish and wildlife and the potential recreation opportunities associated with such habitats (fishing, hunting, bird-watching, etc.) and quality soils for growing food and fiber, all of which contribute to our sense

of “quality of life.” Attempts have been made to quantify some of these, though it is a daunting challenge as they are not always distinct. Farmland supports local and regional agricultural economies but, generally, also supports higher biological productivity and diversity compared to urban lands. Parks and open space provide recreation opportunities but also can contribute to tourism. For example, studies indicate that the loss in annual farm revenue alone due to farmland loss in Michigan is estimated at more than \$100 million. However, this doesn’t consider the many other less-tangible benefits that are lost along with agricultural lands.

One increasingly popular way to attempt to quantify the non-market amenities and bring the loss of greenfields or their protection into the land development equation is through “willingness to pay” studies. One such study conducted by the American Farmland Trust examined residents’ value of farmland and open space in three Chicago collar counties– Kane, McHenry and DeKalb. Farmland and open space in these counties is under intense pressure from development. Responses from a survey of 4,000 households in the three counties indicated that residents were willing to pay an average of \$484 per year for five years, the equivalent of \$57 per year for 30 years, to permanently protect approximately 20,000 acres of farmland in their respective counties. Qualitatively, residents of these counties viewed advancing development (sprawl) as a threat to their quality of life and small payments toward the retention of agricultural land as a viable means of stemming sprawl.

Further research is needed to quantify the non-market amenities associated with greenfields. The next necessary step is a systematic review and revision of public policies across the board to incorporate into development decisions, the true and full costs of greenfields conversion due to the loss of amenities or “services” inherently provided by greenfields .

Another type of incentive for greenfields development occurs through the absence of effective land use planning. In the Great Lakes region, as in much of the United States, comprehensive plans are not always developed or enforced and zoning regulations are the main tool for governing growth. (See discussion in New Policy Directions section under “Brownfields, Greenfields and Planning.”) Even where comprehensive planning does occur, the ubiquity of “home rule” (land use authority at the lowest level of government) throughout the Great Lakes states means that the smallest jurisdictions are the ones responsible for determining where growth occurs and where it doesn’t. In terms of greenfields protection, this often results in a patchwork of developed and protected areas that are disconnected on a regional level. The lack of an effective institutional and political framework for identifying and coordinating which areas should be developed and which areas should be protected or preserved *on a regional level* (i.e., multi-county) is a major barrier to greenfields protection. Continued reliance on a largely piecemeal, parochial and, frequently, reactionary approach to land development and protection effectively promotes greenfields conversion.

The following section provides an overview of specific greenfields protection policies, tools and techniques Great Lakes states are currently using to protect farmland and open space. References to provincial policies are included where appropriate.

C. State/Provincial Policies to Protect Greenfields

In the late 1990s, five of the Great Lakes states (Illinois, Indiana, Michigan, Ohio and Wisconsin) convened some type of interagency or interdepartmental task force to assess farmland loss and related land use trends (e.g., sprawl) and make recommendations to address these issues. Though the recom-

mendations of such task forces do not necessarily translate into policy changes, they are nonetheless an indication that states are increasingly aware of the seriousness of the problem. Agricultural land has received increasing attention as a valuable natural resource that also is tied to the regional agricultural economy. As more and more farmland on the urban fringe is converted for development, citizens, local officials, states and even some developers are becoming increasingly concerned about preserving greenfields for environmental, recreational and even economic reasons.

Agricultural land protection on the Canadian side of the Great Lakes lags far behind the United States. Ontario has no formal strategies for protecting prime agricultural land and significant greenfields, with the exception of the Niagara Escarpment, which is afforded special protection under the (provincial) Niagara Escarpment Plan. A 1997 Provincial Policy Statement was issued pursuant to the Ontario Planning Act, which sets the ground rules for planning in Ontario. Though the policy statement says “prime agricultural lands will be protected for agricultural use,” there are no formal programs in place to implement this policy. Official plans, which are required of each municipality, must “have regard for” the Provincial Policy Statement, but it is not a legally binding requirement.

1. Farmland Protection Policies/Programs

a. Tax Incentives

(1) Differential Tax Assessment

Differential tax assessment, also known as use-value assessment, is a tax policy that allows farmland to be taxed at a lower rate. The aim of the policy is to reduce pressure to convert farmland near urban areas to development and/or to recognize that such land typically places much less demand on local government for the services financed by property taxes. There are three different forms of differential tax assessment: preferential assessment, deferred taxation, and restrictive or contract assessment. With preferential assessments, property taxes are based on the productive value of the land as established by the state with no penalty for converting the land to other uses. Preferential assessments do not slow the conversion of land and may even encourage land speculation for conversion. Among the Great Lakes states, Illinois and Indiana are the only states that allow for pure preferential assessment. Ontario also offers preferential assessment whereby eligible farmlands are taxed at 25 percent of the municipal residential tax rate. The farm residence and one acre of land surrounding it, however, continue to be taxed at the residential rate.

Minnesota, New York, Ohio, Pennsylvania and Wisconsin have deferred taxation. Deferred taxation is similar to preferential assessment in that land is taxed based on its use for agriculture, except that landowners must pay a penalty when the land is converted to an ineligible use or sold for development. This approach discourages land speculation. Restrictive or contract assessments add another protective layer in that they require landowners to sign restrictive agreements in order to receive deferred taxation. Generally, these agreements define the conditions for receiving deferred taxation (or tax credits as is the case with Michigan), which define allowable land uses. Differential assessment in New York and Pennsylvania, and tax credit programs in Wisconsin and Michigan require landowners to sign restrictive covenants, but landowners may terminate these covenants by paying back taxes plus interest or a penalty. Furthermore, Michigan is the only Great Lakes state that does not assess farmland at its current use but rather at its development potential. Also, New York offers a school tax credit to farmers.

(2) Circuit-Breaker Tax Credits

Tax credits also known as “circuit breaker” programs offer an alternative tax incentive to protect farmland from development. Michigan, Wisconsin and New York have this type of program whereby farmers can receive credits against their property taxes. In Michigan, farmers who enter into renewable 10-year temporary restrictive covenants with local governments can receive credits against their state income tax. Wisconsin offers two types of tax credits: farmland preservation credits and farmland tax relief credits. In counties that have farmland protection plans, farmers who comply with local soil and water conservation standards and whose land is in an agricultural protection zone or who have signed restrictive agreements with the state are eligible for farmland preservation credits. The farmland tax relief credit offers a 10 percent credit up to \$10,000 on property taxes for all farmland owners with 35 acres or more. New York farmers can receive an agricultural tax credit on their school taxes. Under the 1996 state law, “farmers” are individuals or farm corporations that receive two-thirds of their income from farming after deducting up to \$30,000 of nonfarm income. The Act grants farmers a 100 percent tax credit paid on the first 250 acres of agricultural land and a 50 percent tax credit for taxes paid on any additional acreage. These credits are estimated to result in more than a \$60 million savings to New York farmers each year.

Recently-passed legislation in Michigan reduced the household income threshold from 7 percent to 3.5 percent to be eligible for the tax credit. This provides a greater incentive for farmers to keep their land in agriculture for a minimum of 10 years under the state’s temporary restrictive covenant program. Other recent legislative changes in Michigan altered how farmland is assessed when it is sold. Under this law (PA 261), when farmland is sold, it can continue to be taxed at the rate of taxation prior to the sale of the land if the new landowner agrees to keep it in agriculture. Though the new landowner must sign an affidavit, s/he does not have to sign a temporary restrictive covenant with the state and is free to convert the land to other uses at any time.

Most experts agree that while tax programs support farming, these incentives by themselves do little to protect farmland from development. Tax credit programs in particular are criticized for encouraging reduced productivity in order to meet the required farm income level to be eligible for the tax rebates. Another issue is the amount of penalties required when farmland is converted. If penalties for withdrawal/conversion are too low, deferred taxation can actually encourage land speculation by making it easier for farmers or developers to hold land until the market price sufficiently outweighs the penalties. This is particularly true for farmland on or near the urban fringe. Tax programs also receive criticism for not distinguishing between farmland that is or is not threatened by development. In Wisconsin, for example, farmland preservation tax credits cost state taxpayers about \$22 million a year, but more than half of that goes to counties that are not significantly threatened by development. Redirecting state funds to a Purchase of Development Rights (PDR) program might better address issue of targeting tax relief to the most threatened areas, but many Wisconsin farmers would lose their credits and would not be eligible for PDR.

b. Right to Farm

All of the Great Lakes states and the province of Ontario have “right to farm” laws that protect farmers from nuisance suits and from unreasonable local regulation. Right to farm laws were developed to protect farmers from nuisance suits based on chemical spray drift, odors, noises, hours of

operation and other farming practices. These laws confer nuisance protection when farmers engage in generally accepted management practices and/or are in compliance with relevant laws and/or when neighborhood changes such as nearby subdivisions make farming practices “undesirable.” Illinois, Ohio, Minnesota, New York and Pennsylvania have special right to farm laws that apply to farms in voluntarily created agricultural districts.

Right to farm laws have several shortcomings that limit their potential for greenfields protection. First, while they may help make farming easier by providing some defense against certain types of lawsuits, these laws do not by themselves provide disincentives for converting the land to other uses or selling it to developers. These laws also are applied unevenly throughout the Great Lakes region with respect to the following: passing on protections to succeeding farmers; authority relative to local police power to regulate the use of agricultural chemicals; application to farmland that is fallow; and relationship to issues of trespass. Regarding the latter, some courts have determined that chemical drift, odors and noise constitute a trespass.

c. Agricultural Protection Zoning

Technically, all of the Great Lakes states and provinces are authorized to zone for agriculture through state/provincial enabling legislation. Agricultural Protection Zoning (APZ) refers to local zoning ordinances that restrict land uses to farming, open space and related activities with limited residential development. APZ ordinances vary widely in the types of activities permitted in the zones and how the zones are configured. Agricultural protection zones differ from voluntary agricultural districts (discussed below) although they are sometimes both referred to in practice as “agricultural districts.” (Agricultural protection zones are established through local zoning ordinances whereas agricultural districts are voluntarily established by farmers under state policies that allow for the establishment of such voluntary agricultural districts.)

The use of agricultural zoning as an agricultural land protection tool varies widely among Great Lakes jurisdictions. Exclusive agricultural zoning is the most restrictive form of APZ, and the most protective of farmland, allowing very little or no construction of non-farm dwellings and requiring large blocks of contiguous land. Wisconsin is the only Great Lakes state that uses exclusive agricultural zoning. However, some counties such as Boone County, Illinois, on Chicago’s westernmost fringe also use exclusive agricultural zoning.

More than 80 percent of the APZ ordinances in the United States are found in Pennsylvania and Wisconsin where state laws contain specific provisions related to agricultural zoning. In Wisconsin, farms must be located within an exclusive agricultural zone to be eligible for the state’s “circuit-breaker” income tax credit. This requirement has provided a major impetus for the adoption of exclusive agricultural zoning in more than 425 Wisconsin jurisdictions. In New York, agricultural zoning has not been implemented at levels restrictive enough to protect farmland. The presence of an existing voluntary agricultural districts program supported at the state level coupled with a strong home rule political culture seem to be the main reasons why agricultural protection zoning hasn’t taken root there.

Sliding scale agricultural zoning allows for a certain number of dwellings to be built on the total acreage of privately owned land, but requires more acreage per dwelling on larger tracts than for

smaller ones. In this way, sliding scale zoning is similar to maximizing the total allowable dwelling units on the smallest parcels. This concentrates development on the smaller tracts, which are less viable as farmland. Alpine Township, Michigan, (located in western Michigan’s “fruit belt” region) and Clinton County, Indiana, are two places in the region that use sliding scale APZ. Other agricultural zoning ordinances include provisions that specify the permitted number of dwellings per parcel (areawide allowance); the percent of land that can be developed (percent area); a minimum allowable lot size (large minimum lot size); or allow one dwelling per specified number of acres (fixed area allowance).

A large minimum lot size for agricultural zoning is popular among local governments as a means for slowing the pace of development, but because the minimum size is often inadequate to support commercial farming, it has resulted in many areas being “too big to develop and too small to farm.” For example, most local governments in Ohio require a minimum of 35 acres for agricultural zoning, but at least one town in Ohio allows 5 acre lots to be zoned agriculture. Many experts suggest that 25 acres is a minimum necessary to protect commercial farming. Large minimum lot sizes at 2, 5 or 10 acres may actually promote the subdivision of farms into high-end exurban development in the form of mini-estates, hobby farms and ranchettes, as large lots are expensive and require very large homes to make residential development on them profitable. This type of agricultural zoning may be desirable in transitional areas between more urbanized areas and working farms or rural areas, but should not be mistaken as a tool for the protection of agricultural lands for commercial production or for maintaining rural landscapes.

By itself, agricultural zoning has limited potential to protect farmland and open space from the pressures of urbanization. First, agricultural zoning is not permanent and is therefore vulnerable to rezoning or upzoning (i.e., decreasing the minimum lot size allowable in agricultural protection zones). Second, agricultural zoning generally reduces land values and, without other measures to compensate landowners, it is likely to receive opposition from some communities. Third, though counties can target agricultural land for protection through APZ, they have little recourse if towns and cities want to annex that land for urban development. Finally, the large variation in what is considered “agricultural zoning” (e.g., the minimum lot size and density restrictions) means that many ordinances are not restrictive enough to protect large blocks of contiguous farmland from becoming mini-estates, ranchettes or other development with high infrastructure to land area ratios. Although this type of agricultural zoning does preserve some open space, it also scatters development across the countryside.

APZ tends to be most effective in preserving large blocks of contiguous land when it is used in conjunction with other agricultural land protection tools and is supported by a comprehensive plan. As noted above, eligibility for Wisconsin’s

circuit-breaker tax credit program is tied to local planning and APZ in its most restrictive form—exclusive agricultural zoning. Farmers in counties that have adopted a farmland preservation plan are eligible for tax credits. Larger tax credits are available to farmers with land that is both part of a

“While not eliminating development of agricultural land, the program’s land use planning and exclusive agricultural zoning requirements have forced local officials to make affirmative rezoning decisions regarding where development should occur and this has inhibited development in some areas of the state.”

—Wisconsin Legislative Bureau, Joint Committee on Finance, Paper #886

county farmland preservation plan and a locally adopted APZ. Minnesota’s statewide agricultural districts program also strengthens APZ by requiring agricultural zoning for land enrolled in an agricultural district (see discussion of agricultural districts below).

d. Agricultural Districts/Agricultural Security Areas

Agricultural district programs are authorized by state legislatures and implemented at the local level.

New York’s Agricultural Districts Program

The New York Agricultural Districts Law passed in 1971 contains six major provisions to facilitate farmland retention: modification of state agencies’ administrative regulations and procedures; assessment of property taxes on current use rather than development potential; protection from unreasonable local regulations; limitations on eminent domain; restriction of the allocation of public funds for nonagricultural purposes; and exemptions from fees associated with special assessment districts. The law also established county agricultural district advisory committees.

The 1971 law was strengthened in 1992 with the passage of the Agricultural Protection Act, establishing the Agricultural and Farmland Protection Program which provides financial and technical assistance to counties for local farmland protection. The 1992 law broadened the makeup of county agricultural district advisory committees and changed their name to Agricultural and Farmland Protection boards. The new law authorized the boards to establish farmland protection plans in cooperation with local partners, including soil and water conservation districts. The 1992 law also strengthened protections against publicly funded projects by requiring agricultural impact statements for state and locally-sponsored development projects and established a matching grants program in support of county agricultural and farmland protection planning activities. Amendments to the law in 1996 made counties with farmland protection plans eligible for PDR. A separate law also passed in 1996 made farmers eligible for a refund on part or all of their school district property taxes. This progressive policy, known as the Farmers’ School Tax Credit, acknowledges the consistent results of cost of community services studies that demonstrate that farmland pays more in taxes than it requires in public services, as noted in colloquialism “cows don’t go to school.”

As of 1998, 8,375,001 acres of farmland were enrolled in agricultural districts, which represents 71 percent of New York State’s farms and 85 percent of New York’s farmland. Using Standard Metropolitan Areas (SMA) as a crude measure of urban pressure, efforts to create agricultural districts have been roughly equal in rural and urban portions of New York. It should be noted that much of the districted acreage in New York is not actively used for crop or livestock production. That is because requirements to be consistent with local comprehensive land use plans result in district boundaries often being drawn around tracts of actively farmed land that are intermingled with idle, forested or otherwise open space lands. However, according to the NYS Department of Agriculture and Markets, about 75 percent (roughly 6.3 million acres) of districted land is presently owned or leased by active farmers.

New York lost 1,731,544 acres of farmland between 1982 and 1992 and an additional 203,536 acres of farmland from 1992 to 1997. According to the 1992 census, 96 percent of New York’s farming occurs in the “shadows” of cities.

Despite relative success, the lack of coordination between local (i.e., agricultural) zoning ordinances and agricultural districts means that sometimes these two tools are working at cross purposes. Experts suggest that greater coordination between voluntary districts and local ordinances to protect agricultural lands would result in more effective farmland and open space protection in New York.

*Bills and Cosgrove, *Agricultural Districts: Lessons From New York*, September, 1998

Also known as voluntary agricultural districts or agricultural security areas, these programs offer a package of incentives and protections to farmers and farmland in exchange for enrolling in the district (i.e., retaining the land in agricultural use for a given time period). The types of incentives and protections vary from state to state (see Table 8). All of the Great Lakes state agricultural district programs include protections from local ordinances that restrict farming practices (a common provision in right to farm laws). Other incentives include differential tax assessment, purchase of agricultural conservation easements, and local planning that protects farms. The package of incentives that goes along with voluntarily enrolling land in agricultural districts is intended to preserve larger blocks of contiguous farmland. Of the eight Great Lakes states, Illinois, Minnesota, New York, Ohio and Pennsylvania have state-authorized agricultural district programs, though in Pennsylvania

they are called “agricultural security areas.” New York’s comprehensive agricultural districts program was established in 1971, making it the oldest in the country.

Table 8
Great Lakes States’ Agricultural District Programs

	IL	MN	NY	OH	PA
State policies must support farming in districts	X		X		X
Farmers in districts receive extra right to farm protections	X	X	X	X	X
Farmers in districts receive extra tax benefits		X			
Enrollment in district required to be eligible for PDR					X
Local planning requirement		X			X
Limitations on use of eminent domain in districts		X	X	X	X
Exemption from certain special assessments	X	X	X	X	

Great Lakes Commission, 2000

The full range of benefits associated with Minnesota’s agricultural districts program are only available to farmers in counties that have adopted an agricultural land preservation plan. Additionally, Minnesota is the only one of the five Great Lakes states that provides farmers with land in agricultural districts with greater tax benefits, beyond those provided by differential assessment. Exemptions from special assessments (Illinois, Minnesota, New York, Ohio) provide another type of special tax benefit to farmers with land in agricultural districts. In this way, these programs offer greater rewards to those farmers who demonstrate a greater commitment to keeping their land in farming. According to the American Farmland Trust, farmers tend to prefer agricultural district programs over agricultural zoning, because enrollment is voluntary and provides benefits in exchange for keeping the land in agriculture (or in the district). A major advantage of agricultural districts as a farmland protection tool is the ability to retain large, contiguous tracts of farmland, which helps to ensure the preservation of a critical mass of farmland necessary to maintain and protect local farm communities and economies. Enrolling land in an agricultural district does not permanently restrict owners’ use of their land and there is no direct penalty for withdrawing land from a district; however, withdrawal from a district is usually contingent upon county board (or equivalent entity) approval.

e. Purchase of Development Rights/Agricultural Conservation Easements

Purchase of Development Rights (PDR), also known as Purchase of Agricultural Conservation Easements (PACE), is a voluntary program that allows farmers to get the most money from selling their land without it being developed. “Development rights” can be sold to a local or state government or a private land conservation organization. Once the development rights are sold, these rights are transformed into responsibilities: the purchaser of the development right does not acquire the right to build anything on the land, but rather the responsibility to prevent development. Put another way, the purchaser acquires the right to keep development off the land. The farmer keeps the title to the land, and owns it outright, but the deed now has a restriction establishing an agricultural conservation easement on the property that prevents the land from being used for anything but open space or agriculture. The price of the development right is the difference between the price of the land when used for agriculture and what a developer would pay for the land. The farmer can continue to farm or sell it to another farmer at will. The farmer is still able to receive the highest market value for the land; however, it is received in two separate transactions: one from whomever buys the development rights and one from the next owner who buys the property. The deed restriction stays with the

property title and is transferred to the next owner.

In the Great Lakes region, local PACE programs exist in Minnesota and Wisconsin, while Michigan, New York, Ohio and Pennsylvania have PACE programs established at both the state and local levels. Wisconsin has a PDR program dedicated to outdoor recreation but has acquired easements on farmland that also benefit outdoor recreation. New York provides state funding for local PACE programs and administers the purchase of easements but does not hold or monitor the easements. New York local match requirements to receive state PACE monies have been met using municipal bonds and property tax increases. An example is the town of Pittsford, N.Y., near Rochester in the Lake Ontario basin, which approved \$9.9 million in bonds in 1996 to purchase development rights and permanently protect 1,100 acres of farmland. This action was taken as part of the town's commitment to a comprehensive planning process, which involved proactive identification and assessment of the town's priority land areas for protection. A similar local program in Wisconsin is also funded through local property tax increases. On the Canadian side, provincial funding for agricultural easements designed to protect the Niagara Falls fruit belt from urban development was cut in 1995.

At the state level, Pennsylvania has the oldest PACE program in the Great Lakes region. Pennsylvania's program was established in 1989 with a \$100 million bond referendum. As of February 2000, 166,424 acres of farmland had been purchased under the program, which amounts to approximately 3.9 percent of the total land in agricultural districts (agricultural security areas) and 1.7 percent of Pennsylvania's total agricultural land. Pennsylvania's program is unique in that farmers must enroll their land in a state-approved agricultural district (i.e., agricultural security area) to be eligible for PDR. The coupling of these two tools gives farmers a strong incentive to form agricultural districts, increases the chances that protected farmland is in an area where farming is economically viable, and limits development on nearby farmland located in the agricultural security areas which may also be awaiting participation in the PDR program. Together, these tools help ensure that lands subject to PDR/PACE do not become "islands" of farmland, but are part of larger tracts of contiguous land that is in agriculture. This can help ensure the critical mass of land necessary to foster a viable local farm economy.

There is no tried and true way to finance PDR/PACE programs. The most common sources of funding for state programs are annual appropriations, bond initiatives and real estate transfer taxes. New York and Pennsylvania have used bond monies to fund PDR/PACE. When bond monies were exhausted, Pennsylvania established a two-cent per pack cigarette tax to help finance its program, but also requires a local match. Matching grants from the federal Farmland Protection program have also contributed to PACE programs in Michigan, New York, Pennsylvania and Wisconsin. (See Table 9.) Michigan's PDR program is partly funded by monies received as penalties (recaptured) from landowners who terminate their temporary restrictive covenants ahead of schedule. Ohio's PDR program established in 1999 has not yet provided any state funding but legislation proposed in 2001 would target \$25 million in state bond monies to the program. At the local level, other sources of funding for PDR/PACE include sales taxes, developer exactions (impact fees) and special assessment districts.

PACE/PDR has several strengths and drawbacks as a farmland protection tool. On the positive side, PACE is voluntary; provides long-term protection for farmland; can be administered by governments or non-profits; and allows landowners to receive full market value for their property. Moreover, AFT

field surveys with program participants demonstrate that PACE makes it easier for farmers to stay in business; facilitates the transfer of farmland to the next generation; helps keep land

Table 9
Number of Acres Enrolled in Federal Farmland Protection Programs
Among Great Lakes States*

	FY96	FY97	FY98	Total
Michigan	1980	390	1728	4098
New York	1323	533	3864	5720
Pennsylvania	6922	2226	3057	12205
Wisconsin	600	193	1197	1990
Total	10825	3342	9846	24013

Great Lakes Commission, 2000
 *federal funds expired in FY98.

in farming; and has received high marks of satisfaction by participating farmers. On the downside, PDR is costly and securing long-term funding sources is difficult, especially if it is viewed as a subsidy to farmers or wealthy landowners; and farmer demand consistently exceeds available funding—all of which minimize PDR’s potential by itself for controlling development on a large scale.

Like other farmland protection tools, many factors can affect the effectiveness of a PDR program. Determining eligible lands, priority lands, the purchase price of the easements, funding, monitoring and enforcement are important considerations for implementing PDR. Generally, states have methods to screen farmland for its productive qualities; high quality farmland is typically a criteria for PDR eligibility. Farm size is also a consideration as most PDR programs have minimum acreage requirements. Agricultural viability (the land’s productive value relative to the local and/or regional agricultural economy) and risk of conversion (i.e., risk of being developed) are other factors that are considered.

The extent to which the two latter issues are balanced when choosing properties for PDR can have an impact on whether PDR programs are effective in helping to contain urban sprawl. Recent reports of wealthy individuals purchasing land in PACE as estates, with no intent to ever farm the land raises questions regarding the effectiveness of such programs in preserving agriculture in the long run. Additionally, if easement purchases are not strategically timed and located, it may result in “islands” of protected land that are surrounded by incompatible land uses, undermining agricultural viability. As one author on the subject notes, “saving the land is not the same as saving the farm.”

Linkages among various farmland protection tools promote a more comprehensive approach to farmland protection and overall efficacy of preservation programs. In Pennsylvania, for example, PDR is targeted to those areas “devoted primarily to agriculture use where development is likely to occur within the next 20 years” and, as mentioned earlier, only lands in agricultural districts are eligible for PDR. In New York, a local or county farmland protection plan must be in place to be eligible for PDR.

2. Other Greenfields Protection Policies/Programs

a. Cluster Development and Cluster Zoning

Cluster development occurs when the allowable development on a given parcel (determined by conventional zoning) is located on only a portion of the parcel, leaving the remaining portion of the

parcel in open space, which is usually protected under a conservation easement. Cluster zoning refers to local zoning ordinances that allow or require developments to be clustered. Clustering can protect open space and farmland; however, unless the protected parcels are linked to create networks of open space or buffers, the distribution of clusters are likely to result in a patchwork of protected areas, and therefore, a more clustered form of sprawl. This is particularly true where the density of clustered developments exceeds what can safely be supported by existing service systems, thus requiring improved sewer and water facilities. For this reason, clustering is more effective in protecting open space or transitional areas between farms and residences than in protecting farmland. Various forms of cluster development are currently practiced by local governments and developers in various locations throughout the Great Lakes region. However, no systematic effort has been undertaken to catalog the location or overall effects of these efforts.

b. Open Space Zoning

Open space zoning, like agricultural protection zoning, is a local government tool used to provide and protect open space. Local governments have the right to establish open space zoning, which may or may not be supported by actions at the state level (e.g., comprehensive planning and zoning requirements, planning grants, open space grants). Open space zoning is similar to cluster zoning in that it allows the same overall amount of development permitted by conventional zoning, but requires the construction to be located on only a portion of the parcel. The remaining open space is permanently protected under a conservation easement. Though some municipalities use the terms cluster zoning and open space zoning interchangeably, open space zoning differs in its emphasis on maintaining the maximum preservation of open space. The number of Great Lakes municipalities that use open space zoning is unknown.

As a greenfields protection tool, open space zoning shares most of the same strengths and weaknesses as agricultural protection zoning, but allows for a broader range of land uses, including recreation, wildlife and resource protection. Like other open space protection tools, it has the potential, if employed strategically, to restrict or buffer against urban expansion. This could occur if contiguous parcels concentrate development within a given area so that open space abuts other open space. In this way, open space zoning also could create more efficient land use by connecting developed areas to better provide common infrastructure and service needs, and connect open space to serve as greenways, growth buffers or ecological corridors. (To date, however, there are no known examples of municipalities in the region that have used open space zoning in this manner.) Otherwise, open space zoning, like cluster development/zoning and conservation subdivision design, creates islands of open space interspersed with denser subdivisions, another form of sprawl.

c. Greenways

Greenways are corridors of protected open space managed for conservation and recreation purposes. They often follow natural land or water features and link nature reserves, parks, cultural features and historic sites with each other and with populated areas. Greenways create and preserve open space, recreation and non-motorized transportation opportunities at hierarchical levels. Regional greenways connect communities and major habitat areas; local greenways provide significant connections within a community; and neighborhood greenways provide smaller connections and help tie together the larger system. Greenways can be supported with state funding or, as is more common, by non-profits (e.g., rails-to-trails conservancies) on a statewide level. State funding for greenways in Pennsylvania is

provided by a real-estate transfer tax. Greenways can be publicly or privately owned, and some are the result of public/private partnerships.

Greenways can vary greatly in size from a single urban waterfront to multi-state corridors. The Chicago Openlands Project aims to establish an extensive greenways and trails network throughout northeastern Illinois with connections into Wisconsin, Indiana and other nearby regions of Illinois. Southeast Michigan Greenways aims to establish a network of trails and greenways over a seven-county area and the Southwest Detroit Riverfront Greenway is an urban-industrial waterfront revitalization plan.

Typically, greenways are created in already developed areas to protect and enhance natural features and to provide recreation opportunities for urbanizing areas. In and of themselves, greenways do not protect undeveloped greenfields as defined for purposes of this report. However, greenways indirectly support greenfields protection in several ways. By enhancing the attractiveness of already-urbanized areas, greenways may help stem pressures for new development in outlying areas. Specifically, when greenways or parts of them are strategically located to provide buffers around existing metropolitan areas, they can provide a “greenbelt,” which can protect open spaces around towns and cities and may help delineate villages, cities and towns. However, coordination among local jurisdictions is needed to ensure that greenbelts do not spur leapfrog development in rural areas.

d. Public Conservation and Recreation Initiatives

Federal, state and local programs exist to protect natural resources, preserve historic landscapes, and improve/ensure access to open space for recreation and solitude. Examples of such conservation and open space initiatives include national, state and local parks, the federal land and water conservation fund, coastal management, conservation buffer, and wetland protection programs. The percentage and actual amount of land held in open space as a result of such programs varies from state to state.

In 1998 voters in Great Lakes states approved more than a dozen ballot initiatives to dedicate public monies for open space acquisition. This included statewide initiatives in Michigan and Minnesota where open space acquisition was part of larger environmental initiatives, with the balance being local initiatives dedicated to open space protection.

Open Space Preservation in Washtenaw County, MI

In the fall of 2000, Washtenaw County voters approved a 10-year 2.25 mill levy that would raise more than \$20 million, leverage additional matching funds, and save about 5,000 acres of the most environmentally sensitive lands in the county. Farmland is explicitly excluded from the land that can be protected. This initiative comes on the heels of a defeated 1998 initiative, which would have created a more comprehensive county-wide land use program including funding for a county PDR program, open space acquisition, urban redevelopment and land use planning coordination among municipalities.

The location of lands subject to these programs has much to do with whether or not they actually protect greenfields. So does funding. All Great Lakes states have state park systems and wetland protection programs, and most have coastal management programs. Of these, metropolitan and regional park/recreation systems or park districts appear to have particular potential for protecting greenfields. As the name indicates, such systems operate within and around metropolitan areas or regions that include metropolitan areas and can serve to protect some of those lands most vulnerable to the pressures of urban expansion. However, when the main purpose of the program is to establish

recreation areas or protect natural resources, it may not protect those lands most at risk of development. Nonetheless, parks and recreation areas can protect greenfields when like-minded individuals/communities work together to achieve common goals. In Ohio, for example, state park districts are forming partnerships with local agencies and communities to protect “unique community resources.” To the extent that greenfields are identified as a unique community resource, existing parks and open space programs can target at-risk lands for protection within the park system.

e. Conservation Easements

Conservation easements work like agricultural conservation easements (i.e., PACE/PDR) described earlier—the right to develop the land is sold or given to a state or local government or non-profit entity—except that the easement is placed on the land for purposes of conserving a natural resource, natural feature or ecological value in addition to, or instead of, protecting agriculture. The entity that acquires the easement (i.e., “development right”) does not acquire the right to develop, but rather the right and responsibility to prevent development. Conservation easements can be placed on all or part(s) of the property. Once again, their effectiveness in protecting greenfields depends on the criteria for easement ranking and purchase. All easement programs have criteria to prioritize properties that will be eligible. Limited funds usually result in only those lands that best meet the criteria being purchased. To the extent that local and state governments include urban fringe areas under development pressure as part of the eligibility criteria, conservation easements can be a powerful tool for protecting greenfields. In particular, because these easements can be used for conserving land or natural features, as well as agriculture, there is built-in flexibility to allow for hobby farming, large estates and other open space uses so long as the conservation objectives are met. Wisconsin’s relatively new PDR program distinguishes itself from other Great Lakes PDR programs in that it acquires easements for purposes of improving “nature-based outdoor recreation,” not farmland. However, in recognizing that conserving farmland also benefits outdoor recreation, monies for the program have been used to acquire easements on approximately 300 acres of farmland.

D. Private Sector Initiatives to Protect Greenfields

1. Land Trusts and Conservancies

Land trusts and conservancies are private, non-profit organizations that protect natural and cultural land resources through the acquisition or transfer of conservation easements, land acquisition and education. The terms “land trust” and “land conservancy” are interchangeable, with well over a hundred such organizations in the Great Lakes basin. Land trusts and conservancies vary widely in size and sophistication and range from those that focus on a specific land area within a county or sub-watershed and are run by local citizen volunteers to those that cover vast geographic areas, have paid staff and substantial budgets. The Nature Conservancy is the world’s leading land conservancy with several chapters around the Great Lakes. The impact of land trusts and conservancies on greenfields protection depends largely on the geographic focus or priorities of the organization. Land trusts and conservancies typically focus on ecologically or culturally valuable lands, which are not necessarily at risk due to urban expansion. However, land trusts are increasingly interested in agricultural land protection. The Western New York Land Conservancy and the Potawatomi Land Trust in Michigan are just two examples of such organizations actively involved in agricultural land protection. Organizations like these that focus on agricultural and urban fringe areas have an important role in greenfields protection. Coordination among conservancies and state and local agencies can enhance efforts to contain urban sprawl. Absent such coordination, however, efforts to protect parcels of open space could facilitate leapfrog development.

2. **Landowner Stewardship Initiatives**

There are many methods for private landowners (e.g., owners of large lots or estates, including farmers) to become better land stewards, including estate management strategies that maximize open space protection in perpetuity. Many land conservancies and trusts provide information on estate management strategies, such as easement donation for open space protection. State and local governments and non-profit environmental organizations can facilitate private stewardship initiatives by providing an institutional framework for disseminating this type of information. Local governments can further provide incentives such as tax relief to landowners who elect to protect open space. One approach might be to provide greater incentives to landowners of greenfields that are at high risk of conversion or to landowners whose lands are adjacent to existing protected areas or other areas that are intended for long-term protection.

3. **Conservation Subdivision Design**

With conservation subdivision design, clustering is done with the express purpose of protecting significant natural features. Developers identify wetlands, steep slopes, floodplains and other areas that are either not suitable for development or are a desirable natural asset (e.g., woodlands or meadows). Then homes and buildings are clustered on the remaining areas to maximize views, access or other benefits provided by the protected natural features. Cluster and open space local zoning ordinances (see discussion above) can facilitate developers' use of this tool for conserving natural features when building subdivisions.

Great Lakes State and Provincial Farmland Protection Policy Matrix

	IN	IL	MI	MN	NY	OH	ON	PA	QC	WI
Ag Districts/ASAs										
State/Provincial				X	X	X		X	X	
Local				X				X		
PDR/PACE										
State			X		X	X		X		
Local			X	X	X	X		X		
TDR										
State Authorizing Legislation					X			X		
Local Program				X	X			X		
Strong Ag Protection Zoning (i.e., tied to planning, ag districts)				X				X		X
Tax Incentives										
Preferential taxation	X									
Deferred taxation				X	X	X		X		X
Circuit breaker taxation			X		X					X
Comprehensive County Planning for Farmland Preservation										
Right to Farm	X	X	X	X	X	X	X	X	X	X
Special Provisions for Farms in Ag Districts/ASAs		X	X	X	X	X		X		
Review Required for Impacts on Ag Land From Publicly-Funded Programs/Projects		X	X	X	X	X		X		
State Funds for Open Space or Ag. Land Acquisition		X ²		X	X	X		X		X
Long-Term Advisory Council for Ag Land										
Technical's Assistance for Local Ag Land Preservation				X	X	X		X		X
Multi-County Planning Entities	X	X	X	X	X	X		X	X	X

Great Lakes Commission, 2000

¹ Minnesota's local ag district programs include the Minnesota Ag Districts Act.

² Illinois provides state funds for open space only.

Glossary of Acronyms:

- Ag Districts: Agricultural Districts
- ASA: Agricultural Security Area
- PDR: Purchase of Development Rights
- PACE: Purchase of Agricultural Conservation Easements
- TDR: Transfer of Development Rights

V. New Policy Directions in Brownfields Redevelopment and Greenfields Protection

A. Brownfields Cleanup vs. Containment: Exposure Controls and RCRA Reforms

Notwithstanding financial assistance, most state programs still require purchasers/new owners to contribute something to the cleanup costs. However, “cleanup” costs don’t always mean dollars spent on removing or treating contaminants. Brownfields cleanup also includes the use of institutional controls (e.g., deed restrictions) to prevent certain uses of the property and engineering controls (e.g., capping, sheet piling) to keep contamination from entering exposure pathways that will harm humans or the environment. Broad use of these exposure controls has done much to contain costs associated with brownfields cleanup and has allowed literally thousands of sites in the Great Lakes region to be redeveloped which likely wouldn’t have had treatment or removal been required. For some, however, the use of such controls raises questions about the long-term implications for the environment and human health. Are future land uses being compromised by the absence of environmental cleanup on brownfields? Exposure controls may protect today’s generation, but what about tomorrow’s?

To date, no comprehensive studies or reviews have been conducted to determine whether the exposure controls are working. Indeed, it may be too early, since many of them have been in place for only a few years. One could conclude that as long as the controls are monitored and enforced, there will be no unacceptable risks to human health or the environment from the use of such controls. Therein lies the problem. Presently, there are no Great Lakes state or federal programs in place to ensure long-term monitoring and enforcement of exposure controls. The Great Lakes states (along with many other states) and U.S. EPA are in disagreement about who should be accountable for such monitoring and enforcement. U.S. EPA would like the states to assume that responsibility, while Great Lakes states think it should be U.S. EPA.

States, with support from U.S. EPA, have developed brownfields programs that allow for institutional and engineering controls. As such, it is incumbent on the states to monitor and enforce such activities. The results of enforcement and monitoring activities are not always immediate and/or rewarding from an environmental or political standpoint. As such, states may find it difficult to get their legislatures to appropriate funds for monitoring and enforcement as long as the number of brownfields in need of cleanup and/or redevelopment is still great or if redevelopment projects fare well. Federal funding support and leadership may be needed for enhancing state VCPs to institutionalize long-term monitoring and enforcement of exposure controls.

U.S. EPA guidance issued in March 2000 on the use of institutional controls at corrective action sites under the federal Resource Recovery and Conservation Act (RCRA) is a first step that should be extended to all brownfields that are subject to institutional controls. That guidance recommends getting facility owners/operators “to agree to a written enforceable order which contains the specific requirements for the institutional control and binds the owner/operator to notify subsequent property owners of the institutional control and to maintain the institutional control after the property transfer.” Demonstrating continued environmental compliance through monitoring and enforcement of exposure controls will help brownfields programs continue to receive public favor and political support into the future.

Policies to encourage more cleanup over containment are another way to address concerns over reliance on exposure controls. Proposed legislation in New York, which provides added tax incentives for cleanup to residential standards, is an innovative approach to encouraging greater actual cleanup while still providing flexibility to choose a remedy that involves containment. A similar policy in Québec provides incentives for

cleanup over containment. Remedial actions that involve only engineering controls are eligible for up to 50 percent financing from the province. However, where cleanup involves the use of treatment technologies instead of engineering controls, an additional 20 percent financing is available.

Another promising move toward more actual cleanup is a recently (1998) created rule to reduce the barriers to cleanup set forth by RCRA. Among other things, RCRA regulates the generation, treatment, storage and disposal of hazardous wastes during cleanup activities (known as RCRA corrective action). Depending on the type of wastes and practices that happened on a brownfield property, that property may be associated with a RCRA permit which requires corrective action. In 1998 U.S. EPA established a RCRA Brownfields Prevention Initiative work group to promote greater flexibility within and remove possible barriers to brownfields redevelopment created by the RCRA regulatory framework. Also in 1998, U.S. EPA issued several new RCRA rules that make it easier streamline the RCRA regulatory framework to recognize the specific circumstances of brownfields cleanup.

These new rules make RCRA more brownfields friendly in several ways, particularly with respect to the Land Disposal Restrictions (LDR) portion of RCRA. The LDR was designed to ensure that hazardous wastes are properly pretreated before being disposed of on the land. Though noble in intent, the LDR effectively discouraged remediation of contaminated soils on brownfield sites by requiring soils “generated” during environmental cleanup activities to meet the same treatment standards as a pure industrial hazardous waste.

This framework limited remediation choices to: a) attempting to achieve LDR treatment-based standards; or b) avoid the LDR altogether. As LDR standards are not always appropriate or achievable for contaminated soils, the net effect was an incentive not to treat contaminated soils, but to leave them on site and depend on containment or other exposure controls; or worse, not do anything.

As part of its RCRA Brownfields Initiative, in late 1999 U.S. EPA began seeking national pilot projects to showcase how RCRA reforms facilitate brownfields cleanup. As of March 2000, four national RCRA brownfields pilots were selected, including the Bethlehem Steel site on Lake Erie in Lackawanna, New York. The RCRA Brownfields Prevention Initiative work group continues to function as an agency-wide clearinghouse on RCRA brownfield issues.

B. Tracking Brownfields Successes

Efforts to track brownfields redevelopment is uneven among Great Lakes jurisdictions. Where tracking does take place, states tend to track their brownfields programs differently. Some states track the number of participants in the state Voluntary Cleanup Program (VCP), while others track the number of sites cleaned up

New RCRA Rules and Brownfields

Under the 1998 RCRA rules, owners/operators can:

- I. receive a variance from the LDR technology-based treatment requirements for contaminated soils generated during cleanups and instead use risk-based cleanup standards when it is determined that the LDR standards would discourage aggressive remediation;
- II. pursue alternatives when closing treatment, storage and disposal facilities without going through the elaborate RCRA post-closure permit process;
- III. temporarily store remediation wastes in “staging piles” without being subject to the LDR;
- IV. pursue a streamlined permit process for brownfields that includes a remedial action plan focused on managing wastes during the life of a cleanup;
- V. have the option to clean up only a portion of their facility because the new rules eliminated the requirement that all RCRA permits be subject to a facility-wide corrective action.

(which is not necessarily the same thing), while still others track the number of acres remediated. For example, Michigan boasts that since the inception of its program in 1995 more than 3,000 brownfields have undergone a Baseline Environmental Assessment (BEA). While a BEA is the first step toward redeveloping a brownfields site, it is not a direct indicator of remediation or redevelopment. Pennsylvania notes that cleanup has taken place at 777 brownfield sites since 1995, and cleanups since 1996 (when acreage tracking began) represent a total of more than 9,000 acres. Wisconsin claims that more than 1,100 cleanups were completed during 1988-89 alone, with a total of over 3,000 since 1996, but the number of acres this represents is not available. Illinois tracks participation in the state program, number of sites, and the number of acres cleaned up through the Illinois Site Remediation program. Since 1989 when tracking began, Illinois has issued 147 No Further Action letters and 926 acres have been cleaned up. As of January, 1999, New York's brownfields (for municipalities) and VCP (for private parties) programs have supported cleanups at 205 brownfield sites. However, the state only tracks numbers of acres remediated for the brownfields program. Indiana tracks the number of sites that have received a liability assurance through the state cleanup program —72 as of September, 2000— but not those that have only received technical or financial assistance. Minnesota and Ohio are similar to Indiana in that they track the number of properties that have received liability relief by participating in the state VCP, but do not track number of acres cleaned up.

In fact, any state/provincial tracking system can only track those brownfields activities that are part of a state/provincial program, as there is no way of tracking independent cleanup efforts. Nonetheless, tracking participation in brownfields programs is a worthwhile endeavor. At a minimum, tracking participation in a VCP is necessary to monitor remedial actions involving exposure controls to ensure continued protection of human health and the environment. However, more comprehensive tracking can also determine:

- the extent of contamination remediated (removed, treated or contained)
- reduced risks to public health and the environment from remedial actions
- amount of private investment on each dollar of public money spent
- number of jobs created
- location of cleanup and redevelopment (i.e., central urban, older suburban, etc.)

Tracking this type of information can be an effective tool for evaluating program effectiveness and for bolstering public support and funding for brownfields programs. With more data collected, sophisticated analyses can be conducted to evaluate the overall impact of brownfields redevelopment on neighborhoods and to compare the costs and benefits of redeveloping a brownfield versus developing a greenfield site to examine overall effects.

State/provincial brownfields tracking systems are relatively immature, but are evolving rapidly to improve efficiency and enhance understanding of program effectiveness. Tracking can perhaps be most useful when it considers not only the number of sites cleaned up but actual acres remediated and/or redeveloped, the amount of contamination remediated, and the ratio of acres cleaned up to the overall amount of brownfields. This type of tracking allows states to evaluate the effectiveness of their programs toward meeting environmental and economic goals. The State of the Lakes Ecosystem Conference, jointly sponsored by U.S. EPA and Environment Canada, has taken this approach and is urging state and local governments to look at actual acres redeveloped to help determine the extent to which brownfields redevelopment is helping to improve the Great Lakes. One way to ease the administrative burden of gathering this data is to require VCP participants to enter the data online as part of final reporting requirements. Pennsylvania has spearheaded this approach, which holds promise for minimizing transcription errors and burdens on agency staff.

C. Public Sector Funding: Catalyst or Bailout?

Who pays for cleanup of contaminated property has been a longstanding debate. Historically, state and federal efforts focused on making the polluter pay, whichever polluter could pay regardless of the extent to which they contributed to the pollution. This system stymied private initiative in brownfields cleanup and reinvestment. For some property owners, it was easier to just not pay the taxes and let the property revert to state or local government control. Brownfields are a byproduct of this trend. Publicly-funded programs to address abandoned and/or seriously contaminated sites have been one approach to resolve this issue. On the one hand, public sector support is needed to spur reinvestment in brownfields. On the other hand, financing brownfields cleanup through statewide initiatives raises questions about taxpayer bailouts for polluters.

From a regional land use perspective, the alternatives should be considered. One might ask, to what extent are future generations being compromised by leaving brownfields idle? Some type of litmus test is needed to determine the benefits versus costs to present and future generations of financing the cleanup versus pursuing private parties to pay for the cleanup, or living with the brownfield if no cleanup happens at all. Where states, provinces and local governments are unable to locate a responsible party or that party is insolvent and there is no private sector demand for reusing the property, the alternative is to let the brownfield sit idle, while new development migrates to the greenfields. In such instances, and there are many, state support for brownfields cleanup and redevelopment can make urban brownfields competitive for new development projects.

In addition to financing programs, state clarification of liability is another common reform that has helped renew interest in brownfields. Though all of the Great Lakes states have undertaken liability reforms to protect innocent purchasers, financiers and/or non-responsible parties who wish to clean up and reuse brownfields, some liability reforms may go too far. Liability reform in Michigan, for example, shifted the burden of proof from the potentially responsible party to the state. When these reforms were passed in 1995, it became the state's responsibility to prove that a party caused contamination in order for that party to be held liable for cleanup. Though the intent was to relieve private parties of the burden for cleaning up contamination they did not cause, it probably went further than it needed to by requiring the state to prove who caused the contamination before it can hold a party liable for contamination. A more balanced approach, which most Great Lakes states have, is to apportion liability for contamination as it is associated with ownership and management of activities conducted on the property at the time the contamination occurred without having to "prove" that a party caused specific contamination.

D. Brownfields and Sustainability

Promoting cleanup and reuse of brownfields is critical to revitalizing Great Lakes cities. While some may argue that any type of redevelopment is better than none, not every type of reuse is always acceptable. Increasingly, communities want to see something "better" than what was there before. Incentives for businesses to match their needs with those of the targeted community will help maximize redevelopment's contribution toward urban sustainability, from physical and socio-economic standpoints. Clearly, creating jobs and tax revenue where once there was contamination and blight is a key step toward addressing some of the socio-economic problems that plague urban areas. However, physical design, construction, operations and maintenance of buildings and businesses can also become more sustainable through coordination and/or integration of pollution prevention and other "green" programs into brownfields redevelopment.

All eight Great Lakes states have some type of pollution prevention program, but they are generally not linked to brownfields redevelopment efforts. Ohio's pollution prevention loan program, while not specific to

brownfields, applies to small businesses and facilities that modify their operating processes to generate less pollution. The Minnesota Pollution Control Agency Loan Program is another example of financing that encourages redevelopment that is cleaner and greener by providing loans to small businesses that purchase new equipment that meets or exceeds environmental standards. Pennsylvania's Green Government Council and Minnesota's Smart Buildings Partnership aim to incorporate the principles of sustainability into state building and operations (see box). Minnesota's Smart Buildings Partnership is part of the state's larger Sustainable Development Initiative, which establishes a vision and principles for sustainable development as well as other efforts including an evaluation of state programs and policies to determine the extent to which they contribute to sustainability.

Pennsylvania: Governor's Green Government Council

The Governor's Green Government Council, established in May, 1998, reflects the Governor's desire for the state to lead by example. It aims to put environmentally-sustainable practices into state government's planning, policymaking and regulatory operations and strives for continuous improvement in environmental performance. Creation of the council reflects a policy shift toward sustainability, including a goal of zero emissions achieved through pollution prevention and energy efficiency.

The council is jointly chaired by the secretaries of the departments of Environmental Protection and General Services. The council itself, comprised of agency heads or their designees, provides overall oversight for the initiative and serves as a forum for addressing interagency issues. Within each agency, a Green Team is responsible for development and implementation of an annual Green Plan—a very brief outline of the green projects that the agency will undertake in the upcoming year. The initial focus is on planning and operational areas, particularly energy efficiency, including building design and management; procurement of environmentally friendly commodities and services; expanding upon current recycling efforts; and vehicle purchase and management practices.

Greater efforts on behalf of the states and provinces and the private sector to create or improve pollution prevention and green building and design initiatives, and piggyback them with brownfields redevelopment will help make such projects more than properties that provide jobs and a tax base, but models of urban sustainability. Moreover, it will ensure that government policies are not working at cross-purposes; for example, by providing tax incentives (which translate into reduced tax revenue) for brownfields redevelopment to create new jobs on the one hand, then having to shell out taxpayer dollars to finance cleanup of pollution created by those publicly-subsidized companies. Builders, developers and architects in particular can provide leadership in advancing and demonstrating the benefits of "green," or sustainable, design and practices in the building/development industry. With private and public sector initiative for sustainable redevelopment, business and industry can be a good neighbor, as well as employer, that provide added value to the urban milieu.

E. Green Infrastructure and What To Do With The Brownfields Nobody Wants

As metropolitan areas have continued to spread outward, revitalizing the region's urban core areas has been an immense challenge that will require new visions for Great Lakes cities. Gone are the days when we can look to Great Lakes cities as the heart and soul of heavy manufacturing. Though manufacturing will continue to play a significant role in the regional economy, heavy industry has given way to a more diverse economy based on a combination of heavy and light manufacturing coupled with a growing service sector. Smokestacks and foundries are giving way to stadiums, casinos and convention centers as indicators of urban prosperity. However, there remains a very large number of brownfields where redevelopment interest is little or non-existent and the changing economy shows no sign of recreating a demand for all the industrial land that exists. Despite the many policies and financial incentives to make urban brownfields attractive to developers, the preponderance of former industrial sites that could be reused seems to far exceed the demand for such land. For example, research published by the Urban Land Institute in 1997 indicates that it would take more than

150 years to absorb all the brownfields in the city of Detroit. Using a more optimistic market demand scenario still leaves Detroit with a 77-year supply of brownfields. This research is based on the supply of nonresidential brownfield acreage and market demand trends for industrial and office development. Detroit is not unique in this situation. Based on the same research, Cleveland has a 48-year supply and Chicago a 113 year supply. Even the optimistic scenarios only bring these numbers for Cleveland and Chicago down to 28 years and 51 years, respectively. While former industrial property *can* be cleaned up for non-industrial purposes, this generally means cleaning up to a higher standard, which usually costs more. That difference in cost can be the difference between a brownfield and a greenfield location for a new office or apartment building.

What of the brownfields for which there is no demand or which are deemed uneconomical for redevelopment? This apparent oversupply of brownfields is an important issue for the Great Lakes region. Finding other ways to utilize these properties over the long term will ensure a shinier future for the Rust Belt.

Although brownfields can provide excellent opportunities to stimulate and redevelop urban businesses and industries, some brownfields sites may better serve as open or green space. Urban “greenfields,” as referred to by some, improve the quality of neighborhoods and ultimately make them more attractive to potential residents and investors, particularly in urban areas where existing green space accounts for a very small portion of the overall acreage in a given municipality. Brownfields converted to open space have the potential to serve broader community interests rather than more specialized economic interests. However, brownfields conversion to green or open space would require public and private sector foresight and may require new or modified state, federal and/or local government procedures and monies to facilitate such conversions, particularly if the land will be retained as public land. Fortunately, several Great Lakes states are beginning to develop programs and procedures to facilitate brownfields conversion to green space. An example is Pennsylvania’s *Green Opportunities for Brownfields*, an initiative which marries the state’s land recycling goals with its conservation planning, watershed restoration, greenway and recreation initiatives. This initiative takes land recycling to a new level by promoting mixed-use land development projects that incorporate parks and greenways. It does so by applying a conservation design and planning process to brownfield redevelopment. When embraced by the development community and accepted by redevelopment proponents, this approach will help build more sustainable communities. Another example of integrating brownfields with green infrastructure is the waterfront revitalization portion of the Clean Michigan Initiative, which evaluates redevelopment projects in part based on whether they provide significant public access or recreation opportunities.

Agricultural lands with pesticide contamination are another form of brownfield. Their presence in the brownfields redevelopment arena has been dwarfed by the cleanup and redevelopment urban sites that *look* more like brownfields. But pesticide contamination on agricultural lands is real and can impede the sale, and hence continued use, of agricultural lands for agriculture or other purposes. Many of these lands are both brownfields and greenfields—brownfields by virtue of their contamination and greenfields by virtue of their lack of physical development and location on the urban fringe. Agricultural brownfields may be more easily remediated if their intended use is open space and/or recreation areas.

Milwaukee has been a leader in integrating brownfield revitalization with improved urban greenspace. Brownfields redevelopment has been integral to the city’s overall revitalization strategy. Tax increment financing districts are used to carry out the city’s goal of investing in public amenities (streetscapes, parks, pedestrian walkways) that will facilitate private investment and complement brownfields and other real estate develop-

ment. The goal is to recreate livable urban neighborhoods marked by access to greenspace, aesthetically pleasing urban design, and small, walkable blocks with a high level of connectivity. Though Milwaukee's efforts have been to improve the public realm to spur private investment, not necessarily to turn brownfields into parks, the public realm improvements are often part of the fabric of green infrastructure and can have far reaching effects to stimulate private investment in brownfields that might otherwise be overlooked.

F. Partnerships and Intermediaries

Many of the approaches or solutions discussed throughout this report require public policy decisions. Changes in public policy are the most obvious and direct way to move some of these approaches

forward on a large scale. However, the private sector cannot be forgotten. Increasingly, business leaders and policy makers alike recognize that each has an important role to play in the delicate dance between policy and practice. The resulting partner-

ships in brownfields redevelopment is an ongoing success story. Since the mid 1990s, six of the eight Great Lakes states have established some form of interagency or multi-stakeholder task force or group to bring multiple interests together and coordinate resources for brownfields cleanup and redevelopment (see Table 6). Some are ongoing, while others existed temporarily to help institutions develop a more coordinated approach to brownfields redevelopment.

Brownfields partnerships are changing to involve more and increasingly diverse and specialized stakeholders. Increasingly the notion of a partnership approach to brownfields redevelopment involves the use of a third party to spread financial and legal risks. Such intermediaries can acquire property, assume some or all of the liability in order to do a brownfield cleanup and get the project construction started. For example, by integrating cleanup into the construction costs some intermediaries can significantly reduce overall costs of the redevelopment project. When the cleanup is complete, the property can more easily be sold to an entity that has a longer term interest in managing the property. Real estate investment trusts specializing in brownfields portfolios, environmental trusts, limited liability corporations and local redevelopment authorities are examples of such

Table 10
Brownfields Partnerships

	IL	IN	MI	MN	NY	OH	ON	PA	QC	WI
State interagency	x									x
State/local	x		x					x		
Public/private	x					x		x		
State/Federal	x									
Federal/State/Local	x	x	x (area specific)							

Great Lakes Commission, 2000

Partnerships in Action: Pennsylvania Community Investment Organization

Efforts began in late 1999 to establish a community investment organization called Financial Resources for the Environment (FRE). The intent is to create a new multi-million dollar investment and lending intermediary to fund the restoration of brownfields and other impaired lands in Pennsylvania. The fund would leverage new private sector financing by using existing public sector sources. The state departments of Environmental Protection, Community and Economic Development and Banking are working with CEOs of a major utility and bank with support from the Federal Reserve Bank of Philadelphia and the Pheonix Land Recycling Co, a non-profit brownfields organization, to get the fund off the ground.

intermediaries. Other entities, such as community development corporations and other community-based organizations, non-profit brownfields organizations such as the Pennsylvania-based non-profit Phoenix Land Recycling and the Michigan-based Consumers Renaissance Development Corporation, land trusts, and even Great Lakes ports are playing such intermediary roles, stepping in and applying their expertise where needed to get brownfields cleaned up and redeveloped.

The next step for partnerships at the state and provincial level is to provide for greater coordination among other state programs that impact brownfields and greenfields.

Emerging public-private partnerships are also realizing mutual benefits in addressing the bigger picture of urban growth. Partnerships between local officials and business leaders or chambers of commerce are a positive approach to building on each sector's strengths in pursuing common goals. For example, local and state government agencies have partnered with the Greater Cleveland Growth Association, a Chamber of Commerce program, to form Build Up Greater Cleveland (BUGC)—a partnership dedicated to pooling resources and coordinating priorities with respect to redevelopment projects, infrastructure investments and other growth-related issues affecting Greater Cleveland.

Redevelopment in the Suburbs

Unlike central cities, older suburbs are just beginning to receive attention with respect to brownfields. Older suburbs have different challenges than central cities. They often lack the basic components of urban places that make them desirable places to live and work. Even in a state of serious decline, central cities can still lay claim to a well-developed street grid that is used for more than moving cars—public spaces, historic architecture, and mixed uses that provide the fundamentals of urban livability. More and more, older suburbs are experiencing the same problems as the inner cities. No longer confined even to the “inner ring” suburbs, signs of abandonment and decay are showing in the third- and even fourth-ring suburbs.

Facilitating redevelopment in older suburbs will require different strategies that can empower older suburbs to coalesce and otherwise leverage resources for redevelopment. Around Cleveland, a group of eighteen older suburban communities known as the First Suburbs Consortium are pooling their collective political clout to explore tax-sharing opportunities and advocate policy changes in the state legislature to address their collective aging housing stock and infrastructure needs, and stop sprawl. The consortium is a model of regional cooperation for other aging suburbs around the Great Lakes.

To date, the majority of such partnerships are focused on urban economic development and revitalization or protection of ecologically valuable areas that are generally not at risk from development, such as corporate land donations to non-profits for land preserves. The metropolitan fringe areas—those greenfields most at risk—have not yet received much attention from such creative public-private partnerships. Business leaders and government officials would do well to seriously examine their common interests in preserving greenfields and the attendant social and economic benefits associated with protected natural resources, agricultural lands and recreation areas.

Businesses also have a critical role in greenfields preservation when it comes to building or relocating facilities. Though a few examples exist of companies revitalizing old buildings and staying in urban centers, most new corporate development projects still occur in greenfields. Under current land use planning and regulatory schemes, these large investments are a virtual guarantee that sprawling development will follow. Public-private partnerships can promote alternatives. When companies are considering expanding, relocating or rehabilitating their facilities, they should assess their needs and communicate them clearly to local officials. Local officials should also examine the costs (i.e., losses) of losing or moving such businesses and work with business representatives to come up with creative solutions. This type of dialogue occurred between the City of Toledo and the DaimlerChrysler Corporation and enabled the city to retain an economically significant Jeep plant instead of passively watching the company relocate to greener pastures. (See case study on p. 52.)

Case Study: A Development Dilemma—Where Should Large Projects Go?

Development happens. An idea crystallizes into a plan which then is usually subject to a regulatory approvals process. Finally construction is completed and the landscape is changed. Large subdivision projects, manufacturing and transportation facilities and large retail stores are all examples of development projects that can have a disproportionate effect on promoting urban sprawl. Footloose or isolated developments where location and size may require extensive infrastructure connection, can also accelerate sprawl. Leapfrog development, which describes a noncontiguous, patchwork pattern of development, looms as a particular threat to urban areas wrestling with rapid low density growth. Selected development projects and proposals from the area of Southeast Michigan and Northwest Ohio can serve to illustrate these development forces and the land-use consequences.

This area at the western end of Lake Erie has two main metropolitan anchors, Detroit, Michigan and Toledo, Ohio. Both cities were built on a foundation of manufacturing and freight services. Over time, the automobile, glass and machinery sectors became prominent. These places are like many other industrial cities in North America subject to forces of economic restructuring and residential mobility. The lure of suburban living captured many. It accelerated in earnest at mid 20th-century and it continues. The automobile-driven migration and its daily counterpart, the journey to work, will have a lasting impact on cities. New nodes of employment and commercial activity have arisen in suburban locales especially where major highways intersect, or provide access. These “edge cities” have had the effect of propelling sprawl outward into the ever expanding periphery.



Newmarket—A Planned Community

The neotraditional design objectives guiding New Urbanism emanate from the village model. Washtenaw County in southeastern Michigan may be the site of Michigan's first New Urbanism community, Newmarket. New Urbanism has become fashionable in some urban design and community planning circles. Scale is variable for the New Urbanists, so everything from a city block to a new town can be considered. Although the basic structure is evident throughout the developing world, such places may be able to reestablish themselves in modern America. The emphasis on architectural quality and design that drives New Urbanism is a welcome relief from the status quo where such matters are not accorded priority attention. With the human scale, architectural variety and “unique place status,” New Urbanism residents can relish a perceived sense of community. These future communities may also point to their more compact footprints and sensible subduing of the car as benefitting the natural world. New Urbanist communities can incorporate conservation subdivision design principles thereby maximizing open space for a given area. These places will inevitably be part of the sprawl problem but will combat it too, by diverting people from the conventional subdivision option.

Newmarket may be built just south of Ann Arbor on 530 acres of open space. The plan calls for 1,143 housing units plus commercial space and public buildings. Approximately 200 acres would be reserved for open space and wetlands. A group of residents have signaled their intent to stop it. Enough signatures have been collected to force a referendum vote; the issue will likely be put on the ballot for the next general election. Issues regarding traffic, wetlands impacts and public infrastructure costs, including school capacity and impact on nearby agricultural land uses, have generated concern. The developer prepared carefully by instituting a long and elaborate process that included large public meetings and even a design charrette where national New Urbanism experts assisted in the design process. Proponents have argued that the township, which has been growing rapidly in housing units, commercial space and population (1997 - 25,287; 2000 - 29,072), would ultimately regard Newmarket as a well-designed and planned alternative to the standard subdivisions and their aura of inevitability.

Sporting Goods Complex

Cabela's bills itself as the “Worlds Foremost Outdoor Store.” In one way the commercial pitch has literal meaning in that many acres of open space were purchased for the 225,000 square foot store. A lake is being created on the property adjacent to the building where boats and other marine equipment can be displayed and even used. Cabela's officials selected a site for their seventh, newest and largest store location about midway between Toledo and Ann Arbor at Dundee, Michigan. The store is next to Highway 23, a major four-lane divided route and opened in summer 2000. The store expects more than 6 million visitors during the first year, making it the largest attraction in the state.

This giant retail store has mall-like characteristics. It is dependent on customers who drive and provides 1800 parking spaces. The place has a large restaurant and other in-store amenities like a library and 65,000-gallon aquarium stocked with native fish. The number of employees (600-700) makes the place the largest employer in the small community. This fact has probably reduced some longer distance commuting for nearby residents. Cabela's is mostly a catalogue operation, distributing 65 million each year, and for this reason it will not likely follow on the heels of the well-known “big box” retailers who grow facilities as though they are fruit on a tree. The company located the store near the town, which reduces its sprawl-inducing potential, but with all the adjacent property purchased and now for sale it is likely the store complex will be surrounded by more development where prime farmland once was.

Northwest Ohio and Industrial Facilities

Northwest Ohio has its share of industrial facilities but is also a very productive agricultural area. The fertile and flat fields, suitable temperatures, and rainfall have made the land ideal for most crops, particularly tomatoes. Large tomato and vegetable processing plants are present. The small towns may have a main employer (often related to farming or food manufacturing) and most of the facilities are close to or in developed sections. In Toledo, a main employer is DaimlerChrysler with its Jeep plants and around 4,900 employees. In 1997 the car company decided to build a new plant in the city to replace the oldest auto assembly plant in the U.S. after indicating it was considering other locations within a fifty-mile radius. This location decision was spurred by encouraging both Ohio and Michigan in a bidding war for new plant incentives. The decision to stay in the City of Toledo was cheered by many, including those who recognized that brownfields would be cleaned up to make room for the plant. The company's second-newest Jeep plant was built in Detroit, close to another facility thus providing a precedent for finding a way to make large facilities work within a city.

In the 1990's public officials and business executives in Northwest Ohio became aware of a plan to build a steel mill in the region. Cargill, through its North Star subsidiary and BHP Steel of Australia, proposed a 1.5 million ton annual production minimill which uses scrap as its main input and an electric furnace to create flat-rolled steel. Several places were considered but a 640-acre section of prime farmland about 35 miles west of Toledo was decided on. The facility needed lots of water and the original intent to tap the Maumee River was shelved in lieu of better quality water by pipe from Toledo. The Delta, Ohio site was a farming community but now, with development edging westward from the Toledo metro area coupled with farmland sales and new building in the vicinity of the mill, the place will be transformed for many years to come. Rail access was important to site selection but a decision by Ohio state government to build a turnpike interchange near the plant was crucial. Also important were millions in tax abatements and low interest loans. The Toledo Lucas County Port Authority tried in vain to lure the minimill to a Maumee riverfront site which it has helped clean up. The site was once an oil refinery. The site will likely gain a new industrial facility when the right match is found.

Intermodal Railyard

General Motors Corporation and Ann Arbor Railroad Properties have proposed an auto distribution center about 15 miles south of Ann Arbor. This project, which may require up to 1,000 acres of mostly cultivated farmland, would entail hundreds of trucks daily delivering vehicles for rail transshipment. As originally proposed, asphalt pavement would store upwards of 45,000 cars. This area would be surrounded by several hundred acres of buffer land, bermed and landscaped. Rezoning carried on a 3-2 vote by the Milan Township Board in late 1999. A special use permit would indicate 62 conditions. Township supporters noted the project would pay an annual impact fee starting at \$100,000 and rising to \$160,000 as well as provide 200 full-time jobs. However, in a Township referendum in February 2000 the project was voted down. Since then, the developers have proposed scaling back the project in terms of the number of vehicles stored and size of the pavement area. Overall, the project has divided area residents with a classic weighing of the pros and cons.

These examples of development all reveal similar issues with size and location of a project. Actual project size for major projects, such as the square mile needed for the minimill, do have a significant effect on farmland or open space. Large space needs generally require looking at undeveloped land. As can be seen from these examples, site requirements can be adjusted to accommodate concerns. What is also apparent is that larger-than-needed land purchases and the inevitable real estate speculation can also occur, thus aggravating the land loss situation and spurring development. Siting may be the most important issue, with which developers have the greatest degree of control. Careful attention to location can minimize land use impacts, particularly with respect to related future development.

G. Transfer of Development Rights

Transfer of development rights (TDR) programs allow landowners to transfer the right to develop one parcel of land to a different parcel of land. TDR programs can protect greenfields by shifting development from agricultural and open space areas to areas planned for growth. When the development rights are transferred from a piece of property, that property becomes restricted with a permanent agricultural conservation easement, much like PDR. However, with TDR, instead of the rights being purchased by a public or non-profit entity and not used, the development rights are purchased by another landowner and are used to build at a higher density than ordinarily permitted by the base zoning.

Generally established through local zoning ordinances, TDR is used by counties, cities, towns and townships. Some states have passed specific legislation authorizing local governments to establish TDR programs, but many TDR programs are established by local governments without such legislation. Without specific state legislation authorizing TDR, municipal governments must work with their attorneys to determine whether other provisions of state law allow them to use TDR.

TDR programs have three basic elements: the sending district, the receiving district, and TDR credits. Sending and receiving districts are established by the governmental entity that establishes the TDR program: sending districts are priority areas for protection while receiving districts are priority areas for growth and development. The TDR credits represent the development rights which are sold by the landowner in the sending district and purchased by the landowner in the receiving district.

Among TDR programs, there are four variations: **voluntary**, **mandatory**, **single zone** and **dual zone**. With voluntary TDR, landowners have the choice of developing their land under existing zoning rules or selling some or all of their development rights. Sending areas are not otherwise restricted from development. Voluntary TDR provides an option for landowners to conserve land and in practice mirrors more of a cluster zoning/development approach. Mandatory TDR still does not require landowners to sell their development rights, but development is limited in the sending areas through downzoning. In mandatory TDR, sending areas are typically downzoned to low-density farm (e.g., APZ) or conservation uses and development rights are sold as a way to receive compensation for the lost land value due to down zoning. Single zone TDR means that a single zone serves as both the sending and receiving area, while dual zone TDR involves separate zones that are distinct sending and receiving areas.

According to the American Farmland Trust, the dearth of fully-implemented TDR programs makes it hard to determine whether voluntary or mandatory programs are more effective in practice. However, mandatory dual zone TDRs seem to be a potentially more powerful tool for protecting greenfields due to the designation of specific protected (i.e., sending) areas, which allows for a systematic approach to land protection and development. For example, the dual zone mandatory program in Montgomery County, Maryland is widely acknowledged as the most successful TDR program in the country. In place since 1982,

TDR offers:

- Permanent protection of greenfields;
- Voluntary approach— landowners are never required to sell their development rights;
- Landowners in sending areas get full market value for their land without developing it;
- A private, market-driven technique; and
- The possibility to simultaneously achieve complementary community development goals, including compact urban development in already-served areas and protection of outlying farmland and open space lands.

Montgomery County’s TDR program has protected more than 38,000 acres of farmland. A combination of factors contribute to Montgomery County’s success. The program exists at the county level and therefore covers more land area than say, a township. It is a mandatory, dual zone TDR program and is supported by a TDR bank. Development rights in sending areas were allocated based on the zoning ordinance in effect prior to the establishment of the TDR program, so the downzoning that occurred with the TDR did not affect the development rights associated with the land. This worked by downzoning from one *building right* per five acres to one *building right* per 25 acres, but giving landowners in the sending area one *transferable right* for every five acres owned. Thus, although the program decreased the ability to develop the land, the potential for lost equity (and court battles) due to TDR was minimized. Last, but not least, an extensive public outreach campaign was undertaken to educate residents about the program and its benefits.

Like PDR/PACE programs, TDR can prevent development of agricultural and other valued open space areas and provide the owners of those lands with liquid capital that can be used to enhance farm or open space viability. However, with TDR the capital comes from private, not public, sources and the sale and purchase of the development rights is essentially a private market transaction. Local governments do, however, approve transactions and monitor easements. Some jurisdictions have created “TDR banks” that buy development rights with public funds and sell them to developers and other private landowners. Manheim Township in Pennsylvania, the New Jersey Pinelands Commission and Montgomery County in Maryland have TDR banks. Public TDR banks help maintain minimum prices for TDR credits, provide a buyer when the market is slow and keep the TDR market competitive. TDR banks also have the potential to help facilitate the transfer of development credits between jurisdictions. This could be potentially useful in a metropolitan urban fringe context where potential receiving and sending areas are in separate jurisdictions. This might be the case, for example, where one jurisdiction is already urbanized and the other wants to remain rural.

Pennsylvania (1988) and New York (1989) are among the several states in the U.S. that have specific legislation authorizing the creation of TDR programs. However, there are no TDR programs in the Great Lakes basin portions of either of those states, nor have any other local jurisdictions in the Great Lakes basin established TDRs. Outside the Great Lakes basin, but within the states of New York, Pennsylvania and Minnesota, more than a dozen jurisdictions have established TDRs, though none of these are mandatory. (See Table 11 below.)

Efforts to evaluate TDR to date indicate that, with the exception of Montgomery County, Maryland, few TDR programs have been successful in protecting substantial amounts of farmland. As of 1997, for example, TDR had protected fewer than 500 acres of farmland in the entire state of Pennsylvania.

TDR programs are technically complex and must be carefully designed to achieve their goals. They require significant investment of staff time and resources to implement—something most local governments do not have. Observers note that due to its complexity, TDR generally requires an extensive public education campaign to obtain the necessary local

Table 11: Jurisdictions in Great Lakes States with TDR programs

Pennsylvania	New York	Minnesota
Bucks County (2 townships)	Perinton	Blue Earth County
York County (6 townships)	Central Pine Barrens (L.I.) (3 townships)	
Chester County (3 townships)	Southampton	
Berks County (1 township)		

Source: American Farmland Trust, 1997

political support. Residents located in proposed receiving areas may oppose having the density of development in their area increase. At the same time, landowners in sending areas need to be convinced of the marketability of their development rights. To this end, the success of TDRs also depends on a healthy market for TDR

Communities that have been most successful in using TDR are characterized by steady growth, the political will to maintain and implement strong zoning ordinances, and adequately funded and staffed planning departments that have the time, knowledge and resources to administer complex land use regulations.

credits so that sellers are more likely to receive a fair price, further encouraging holders of credits to participate in the program. This is particularly important in mandatory programs so that the loss in property values associated with downzoning is not challenged as a property “takings.” It is for this reason that TDR is more appealing than APZ because landowners can retain their equity by selling development rights.

Despite its inherent complexities, TDR has unique potential as a tool for promoting greenfields protection as well as urban redevelopment within the Great Lakes basin. TDR effectively forces communities to plan simultaneously for land development and land protection. If the development effort is applied to encouraging urban redevelopment or development in already serviced areas and the protection effort is applied to greenfields at the urban fringe, then TDR can address some of the most pressing issues at the center of urban sprawl.

Enactment of specific state legislation authorizing the establishment of local TDR programs is an important first step. Without specific legislation at the state level, local governments are left in a legal limbo regarding the legitimacy of TDR and will continue to have to go to extraordinary lengths to establish and potentially defend their TDR programs. If designed properly, such legislation could also provide incentives for local governments to cooperate in establishment of TDR programs by establishing a TDR credit bank at the state level or authorizing the creation of such a bank at the local or regional level. A state or regional TDR credit bank would be particularly helpful where the areas of desired protection and the areas of desired development exist in different jurisdictions. State legislation enabling TDR will provide the legal basis for local governments to proactively exercise their land use authority in controlling the destiny of their own communities. The provision of technical and financial assistance for land use planning at the local level that includes technical support for TDR programs is another area where state leadership is needed.

At the local level, careful designation of sending and receiving areas is key to establishing TDR programs as a tool for urban revitalization and greenfields preservation. Some local governments will need to coordinate with other localities and look beyond their individual geographic boundaries to regional land use trends to determine the most appropriate places for sending and receiving development rights.

Marketable development rights represents another spin on TDR. The idea behind marketable development rights is the establishment of a tradable permits program approach, much like the federal Clean Air Act program that allocates pollution credits/permits to businesses for trade or sale so long as overall pollution thresholds are not exceeded. In the same manner, under marketable development rights, local jurisdictions would decide how much of the remaining undeveloped land will be developed (i.e., the threshold), without specifying the location of that development. In this sense, marketable development rights is similar to voluntary TDR. However, the development limit or threshold would be applied to the entire jurisdiction, not a specific zone, and all landowners would be allocated a number of development rights (i.e., development credits) that correspond to the developable land they own. In concept, each landowner would be free to do what they want with their rights: sell them, use them to develop their land, purchase additional rights to develop more of their land, or hold them for future use or sale. The notion of marketable development rights

is being examined by researchers at Michigan's Grand Valley State University for potential application in western Michigan, but no actual marketable development rights programs exists to date. The obvious upshot to this approach is the theoretically clean internalization of land values that are typically treated as externalities. The downsides are that pollution limits are probably much easier to establish than development limits and decisions about which land is to be developed or protected are based purely on market transactions. Without some intervention into the market (e.g., zoning) to complement this approach, the result will likely be more patchwork development and protection.

H. Comprehensive Farmland Protection

As described earlier, all of the Great Lakes states have a variety of farmland protection policies. They range from relatively low-level protection, such as right to farm laws, to permanent, long-term protection such as purchase of agricultural conservation easements. Though some are admittedly more protective than others, no single farmland protection policy or tool alone can ensure adequate protection of farmland or local farming economies. Research to date indicates that the most effective approach to protecting prime farmland and ensuring viable local farm economies is a comprehensive farmland protection program that addresses four critical issues: tax relief for farmers, disincentives for farmland speculation/conversion, funding for farmland preservation and public education about the attributes of farmland and the need to protect it as a valuable natural resource. Several tools and techniques seem to be particularly worthwhile in addressing the first three elements.

Use-value or differential assessment with a meaningful recapture (penalty) addresses two of these elements by supporting farmers who are committed to agriculture and discouraging farmland speculation.

State-authorized voluntary agricultural districts and restrictive agreements are other promising tools to discourage farmland land speculation and protect farmland and local farm economies. These programs encourage the preservation of larger blocks of contiguous farmland. When associated with tax relief and other incentives/protections for farmers, agricultural districts can go a long way toward ensuring the critical mass of farmland necessary to support local agricultural economies. Finally, sufficient and secure sources of state funding are essential to support farmland preservation over the long term (i.e., PDR/PACE). Among those states that have PDR programs, a variety of approaches are used as described in section IV-C-e of this report.

Michigan, New York and Pennsylvania are Great Lakes states that have tax relief for farmers, disincentives for farmland speculation/conversion, and state funding for farmland preservation as part of their statewide farmland protection policies. While Pennsylvania and New York have value assessment to provide tax relief, Michigan has employed a circuit-breaker approach. Disincentives for speculation in Michigan occur primarily through temporary restrictive covenants, most of which are up for termination by the year 2004.

In New York and Pennsylvania, disincentives for speculation/conversion are embedded in conversion fees that are part of the state's deferred taxation (use-value) policies. New York's fees are equal to five times the taxes saved in the last year during which the land was receiving use-value assessment, plus six percent interest compounded yearly for each year the assessment was granted (up to five years). In Pennsylvania, fees are based on unpaid back taxes at the "highest and best use" (taxes that would have been owed had the land not been assessed at use-value) up to seven years, plus 6 percent interest. Perhaps the most important deterrent to speculation in Pennsylvania comes from a relatively well-established PDR program linked with agricultural districting. In addition, Pennsylvania's governor launched new initiatives in 1999 for greenfields protection as part of a statewide strategy for improving land use planning, development and protection. In contrast, PDR

Case Study: Chicago Collar Counties Address Growth Pressures

Kane County, IL

Findings from research conducted by the Chicago Openlands Project indicate that Kane and Will Counties, located to the west and south of Chicago (Cook County) are experiencing the greatest development pressures among Chicago collar counties. Kane County has experienced a population increase of about 14 percent growth from 1980 to 1990, jumping to nearly 20 percent between 1990 and 1997 according to the U.S. Census Bureau. Though estimates show this rate slowed in the late 1990s, Kane county is expected to experience population growth in excess of 50 percent over the next two decades (2000-2020) and employment increases of the same magnitude. The county's rapid population growth means that farmland and open space is subject to development pressures and resultant sprawl. This is evidenced by the conversion of 15 percent of the county's agricultural land to other uses between 1982 and 1992. Paradoxically, the amount of farmland in Kane County increased slightly between 1992 and 1997, from about 203,000 acres to approximately 209,000 acres. However, this increase is represented in the form of fewer and larger farms—the number of actual farms decreased by 12 percent and farm size increased 11 percent—which reflects a trend in the loss of smaller, farmer-owned farms as more farmland is concentrated under ownership by corporations, banks and developers.



To address the existing development pressures and anticipated future growth, in 1996 Kane County adopted the 2020 Land Resources Management Plan. The plan, which has won awards from the American Planning Association, directs most development to the eastern, most urbanized portion of the county. It establishes a central growth corridor and manages growth within that corridor by allowing densities based on watershed carrying capacities. The western half of the county, which represents about 50 percent of the county land base, remains designated for agriculture. Success in implementing the plan since its adoption has been mixed. Because the county only has land use jurisdiction over unincorporated areas, effective implementation of the plan depends on incorporated local governments (towns, cities, etc.) developing plans that are consistent with the county plan. Local land use resource management pacts—enforceable contractual agreements between local governments—are a key tool to achieve this goal. Existing state law gives local governments the authority to enter into such pacts to coordinate land use and land management. However, there are no additional incentives at the state level and the pursuit of such agreements is entirely dependent on the desire of the local governments to work together. The county is pursuing adoption of a PDR ordinance to complement the 2020 Land Resources Management Plan and further support permanent protection of agricultural lands in the county.

Will County

Will county has also experienced an explosive population increase. From 1980-1990 the county grew by 10 percent, but during the 1990-1997 period, the increase jumped to 24 percent. During the 1990-1997 period the county also lost nearly 10 percent of its farmland. Based on the 1997 agricultural census, just over 50 percent of the county remained in agriculture. However, a proposed new airport and the extension of an interstate highway lead experts to forecast a population increase of between 200 and 230 percent while employment expected to increase drastically as well. Forecasts developed by the Northeastern Illinois Planning Commission indicate that Will County will experience the greatest population growth of all Chicago collar counties in actual numbers as well as percentages. Forecasts developed by the Chicago Openlands Project indicate that Will County can expect to lose more than 50 percent of its agricultural and open space lands between 1998 and 2028.

Unlike Kane County, Will County has not yet devised an on-the-ground strategy for addressing these tremendous urbanization pressures. However, other political dynamics have emerged to support an approach to both revitalize existing urban areas and protect greenfields. In 1995, Chicago metropolitan civic groups concerned with inner-city neighborhood development and those working for farmland protection in outlying areas formed a coalition, making the proposed airport in rural Will County the focus of their initial efforts. This linkage of brownfields activism and greenfields activism provides the type of broad-based grassroots support that is needed to provide a political support base for addressing regional urbanization issues.

Lake County

Lake County, to the north of Chicago, experienced a 17 percent increase in population between 1980 and 1990 and a 15 percent increase between 1990 and 1997. Though forecasts indicate this rate will slow somewhat in the next decades, Lake County's population pressures are nonetheless very real. Lake County is much more urbanized than either Kane or Will counties, with that portion of Lake County that is in the Great Lakes basin being about 90 percent developed. Some large tracts of open space do remain in the north central and west central portions of the county. Lake County is pursuing several aggressive strategies to protect remaining open space and encourage higher density development in already-built areas. In 1998 the county passed a \$40 million bond referendum to purchase remaining open space, focusing on ecologically sensitive areas and the development of a greenway along the Des Plaines River. The county also has adopted complementary ordinances that make development along wetlands and water bodies more restrictive and expensive, and encourage clustering of new developments. On the urban side, a proposed ordinance would promote urban infill and redevelopment by allowing densities to increase sixfold in areas within a one-mile radius of established transit stations and employment centers. This innovative local regulation would also require 25 percent of new residential development in these areas to be "affordable" housing.

programs in Michigan and New York are considerably underfunded and would need a significant funding boost to enjoy the type of success that Pennsylvania has experienced.

The amount and reliability of funding for farmland protection is also an important factor (see box). It is not enough to have tax relief, disincentives for conversion and funding for preservation. These policies must have political support and an institutional structure to ensure their effective administration. The importance of farmland protection education for building constituent support for leadership at the state level also cannot be underestimated. Gubernatorial leadership on greenfields protection has been a common factor in states like Maryland and Pennsylvania, which rank among the most advanced in the country in promoting effective farmland and overall greenfields preservation.

Funding for Farmland Preservation: A Tale of Two States

Michigan uses a combination of monies recaptured by farmers who terminate their temporary restrictive covenants and from the federal farmland protection program. However, statewide property tax reform in 1994 has resulted in fewer farmers participating in the circuit breaker program and approximately 60 percent of existing temporary restrictive covenants will be eligible for termination by 2004. Though Michigan does have a statewide PDR program, dwindling state funding means that demand continues to seriously outpace supply, which bodes poorly for farmland preservation in this central Great Lakes state.

Pennsylvania jump-started its PDR/PACE program with funding from a state bond in 1989. When the bond monies expired, the legislature passed a 2-cent-per-pack cigarette tax, which provides a relatively predictable source of funding farmland protection that generates about \$21 million a year. Though some critics state that Pennsylvania's approach still relies on a potentially fickle legislative process (tax monies must be appropriated annually), the program has preserved more than 166,000 acres since its inception.

An important policy consideration is the extent to which farmland protection programs actually protect commercial farming versus other types of open space (e.g., hobby farms, estates, ranchettes). If the goal is to curb urban sprawl by protecting certain lands for development, then it matters less whether the land remains in agriculture or in other forms of open space. However, the primary aim of most farmland protection programs is to protect the land and the agricultural economy that depends on that land. States and localities must consider what they are really trying to protect and employ a specific variety of tools to achieve that objective. If it is commercial agriculture, it is imperative to preserve large blocks of contiguous land and the necessary infrastructure to support a viable local farming economy. If it is rural town landscapes, other tools will need to be employed accordingly.

The protection of open spaces in metropolitan fringe areas as transitions between urbanized areas and more remote rural towns and commercial farmland requires yet another set of specifically designed and implemented land protection and development techniques.

I. Brownfields, Greenfields and Planning

The ability of local governments to identify and prioritize brownfields sites is an important first step towards revitalization. State assistance can facilitate an efficient and coordinated approach to local brownfields cleanup and redevelopment efforts by providing funding for local brownfields inventories. Because many brownfields are not part of any existing data base, development of a brownfields "inventory" can be challenging. Parcels must be identified and the extent of contamination and ownership status must be determined. Systematic inventories coupled with site assessments can facilitate decisions about the necessary level of cleanup and/or rehabilitation and potential reuse options, which can provide the basis for neighborhood redevelopment strategies. Mapping inventory results can be a powerful tool for identifying priority redevelopment areas and for integrating brownfields redevelopment into other planning efforts.

Support for brownfields inventories among Great Lakes states is uneven. While some argue that such inventories stigmatize properties and neighborhoods, others recognize their contribution to planning and urban revitalization. Inventories appear to facilitate brownfields redevelopment best where they can be linked with revitalization plans and/or specific redevelopment proposals and can be used to assist in prioritizing redevelopment needs and developing strategies to effectively market properties to meet those needs.

Integration of brownfields inventory information into a local or regional planning framework will ensure that the brownfields inventory becomes a practical tool for future land use and development. With this information, community leaders can proactively decide whether and which facilities should be conserved for rehabilitation/reuse or demolished and prepared for redevelopment to meet the goals and objectives of the community. Master plans may need to be updated based on the findings of inventories to ensure they are maximizing appropriate redevelopment opportunities.

State efforts to wed cleanup and economic development programs have been an important and positive step toward a more comprehensive approach to brownfields redevelopment. However, Great Lakes jurisdictions fall short when it comes to integrating brownfields redevelopment into a more comprehensive approach to land use planning and development. Weak or nonexistent statewide land use planning frameworks in the Great Lakes is a major cause.

Land use planning in the Great Lakes basin occurs at the local level. All of the Great Lakes states have planning and zoning laws that authorize local governments to plan and zone for land use. Local comprehensive plans are meant to map out a community's vision for where growth is desirable and where lands will be protected, but none of the Great Lakes states actually require local governments to plan. Where comprehensive plans do exist, many plans are vastly outdated or inadequate. All of the Great Lakes states are "home rule" states, which means that land use planning happens at the smallest level of government (i.e., cities, villages and townships). What's more, multiple layers of government and taxing/spending authorities (i.e., special districts) result in piecemeal and redundant land use decisions. This results in a highly fragmented system of land use planning, whereby thousands of local units of government, most with minimal budgets and staff support, are competing for tax dollars to support their communities or interests. And local zoning ordinances are not always consistent with the comprehensive plans. Though the U.S. Supreme Court and state courts have upheld that zoning must be consistent with a comprehensive plan, in the Great Lakes region only the states of New York, Pennsylvania, Minnesota (and, effective

Brownfields Inventories: Two Examples

Illinois' Brownfields Redevelopment Grant Program offers assistance to municipalities to identify, characterize and inventory former industrial property where such activities support specific redevelopment plans or strategies, but discourage municipal efforts to undertake wholesale inventories that are not supported by specific redevelopment plans or strategies. The rationale for this approach is that there are simply far more sites than there is demand for redevelopment. The grants also support site assessments to determine whether a brownfield site is contaminated, and if so, to what extent, and the development of a corrective action plan for the site. Established in mid-1998, the program provides for \$6 million over a four-year period. The grants are worth a maximum of \$120,000 each.

In mid-1999, Pennsylvania initiated a grant program for local governments to establish brownfields inventories. Called BIG—brownfields inventory grants—these grants provide resources at the local level where it is easiest to get information about brownfield properties. BIGs provide \$50,000 to municipalities and economic development agencies to inventory their brownfields. If these properties are available for redevelopment, the grantee will gather information about the property and post it on the web in the statewide Pennsylvania Brownfields Directory. The first round of BIG grants awarded \$1.5 million to 32 communities across the state.

January 2010, Wisconsin) have laws that require zoning to be consistent with a local comprehensive plan. The end result is a U.S. planning system primarily based on a set of zoning rules. In Ontario, municipalities are required to develop official plans, which lay out strategies for long-term growth. Secondary plans, zoning, and public works plans must be consistent with the official plan. However, official plans need not be consistent with policies developed under the Provincial Planning Act, which commits the province, among other things, to protecting agricultural lands and other natural resources.

Zoning ordinances separate land uses into different areas and describe where and what type of development (i.e., commercial, residential, industrial) can take place. However, they do not consider the “how” and “when” issues—issues of how new developments will impact the overall community, when they should occur based on the communities’ priorities for growth and the ability to finance necessary public infrastructure and services, particularly over the long term. In short, they do not plan. Zoning ordinances that favor low-density development, strict building codes and extensive permit requirements can make redeveloping a central urban site unfeasible or create more bureaucratic hurdles than developers care to jump (or can afford). If brownfields redevelopment was driven more by planning than zoning, communities could consider the net benefit to the community and the region from redevelopment over the possible need to strictly adhere to zoning rules and building codes.

The increased allowance of “mixed use” zoning for redevelopment projects reflects that local governments are beginning to respond to the need for greater flexibility with redevelopment projects. Research conducted by the Council for Urban Economic Development in 1999 and 2000 showed that of 150 brownfields projects identified, nearly half were redeveloped for mixed use. However, greater incentives are needed for local governments to be promoters of and not obstacles to brownfields redevelopment. An ideal local brownfields program would recognize the inherent advantages of urban redevelopment over new development in outlying greenfields; it would offer a simplified process for project review and approval, including reasonable and predictable time frames, flexible zoning and building codes to reward innovative design and use of the property or buildings (as long as cleanup standards are met), and experienced staff dedicated to redevelopment. It would be part of an overall urban revitalization strategy or plan that includes deliberate public investments in green and hard infrastructure that complement private investment in brownfields and weaves it into the urban fabric. Support from local government and business leaders is key to ensuring adequate funding and staff support for local brownfields/urban revitalization and related planning efforts.

While many Great Lakes cities are embarking on aggressive brownfields redevelopment programs without guidance or incentives from the state and provinces, Great Lakes cities and older suburbs must fend for themselves to come up with the political will and the financial resources to develop practical, comprehensive, financially feasible strategies for urban revitalization to make older urban areas competitive with outlying greenfields as places to live and work.

This is a daunting challenge for local governments, particularly when there are a plethora of state and federal laws and policies that encourage new development in outlying greenfields.

Farmland conversion, loss of natural habitat, degraded water quality and

The most effective and innovative state brownfields programs include voluntary cleanups, liability relief, remediation requirements, public participation and financial incentives. The newest strategy to getting to the next level of brownfields program performance is greater incorporation into state or regional growth and land use planning.

~ National Governors Association

Case Study: Great Lakes States Advance Planning/Smart Growth

“Smart Growth” is the popular term for policies that address planning, transportation, infrastructure and environmental protection issues, as well as institutional arrangements to integrate local growth policies across jurisdictions. The Great Lakes states of Minnesota, Pennsylvania and Wisconsin have taken important steps in this direction.

Minnesota

Minnesota’s Community Based Planning Act, passed in 1997, identifies 11 statewide planning goals and sets forth a framework to integrate sustainable development principles into local planning. The law stresses the need to plan for growth and provides financial and technical assistance for local planning. Minnesota Planning, a state agency, administers this assistance, primarily through review and comment on plans prepared by counties and joint planning districts, including the plans prepared by cities and towns that are incorporated into those plans.

Though planning in Minnesota is still voluntary, as it is in all Great Lakes states, once a plan is established the local governments must follow through on it. Future land use decisions and ordinances must be consistent with the plan. Also, plans must be coordinated among local and neighboring jurisdictions.

Minnesota’s smart growth activities complement the state’s planning efforts. Governor Ventura’s “Big Plan” launched in 1999 includes a smart growth element that aims to create “an environment in which farming and urban development can co-exist.” Minnesota Planning and the Twin Cities Metropolitan Council are the lead state agencies with support from nine additional state agencies. The framework for Minnesota’s smart growth initiative is set forth in *Growing Smart in Minnesota*, which establishes state smart growth goals, principles and strategies.

Specific policies and programs in place under the framework include:

- Smart growth criteria for evaluating capital bonding requests;
- A Smart Buildings Partnership aimed at effective building design, construction, maintenance and operations in state buildings;
- An urban development generic environmental impact statement to “examine the long-term effects of urban development” and recommend ways to improve urban development policy and practice;
- A 20- year State Development Strategy that includes recommendations for coordinated state infrastructure investments and local government decisions regarding the strategy and community-based planning goals;
- A guide for local planning; and
- Model ordinances for sustainable development.

Smart Growth Amendments to the Pennsylvania Municipalities Planning Code

- Authorizes counties and municipalities to create locally designated growth areas as part of their comprehensive land-use plans
- Encourages and enhances “Transferable Development Rights” as a tool to preserve open space and farmland, and to drive growth to areas where it is wanted
- Gives local governments greater ability to withstand legal challenges while effectively planning for growth in their communities, and
- Facilitates consistent planning at the local, county and regional levels while retaining local control.



Minnesota’s Planning Goals

- Broad citizen participation in the planning process
- Cooperation among neighboring communities
- Sustainable development — that is, economic development that ensures environmental and community well-being
- Conservation of natural resources and other state assets
- Community design that uses “livable community” principles
- Good, affordable housing for people at all stages of life
- Transportation that focuses on moving people and goods, not just automobiles
- Land use decisions that are based on a publicly supported plan
- Accounting for the full environmental, social and economic costs of new development
- Increased public awareness of the need to carefully plan for growth
- Improving life for all community members today while preserving the ability of future generations to do the same.

~1997 Community Based Planning Act

Pennsylvania

Pennsylvania’s “Growing Smarter” initiative was announced in February 2000. The state legislature spearheaded this initiative in their efforts to effectively amend the Pennsylvania Municipalities Planning Code of 1968 (MPC) to include anti sprawl measures. Their successful efforts were further enhanced by two land use documents prepared by the state’s Center for Local Government Services (the Center) and the Sound Land Use Advisory Committee. The Center sponsored 53 Sound Land Use Forums which were attended by 4,000 Pennsylvanians who contributed information by voicing their concerns about sound land use practices. The Growing Smarter Initiative involves a combination of strategies. Legislatively, Acts 67 and 68 amend the MPC to promote multi-municipal land use planning and consistency between comprehensive plans and zoning ordinances at the municipal and county levels of government.

In addition, Growing Smarter included \$3.6 million in local land-use planning assistance as part of the Governor's 2000-2001 budget. The state has also developed streamlined guidelines for local governments applying for state funding to develop multi-municipal comprehensive land-use plans. The guidelines spell out that the state's priorities to fund the development of plans that are done in cooperation with other jurisdictions and that meet the state's land use objectives. Finally, Growing Smarter has included a top-to-bottom interagency review of state government to determine how state funding programs support local land-use planning. The review, conducted by the state Interagency Land Use Team, identified more than 100 state programs that impact land use and calls for state agencies to:

- Lead by example and support sound land-use principles in their day-to-day operations, including the management or sale of state-owned property;
- Consider and strive for consistency with local plans and ordinances when implementing programs, giving regulatory approvals, issuing permits and disbursing state funds;
- Improve interagency coordination and communication on land-use issues;
- Identify projects that are likely to have a significant impact on land use, and refer those projects to the Center for planning assistance;
- Support public education initiatives of the Center with local municipal planning officials and developers, as well as the general public; and
- Promote the preservation of farmland, open space, greenways, natural areas and resources, and historic areas.

The combination of gubernatorial leadership, legislation to update antiquated laws, substantial funding and institutional support for local governments, and coordination among agencies at the state level indicates a serious attempt to combat the forces of sprawl and reclaim urban and protect rural communities.

Wisconsin

Wisconsin's smart growth initiative evolved out of recommendations from a 1996 report issued by the Wisconsin Interagency Land Use Council. First was the creation of the Wisconsin Land Council and the Wisconsin Office of Land Information Services in 1997 as part of the state budget. Smart growth policies in Wisconsin really took root in 1999 with passage of the 1999-2001 budget (Act 9), which included several statutory provisions and directives to promote local comprehensive planning and smart growth activities.

Wisconsin statutes now set forth a series of local comprehensive planning goals (see box at right) and encourage state agencies to design their policies and programs in accordance with those goals. The statutes also define comprehensive planning, spell out nine required elements of a comprehensive plan, and establish public participation and adoption procedures. Initial incentives for developing plans included \$3.5 million in grants to local governments. Beginning in 2010 the law requires all local zoning and subdivision ordinances, boundary changes, annexations, plat approvals, and other local land use measures to be consistent with the adopted local comprehensive plan.

Under the law, comprehensive plans must address housing and ways to broaden the range of housing choices; transportation with emphasis on transportation alternatives; utility and public infrastructure and service capacity and future needs; farmland and natural resource management and protection; economic development, with particular attention to brownfields redevelopment; intergovernmental cooperation; and land use, including current and future trends.

Wisconsin's Local Comprehensive Planning Goals

- Promotion of the redevelopment of lands with existing infrastructure and public services and the maintenance of existing residential, commercial and industrial structures
- Encouragement of neighborhood designs that support a range of transportation choices
- Protection of natural areas, including wetlands, wildlife habitats, lakes, woodlands, open spaces, and groundwater resources
- Protection of economically productive areas, including farmland and forests
- Encouragement of land uses, densities and regulations that promote efficient development patterns and relatively low municipal, state governmental and utility costs
- Preservation of cultural, historic and archaeological sites
- Encouragement of coordination and cooperation among nearby units of government
- Building of community identity by revitalizing main streets and enforcing design standards
- Providing an adequate supply of affordable housing for individuals of all income levels throughout each community
- Providing adequate infrastructure and public services and an adequate supply of developable land to meet existing and future market demand for residential, commercial and industrial uses
- Promoting the expansion or stabilization of the current economic base and the creation of a range of employment opportunities at the state, regional and local levels
- Balancing individual property rights with community interests and goals
- Planning and development of land uses that create or preserve varied and unique urban and rural communities
- Providing an integrated, efficient, and economical transportation system that affords mobility, convenience and safety and that meets the needs of all citizens, including transit-dependent and disabled citizens.

~ ss. 1.13 and 16.965, Wisconsin Statutes

The law directs the University of Wisconsin-Extension to develop model ordinances for traditional neighborhood development and conservation subdivisions. Once these ordinances have been reviewed and approved by both houses of the state legislature, municipalities with populations greater than 12,500 are required to adopt an ordinance similar to the model ordinance by 2002. Finally, the state budget established a proposal for a Smart Growth Dividend program, to commence in 2005, which will provide additional funding to jurisdictions that have developed comprehensive plans according to the state guidelines and adopted consistent zoning and subdivision ordinances.

Minnesota, Pennsylvania and Wisconsin have demonstrated leadership among Great Lakes states in the area of smart growth and comprehensive planning. Though their approaches differ somewhat, each identifies statewide land use planning goals, encourages local communities to develop plans according to those goals in cooperation with other localities, provides technical and financial assistance for local planning efforts and encourages state agencies to review their policies and programs to improve interagency coordination in accordance with state planning/smart growth goals or local plans that reflect state planning goals.

piecemeal or inadequate open space protection are land-use problems that extend beyond jurisdictional boundaries and require solutions at a regional or multijurisdictional level. They are influenced by decisions made by numerous local and state authorities about water and sewer supplies, transportation networks, and large development projects, among other things. The effect of each individual land use or land protection decision takes on a new dimension when its cumulative regional impacts are considered. Unfortunately, government powers are not matched to the scale of the problem—sprawl and its attendant problems are regional in scope but modes of governance are not. Although many metropolitan areas do have regional planning bodies (councils of governments or metropolitan planning organizations), these entities often have very limited authority for specific functions (transportation, sewers, etc.) or their authority is purely advisory and they are not accountable to voters. This mismatch between governance powers (and political constituencies) and the scale of land use problems results in land-use decisionmaking that is often cumbersome, duplicative and inefficient.

To ensure greater efficiencies and avoid duplication and conflicting policies in land-use planning, state leadership is imperative to advance greater dialogue and coordination within and among local governments, among state agencies, and between state and local governments. State agencies need to coordinate their policies to ensure that they are not conflicting with one another (e.g., the state Department of Transportation is charged with building highways while the state Department of Agriculture is charged with protecting farmland or the agricultural economy). Local governments need to coordinate their planning to account for the regional impacts of local land use decisions. And finally, communities that do take the time and effort to develop comprehensive plans should be respected when state or federal projects are proposed.]

Fortunately, there is growing recognition of the importance of integrating brownfields redevelopment and greenfields protection into the larger issues of urban revitalization and planning. The Great Lakes states of Minnesota, Pennsylvania and Wisconsin have begun to take steps toward providing a more comprehensive approach to growth and development by launching their own smart growth initiatives (see case study on pgs. 61 and 62.)

J. Revenue Sharing

The pressure or desire to increase the local tax base is a major reason why fringe communities are less discriminatory about new development projects and why greenfields are easily converted to strip malls and subdivisions. Local jurisdictions compete for new development projects to increase the local tax base, often offering a reduction in development fees or other incentives in order to win the project over. Greenfields conversion is seen as a small price to pay for the supposed revenue source(s) associated with new development. One way to reduce the pressure on fringe communities to compete with one another for new development projects is to establish a system of revenue sharing. This would result in the costs and benefits of new development and the associated infrastructure and services being shared more equitably over the affected geographic area. Regional tax base sharing, regional asset districts, regional compacts and joint economic development districts are approaches to pooling resources among several adjoining jurisdictions and sharing responsibilities for services, infrastructure and other economic development activities.

The Twin Cities Fiscal Disparities program is the best known U.S. example of regional tax base sharing. In place since 1975, the program serves seven counties, almost 200 municipalities and over 2.5 million people in the Twin Cities metropolitan area. The program is administered by the Metropolitan Council, a regional agency whose 17 gubernatorially-appointed members represent metropolitan agencies, local governments and

the state legislature. Under the program, the increase in commercial and industrial tax base is allocated between the “home” community (60 percent) and the “region” (40 percent). A formula based on property values and population is used to calculate the “regional share.” The program has reduced regional tax base disparities from 50:1 to about 12:1. Other examples of revenue sharing exist. The Pittsburgh Regional Asset District is authorized by the state general assembly and created by county commissioners. The district includes Allegheny County and 130 suburban cities who share the revenue from a countywide sales tax to support regional parks, libraries, the zoo in the city of Pittsburgh and to reduce property taxes. Ohio state law authorizes municipalities and townships to form joint economic development districts whereby taxes from development within the districts are shared among participating jurisdictions to cover the costs of public improvements in the areas targeted for development. The City of Dayton and Montgomery County where it is located, have joined to establish the first countywide voluntary economic development tax-sharing program in the country. The program is administered by a committee of public and private sector leaders and operates two funds: one is funded by sales tax and used to support agreed-upon economic development projects, and another is supported by property tax increases due to growth, and is distributed to non-growing jurisdictions.

Revenue-sharing systems could be taken one step further, wherein revenues redistributed to non-growing jurisdictions/communities could be used to protect farmland and/or preserve and maintain open space on the urban fringe. Pittsburgh’s regional asset district hints at such a structure, with part of its revenue going to support regional parks. A revenue sharing arrangement would go far to help deter urban sprawl if some funds were used to support strategic location of regional or metropolitan parks in a way that would limit urban growth or serve as buffers between urban and rural areas.

Case Study: Ohio's Conservation and Revitalization Fund—Linking Brownfields Revitalization and Greenfields Protection

On November 7 2000, Ohio voters approved a statewide Clean Ohio Fund. Also known as the Ohio Conservation and Revitalization Fund, it will invest \$400 million to address pressing environmental and economic development needs. Ohio is not the first Great Lakes state to pass a statewide initiative for environmental and economic purposes. In 1996, New York voters approved a \$1.75 billion Clean Air/Clean Water bond proposal. In 1999, Michigan voters passed a \$675 million bond proposal to improve parks, waters and urban areas. However, Ohio's fund differs from other state initiatives in its explicit recognition of the linkages between brownfields revitalization and greenfields protection.



Of the \$400 million for the Clean Ohio Fund, half will be available specifically for brownfield redevelopment and related urban revitalization. The other half will fund conservation programs, including farmland preservation, other greenfields preservation (e.g., river corridors, forests, wetlands), recreational trail development, and stream and watershed protection. These revitalization and conservation priorities were identified by four state agencies: the Ohio Department of Development, the Ohio Department of Agriculture, the Ohio Department of Natural Resources and the Ohio Environmental Protection Agency. The fund also has broad public support from a variety of local, non-governmental and private sector interests.

Passage of separate legislation by the Ohio General Assembly is needed to outline the details of how this funding will be further allocated, who will

The Clean Ohio Fund's investments in brownfield cleanup would also contribute to green space preservation. As urban sites are made available for new business and industrial development through these investments, Fund dollars would also be helping to reduce threats to Ohio's farmland and green space.

be eligible for funding and other programmatic details. A high priority is being placed on ensuring that decisions as to how and where funding is to be used will be made at the community level, based on local needs and priorities. It is envisioned that local governments and other public agencies and non-profit organizations will be eligible to apply for grants or low-interest loans, with local matching likely required for grants. This match could come from local

governments, the private sector or from non-profit organizations. Revenue will be generated through the sale of bonds, which will provide a permanent, dedicated funding mechanism for these efforts.

STRATEGIC ACTIONS

FOR BROWNFIELDS REDEVELOPMENT AND GREENFIELDS PROTECTION

These strategic actions are presented for consideration by public, private and non-profit leaders throughout the Great Lakes basin and region. They are not listed in order of priority. The project partners realize that not all strategic actions will be appropriate or necessary in all cases; certain strategic actions may be more timely or appropriate than others. However, the strategic actions are an excellent starting point for the review and development of policies, workplans and priorities in the interest of promoting more efficient and sustainable use of land—a vital and unrenewable resource.

A. Brownfields and Greenfields Linkages

State/Provincial Actions

1. Establish a special commission or task force to evaluate real estate tax policies as they pertain to greenfields protection and brownfields redevelopment/urban revitalization. Such an effort should include an assessment of the potential for:
 - a) a greenfields conversion tax;
 - b) a real estate transfer tax;
 - c) split taxation system whereby land (not buildings) is taxed in certain areas; and
 - d) regional tax sharing.

A conversion tax would apply to all farmland and open space that is converted to other uses (i.e., development). The tax dollars would be managed by a regional (multicounty) or state-sponsored land bank. Monies generated from the conversion tax would be distributed to local jurisdictions (cities, counties) to help finance urban revitalization efforts including, but not limited to, brownfields cleanup and redevelopment.

This type of conversion tax will allow multiple municipalities to collaborate, share responsibilities, focus on areas for urban development, and discourage development of greenfields. It will be particularly helpful to adjoining communities in which one is predominately urbanized and the other is predominately rural, and the communities desire to retain or strengthen these characteristics. The state of Maryland has a statewide agricultural land conversion tax that imposes a 5 percent tax on the sale price of farmland that will no longer be used as farmland and will no longer qualify for farmland property tax assessment.

Like a conversion tax, a real estate transfer tax can discourage land speculation. However, a real estate transfer tax differs from a conversion tax in that it would apply to all real estate transfers. As such, it would provide a potentially larger source of revenue which could be used for both urban redevelopment and greenfields protection efforts. Municipalities could increase the base tax for use within their jurisdictions. State funding for greenways in Pennsylvania is provided by a real estate transfer tax.

Experts have suggested that current taxation policies that tax buildings rather than land in urban areas discourages higher density development. It is suggested that taxing land rather than buildings would provide important incentives to develop each parcel of urban land to its fullest potential. Such experts note, however, that such a tax shift will only work if complementary policies protect surrounding greenfields and rural lands. To this end, property tax reduction (e.g., by taxing buildings, not land) and/or conservation tax incentives are necessary for outlying farmland and open space. By lowering taxes on undeveloped land, there is less economic pressure to sell or develop the land. Tax savings should be recaptured by the community if the greenfields are eventually developed, as is already done in several Great Lakes states with farmland that is subject to lower tax rates (e.g., use-value assessment).

Two complementary goals of regional tax sharing are to reduce revenue disparities among jurisdictions and dampen the competition among jurisdictions to attract new development. A pioneering example of this is the Metropolitan Revenue Distribution system for the seven-county Twin cities (Minneapolis-St. Paul) region. This fiscal disparities program, which has been in effect since 1975, allows 60 percent of the taxes from new commercial/industrial development to stay with a jurisdiction but redistributes the remaining 40 percent to other communities based on a population and property values formula. Such a program has obvious advantages for poorer communities and urban revitalization. Its effect on urban fringe communities and the forces of sprawl is more limited but could be strengthened by altering distribution ratios for particular places and purposes for which the revenue could be used.

2. Enact statewide legislation authorizing the establishment of the mandatory type Transfer of Development Rights (TDR) programs within one or more counties or multiple municipalities (i.e., townships, towns, villages, or cities). The legislation would encourage multiple jurisdictions or a single county to work together to establish TDR programs, including determining appropriate sending and receiving areas. Sending districts are priority areas for protection while receiving districts are priority areas for growth and development.

Transfer of development rights programs allow landowners to transfer the right to develop one parcel of land to a different parcel of land. TDR programs can protect greenfields by shifting development from agricultural and open space areas to areas planned for growth. Mandatory TDR does not require landowners to sell their development rights, but development is limited in the sending areas through downzoning.

TDR is established through local zoning ordinances. Although many TDR programs are established by local governments, without specific state authorizing legislation municipal governments must overcome the obstacle of legal uncertainty about TDR as it relates to existing state law. Special enabling legislation gives local governments the authority and legal certainty they need to implement TDR. Pennsylvania's Act 68 of 2000 expands the local authority for TDR by allowing neighboring municipalities to work together and shift planned development from agricultural and open space areas to where growth is needed and wanted.

Implementing TDR among multiple jurisdictions allows small and medium-sized communities to avoid the development paradox, by allowing communities to gain revenue whether they decide to develop and grow or remain primarily rural or agricultural. This measure is especially important where urbanized and/or growth areas and agricultural/rural lands are located in different jurisdictions by allowing each jurisdiction to benefit from the assets of the other. Municipalities will have to coordinate to develop and implement local programs.

3. Adopt state/provincial planning goals that promote urban revitalization, greenfields protection, and transit and/or pedestrian oriented development patterns that enhance neighborhoods and reduce public infrastructure and service costs and discourage sprawl. In support of such planning goals, states and provinces should also:
 - a) Review and where necessary, modify state policies and programs to ensure their consistency in support of state planning goals and/or brownfields redevelopment/urban revitalization and greenfields protection;
 - b) Adopt policies that direct public investments (where state/provincial money is involved) for roads, sewers, water lines, schools and other growth-related projects into already developed areas and avoid greenfields; and
 - c) Establish concurrency policies that require public facilities (i.e., sewer/water, schools, roads) to be in place (or consistent with a capital improvements program) before new development can proceed.

States and provinces have an important leadership role in promoting cost-effective and sustainable land use and development. Unfortunately, most Great Lakes states have not assumed this role. Adoption of state planning goals and implementation of policies consistent with those goals is a necessary first step to address current land development patterns that are overly costly and unnecessarily destructive to the Great Lakes ecosystem. Several Great Lakes states have taken steps in this direction. Pennsylvania in 2000 and Wisconsin in 1999 adopted legislation that links funding support for local planning efforts to state identified planning objectives. Legislation passed in Minnesota in 1997 identified 11 statewide planning goals. The goals identified in each of these states are consistent with what is commonly known as "smart growth." Other Great Lakes states and provinces can benefit from taking similar actions in their jurisdictions. (See Smart Growth Case Study p. 61-62.) Other Great Lakes states and provinces can benefit from taking similar actions in their jurisdictions. Goals directed at local planning activities should also be extended by applying them to state/provincial or even federal agencies and their activities.

States/provinces can also ensure that their agencies are meeting such goals by establishing smart growth policies that invest public funds in already developed areas and avoid greenfields. The state of Maryland was the first to establish state smart growth policies directing state funding for public investments in infrastructure toward already-developed areas.

A systematic review of state/provincial policies and programs is necessary where state agencies have different and potentially conflicting mandates. Interagency task forces are a promising forum to review and resolve differences and develop complementary and efficient approaches to meet the statewide goals of urban revitalization, greenfields protection and livable communities.

Capital improvement programs estimate a community's current capacity and anticipate future needs for public services and facilities (including costs and location). Concurrency or "adequate public facilities" policies require that infrastructure to support the effects of growth be in place concurrently with those effects. The inability for growing communities to pay for the installation and maintenance of infrastructure for new developments results in ever increasing taxes or deteriorated infrastructure, either of which push new development even further into greenfields. Concurrency can help ensure that new development does not occur until there is an ability to pay for new services, a clear demand for those services, and the necessary infrastructure. It also provides greater certainty for developers about where development is desired and will be adequately serviced. Impact fees and special assessments as well as general tax revenues can be used to support infrastructure concurrency.

Governors' leadership in the establishment of goals, review and implementation of policies and programs to ensure state actions support state planning goals and cost-effective, sustainable land development is critical.

4. Require coordination among state agencies for state-funded projects that will directly result in changes in land use and establish a process for multiagency evaluation of such projects that: a) ensures that such projects support the state planning goals and/or the mutual goals of greenfields protection and brownfields redevelopment/urban revitalization and b) requires the consideration of alternatives where the project is inconsistent with local land-use plans.

This strategic action directly complements strategic action #3 to ensure more efficient implementation of state programs and more effective expenditure of state funds by ensuring that publicly funded projects are coordinated and implemented consistent with common statewide goals related to land-use planning, growth and development. It will also ensure that alternatives are considered and pursued where mandated activities are in conflict with state goals or with local land-use plans developed pursuant to state goals. Promoting and ensuring state consistency with comprehensive plans will reinforce and complement state incentives for local governments to develop comprehensive plans that reflect state planning and/or smart growth goals.

5. Encourage the development of local comprehensive plans and provide funding to support their development. Such funding should be contingent on plans that reflect state/provincial planning goals or that include designated areas for growth and also for protection; promote urban revitalization, greenfields protection and transit and/or pedestrian-oriented development patterns that enhance neighborhoods and reduce public infrastructure and service costs and discourage sprawl; and are prepared through local interjurisdictional agreements or in cooperation with other municipalities.

Development of local comprehensive land-use plans is voluntary in all of the Great Lakes states. As an alternative to requiring the development of comprehensive plans, states can provide a strong incentive for comprehensive plan development by offering planning grants to local governments that develop plans that reflect state planning goals. Minnesota, Pennsylvania and Wisconsin have demonstrated leadership among Great Lakes states in this area by passing legislation that defines what comprehensive plans should include and by offering incentives for local governments to develop and implement such plans. Pennsylvania's 2000-2001 budget provides \$3.6 million for local land-use planning assistance and ties the money to new (July 2000) revisions in the state municipalities planning code that establish incentives for intermunicipal and innovative land-use planning, including revenue sharing, transfer of development rights and the establishment of designated growth areas. Legislation passed in 1999 (Act 9) in Wisconsin provides \$2.5 million in planning grants and ties that money to the development of traditional neighborhood development and conservation subdivision ordinances, smart growth, urban revitalization, transportation alternatives, and intergovernmental coordination. Some funding to develop and implement plans has also been provided under Minnesota's 1997 planning legislation.

State/provincial legislation that encourages planning should allow for flexibility while encouraging a systematic approach to development so that local comprehensive plans are based on criteria that consider previously-developed sites (or buildings for reuse or conversion) for development before greenfields sites, particularly where public investment is concerned. This approach is a national policy in the United Kingdom. Legislation should also encourage intergovernmental cooperation/coordination and innovative land development and protection techniques. For example, not every community needs to allow for every type of land use (e.g. industrial, commercial, residential, agricultural).

6. Require that zoning ordinances be consistent with comprehensive plans.

Though most major U.S. Great Lakes cities have a comprehensive plan, they often fail to implement it in a way that can direct urban growth. Most local jurisdictions use zoning ordinances rather than comprehensive plans to determine what type of development can happen where. In the Great Lakes region, only the states of New York, Minnesota, and Pennsylvania (and effective January 2010, Wisconsin) require local zoning to be consistent with a local comprehensive plan. Zoning ordinances describe where and what type of land use can take place, but they do not consider the "how" and "when" issues—issues of how new developments will impact the overall community, design (what they should look like), timing (when they should occur based on the communities' priorities for growth) or financial viability (the ability to finance necessary public infrastructure and services, particularly over the long term). Often the end result is unplanned, relatively uniform development that conforms to minimum building code requirements, low-density zoning ordinances and segregated land uses, or sprawl.

Moreover, when coupled with strict building codes and extensive permit requirements, zoning ordinances can make redeveloping central urban sites unfeasible or impractical for developers, while rendering greenfields easy targets for development. Zoning ordinances need to be used as a tool for implementing a comprehensive plan, not as development/growth policies themselves.

Planning involves local governments acting as a public forum for collective decisions about what is best for a community. Greater emphasis on an open and active planning process that encourages citizens to develop a vision for their community and the resultant comprehensive land-use plans that reflect that vision as the guiding document for community growth and development is long overdue.

7. Tie state funding for brownfields cleanup and redevelopment to land-use planning by encouraging consistency with up-to-date comprehensive plans as a condition for brownfields funding, particularly in metropolitan and other urbanized areas.

Great Lakes states' efforts to wed cleanup and economic development programs have been an important and positive step toward a more comprehensive approach to brownfields redevelopment. However, Great Lakes jurisdictions at all levels fall short when it comes to integrating brownfields redevelopment into a more comprehensive approach to land-use planning and development.

Great Lakes states can learn from New Jersey and Oregon by linking brownfields cleanup and redevelopment funding to a strategic growth plan that has a strong urban revitalization/urban development component. Encouraging consistency of brownfields activities with comprehensive plans as part of brownfields funding may also promote comprehensive plan review and updating, a needed activity in many areas. This will also ensure that brownfields cleanup and redevelopment does not compromise a community's ability to carry out its master plan or vision of growth and development in the future (e.g., by converting a commercial operation into residential, which might require a higher level of cleanup). Though tying comprehensive plans with state brownfields funding may be viewed as an encumbrance to brownfields redevelopment, it will ultimately result in brownfields redevelopment that is well-planned to serve the short and long-term needs of the community. This action will be enhanced where state programs for developing and updating comprehensive plans are in place.

8. Establish a statewide study effort to focus on the issue of interjurisdictional or regional metropolitan governance as it relates to controlling sprawl-related local government costs.

Land use issues are, by their nature, prone to contentious debate at the local level. Many of these issues, even though they have a direct connection with specific local circumstances, also manifest themselves across jurisdictions and throughout the states and Great Lakes region. It is apparent from experiences in the Great Lakes states that without ardent political leadership, either from a governor or a legislature and the development of a broad-based coalition of interest groups, progress in addressing many land-use concerns is hard to come by.

Numerous studies throughout the country have shown that sprawl does not pay its way. The multitude of political jurisdictions in metropolitan areas compounds this problem by militating against coordinated planning among jurisdictions. This common problem needs a forum for focused discussion. Councils of governments and other metropolitan planning organizations such as the Twin Cities Metropolitan Council have broad and busy agendas as well as political constraints and thus may not be able to serve as convener. What is needed is a study effort with statewide and broad interest group participation to concentrate on the sprawl-interjurisdictional coordination issues. There are likely multiple places in a state where solutions could be tried and a broad membership can check parochial influence. Furthermore, if legislative action is required (which is likely), then the broader perspective is conducive to gaining such support. Private foundation support for such a study effort is desirable as well as feasible.

Local Actions

9. Communities of all sizes should consider adoption of urban growth boundaries and greenbelts as growth management tools.

Urban growth boundaries (UGBs) have been established in a few places around the country. They do not stop sprawl in its tracks but can significantly slow its pace. With an UGB, infrastructure capacity becomes a central point in focusing development. Growth boundaries can be set up under state authorizing legislation or through interjurisdictional agreements. Those policies which have been most successful involve a periodic review process where boundaries can be evaluated and adjusted over time.

The progressive city of Boulder, Colo. uses 33,000 acres of protected greenbelts as a form of boundary but also benefits from the Rocky Mountain foothills to reduce sprawl to its west. The Minneapolis-St. Paul metropolitan area has established an urban growth policy that entails a gradual extension of regional services such as transit and wastewater treatment through the delineation of a service area. This boundary, adjustable over time, is complemented by the designation of an urban reserve area bounded by land protected as permanent rural or agricultural.

10. Encourage the use of settlement monies that accrue from litigation regarding environmental cleanup or open space creation/protection for brownfields redevelopment/urban revitalization and/or greenfields protection.

Funding for greenfields protection and brownfields redevelopment seems never enough to tackle the problem. Another potential funding source could be settlement monies occurring from certain pollution and land-use lawsuits. Such monies could be available to address problems not directly related to the case at issue. Legislative authorization for such action would need to address what kind of litigation would be eligible.

11. Reduce unimproved, secondary road mileage in urban fringe counties through the sale/donation or vacation/abandonment of selected rights-of-way to adjacent farm operators, trail organizations and land trusts.

Public road and street mileage for the eight Great Lakes states is more than 923,000 miles or nearly 24 percent of the national total. The Great Lakes region has a relatively dense road network compared with the nation as a whole. Most of this road mileage is concentrated in rural areas (723,000 miles) and reflects the influence of the township and range land survey system as well as the historical development of farm-to-market access.

The on-farm population has been declining and farms are growing in size through consolidation as nearby and adjacent acreage is purchased. Although the publicly maintained secondary road system is absolutely essential to support farm operations, the network of the past is no longer as efficient and important as it once was. Some unpaved road segments, particularly those that are maintained by townships and counties and without any residential access, could be converted to other uses without significant disruption.

This process, if it entailed subsequent use as a trail or part of a trail corridor, would be similar to the successful Rails-To-Trails efforts widespread in the region. Farm roads and rights-of-way could also be utilized for habitat corridors. Adjacent farms could be offered the opportunity to expand their holdings and potentially increase the efficiency of field work and related operations. Where sales are involved, revenues could be directed to local or regional funds for either farmland protection or transportation improvements tied to brownfields redevelopment.

12. Conduct greenfields impact assessments and levy associated impact fees for the usual infrastructure and public service costs as well as for ecological damages. Consideration should be given to incorporating such fees into the permitting process and devising fees that also account for a portion of long-term infrastructure maintenance and public service costs. Also, local governments should adopt impact coordination rules whereby each community must consider the impact of planning/zoning and development decisions on neighboring communities/jurisdictions.

Impact fees are becoming a regular cost of business, particularly for greenfields development. Eighteen states have adopted enabling legislation that authorizes local governments to collect such fees. Minnesota does not allow impact fees. If the fees are properly designed and reasonably proportionate to the incremental cost of a new development, courts consistently uphold them.

Impact fees are traditionally designed to offset a portion of infrastructure and public service costs such as for roads, sewer and water service, emergency services and schools. For some types of natural resources or ecological damages/loss of "natural services" (e.g., reduced infiltration capacity due to increased imperviousness), fees can be gauged to the problem but some natural resource damages may be difficult to quantify. In these instances an acreage exchange could be implemented whereby for every acre of greenfields developed, an acre of greenfields must be protected, with the option of transferring the acreage exchange to urban redevelopment projects. Also, a percentage of impact fees that are quantifiable and payable in real dollars could go to fund greenfields protection and/or urban revitalization projects.

13. As part of comprehensive plans or as an independent effort, jurisdictions in urban fringe areas should:

- a) Inventory wildlife habitat acreage and characterize its capacity to support viable plant and animal populations;
- b) Inventory cultural and historic resources for tracts of undeveloped land and develop mitigation/protection measures in advance of development proposals.

For those places on the urban fringe where development pressures are often most intense, proactive policies that anticipate development proposals should be encouraged. Through planning efforts or even independent initiatives such as contracted studies, communities can inventory their resources, both natural and cultural/historical. With this information on hand, developers can modify their plans and be informed in advance of the lay of the land.

Private Actions

14. Implement business location decisionmaking policies that are sensitive to the issues of greenfields protection and brownfields redevelopment.

Business must factor many issues into decisions on relocation or placement of new facilities. Whether it's a retail store, headquarters building or factory complex, locations are extremely important. Market proximity is often a determining factor, but area quality of life, labor availability, transportation access/supplier and distribution network can be as important depending on the type of facility. Those companies which depend on a good corporate image and relations with their host or home communities pay more attention to their local facility impacts. Businesses which devise policies to minimize impact on greenfields and assist with urban revitalization usually also benefit in terms of public perception and related employee morale. Such companies can be pacesetters establishing a well-deserved reputation for corporate responsiveness and environmental sensitivity.

B. Greenfields Protection

State/Provincial Actions

15. Establish a comprehensive statewide farmland protection program that includes funding for farmland preservation, tax relief for farmers, disincentives for farmland speculation/conversion, and a public education campaign about the attributes and benefits of farmland. Use/value assessment with a meaningful recapture (penalty); tax credits for farms in counties that have adopted a farmland preservation plan; voluntary agricultural district programs; and state funding to support local purchase of development rights programs are specific policies that should be considered.

All of the Great Lakes states have a variety of farmland protection policies. Research to date indicates that the most effective approach to protecting prime farmland and ensuring viable local farm economies is a comprehensive farmland protection program that addresses four critical issues: tax relief for farmers, disincentives for farmland speculation/conversion, funding for farmland preservation and public education about the attributes of farmland and the need to protect it as a valuable resource. Michigan, New York and Pennsylvania are Great Lakes states that have most of these elements as part of their farmland protection efforts. However, throughout the region farmland protection efforts are compromised by a lack of funding, inadequate disincentives for farmland speculation/conversion, and/or lack of public (and hence legislative and gubernatorial) support for farmland preservation. Pennsylvania has demonstrated leadership in terms of comprehensive farmland protection, but even there the demand for purchase of development rights (PDR) funds continues to far outstrip the availability of funding for farmland preservation. Additional evaluation of the effectiveness of farmland protection tools with respect to agricultural land values is also needed. Finally, tying sustainable agricultural or "best" practices that reduce pollution from agricultural activities to farmland protection can bolster farmland protection as a means of environmental stewardship.

16. Adopt a policy of farmland/greenfields mitigation that requires the state to purchase (or pay the costs of purchasing) the development rights on other farmland/greenfields, specifically those designated for protection, where state-funded projects will directly result in farmland or greenfields conversion.

Notwithstanding the goal of greenfields protection and effective intergovernmental coordination to achieve that goal, there will likely be occasions where state actions result in the conversion of farmland. This strategic action provides a mechanism to mitigate the impacts of farmland conversion where there is no feasible or practical alternative.

This action would require state agencies to purchase farmland or agricultural conservation easements elsewhere in the state when their activities result in farmland loss/conversion. The easements purchased could be based on a ratio that recognizes the quality of the farmland impacted (i.e., converted), so that the higher the quality of farmland converted, the greater the amount of acreage protected elsewhere. For example, a 4:1 ratio might be established for *prime* farmland. Under this scenario, if after careful evaluation and multiagency review it is determined that a state department of transportation (DOT) must acquire 100 acres of prime farmland, the DOT would be required to purchase 400 acres of farmland somewhere else in the state. If the soils were of lesser quality, perhaps a 2:1 or 3:1 ration would apply. Where not in place already, a system of characterizing the quality of farmland would need to be established. State agencies would put the money in a fund administered by an independent board which would also select where the easements would be purchased. Cities, counties, townships, and private groups (e.g., land trusts) could submit proposals for PDR acquisition to the independent board. In states that already have state PDR programs, existing institutional resources could be expanded and utilized to provide this service.

State/Provincial, Local and Private Actions

17. Make risk of conversion or development a priority eligibility criteria for state, local and non-governmental open space land and easement acquisition programs and strategically fund land and easement acquisition to create buffers/greenbelts around medium-sized cities and metropolitan areas.

State/provincial and local land acquisition programs have historically focused on the purchase of lands for their ecological or recreational value, or on farmland conservation easements based on soil quality and land productivity. Though there are numerous federal, state, local and non-profit open space and recreational land acquisition programs, funding is rarely done to acquire parcels/easements strategically for the purpose of buffering urban development or creating contiguous tracks of open space that collar an existing community. An exception is the Illinois Open Lands Trust (OLT) program, which provides grants to local governments for acquisition of land or easements from willing sellers for conservation, open space and natural resource recreation purposes. Eligibility for OLT grants is based in part on the extent to which the land is threatened by development. Pennsylvania's PDR program, which targets areas at risk of development is another example. Coupling risk of conversion with ecological sensitivity or farmland quality will render dual benefits. Without such a strategic approach to protecting contiguous open spaces on the urban fringe, such programs may result in pockets of protected land that are surrounded by incompatible land uses.

The value of greenfields as a buffer for urban development, for protecting large contiguous tracts of open space or rural vistas and/or for restoring native landscapes should be recognized. For example, farmland on the urban fringe that is no longer being actively farmed could be preserved for purposes of restoring native landscapes. State and local governments and non-governmental organizations should review their land acquisition and easement purchase programs and modify existing ones or create new ones to encourage the acquisition of lands or easements (through voluntary sales or PDR) on contiguous tracts of land on the urban fringe. Those properties that could serve to create a greenbelt or buffer around an urbanized area would receive priority funding for protection. Coordination of state and local programs that share this objective is imperative.

State/Provincial and Local Actions

18. Establish a tax increment financing (TIF) program for greenfields that earmarks the TIF revenue for greenfields protection, and infrastructure and public service maintenance in the same jurisdiction.

TIF provides an institutional framework for financing priority activities in a given area. When a TIF district is created, the amount of revenue that a taxing body receives from that area is frozen at a set level for a specified number of years. Monies derived from the increase in the incremental tax revenue due to new construction or investments in the area go to a TIF authority which manages the money and disburses it for specific purposes. Most Great Lakes states have some type of TIF program and some use the TIF revenue specifically for brownfields or environmental cleanup. Though TIFs are established locally, state legislation provides legal authority to establish such programs. The idea of TIF authorities for greenfields protection however, is new. Michigan's locally established brownfield redevelopment authorities operate like tax-increment financing authorities, but are specific to brownfields. A greenfields TIF would operate in much the same way, only focusing on areas of protection instead of revitalization.

Counties would work with local governments to establish TIF authorities in urban fringe open space and agricultural lands. The TIF authorities would establish greenfield zones, which would be subject to the TIFs. When lands within the zone are developed, the difference in the taxes from before and after development would go to greenfields protection elsewhere in that jurisdiction and to long-term infrastructure and public service needs associated with that development.

19. Promote large lot size zoning in transitional areas as a buffer for farmland.

When residential development encroaches on farms, conflicts are bound to happen. This situation has repeated itself countless times at innumerable locations. Complaints that change into lawsuits often frustrate neighborly relations. Minimum lot size zoning can be used as a form of agricultural zoning with the purpose of reducing the fragmentation of farmland. It can also be used as a residential zoning tool to create low-density residential buffers around farmland. Careful attention should be given to the appropriate lot size for residential developments. Kinds of farm practices will have varying effects on different lot sizes. House separation from farm buildings and fields is much more feasible when lot size allows it. Small lots with a house on each one is a sure prescription for conflict. Large lot size can also be combined or replaced with cluster zoning to achieve the same effect.

20. Promote city farmers' markets and linkages to urban fringe farmsteads with both organic/regular production practices.

In the first half of the twentieth century "truck gardening" and truck farms were much more commonplace. These farms were usually on the outskirts of cities and made their products available at the farm or through delivery to grocers and distribution markets. Postwar suburban development engulfed these farms as consumer patterns changed and the corner store gave way to the supermarket chains with their volume-buying practices.

Urban farmers' markets are now growing in popularity. These places where farmers collectively market their produce are an outgrowth of the venerable roadside stands and summer fairs as well as of the earlier truck farm era. Consumer preferences are broad spectrum, but one segment has embraced fresh food and will pay a premium for it. Organic production, which doubled from 1992 to 1997, is also part of this trend. Communities can provide assistance to this farm niche by providing market space and administrative support, with some costs reimbursable through farmer fees. Support could include, where practical, institution of a public food purchase program for hospitals, schools, shelters and foodbanks.

Urban fringe areas which have had a tough time supporting conventional farming operations are more conducive to a renaissance of truck farms tied to farmers' markets and other direct marketing options. Such farmsteads with diverse specialty crops that command higher prices, can be smaller with less large equipment needs. A network of these small farms, possibly organized under a cooperative structure, could help hold their ground against the development onslaught. Communities, by actively working on behalf of their farmers for the benefit of their residents, could indirectly curtail sprawl beyond their borders.

C. Brownfields/Urban Revitalization

Federal, State/Provincial, and Local Actions

21. Establish new initiatives for designating local historic districts and expand the federal historic preservation income tax credit to include a wide range of residential and commercial structures.

Many older cities in the Great Lakes region, both large and small, contain impoverished neighborhoods with a mix of commercial and residential structures. Abandoned and derelict buildings coexist with habitable dwellings and neighborhood cohesiveness is strained. Some neighborhoods retain their historic character, revealing an evolution of building type and social and ethnic change.

Urban revitalization can be spurred by utilizing the historic values inherent in these neighborhoods through the designation of historic districts and buildings. A broadening or relaxation of the usual criteria for designating state and local historic districts could act as a catalyst for promoting reinvestment in older city areas by restoring deteriorating vintage neighborhoods. One step could begin with residential buildings by extending to homes the rehabilitation tax credit opportunities available for commercial buildings.

A specific action would be the enactment of the federal Historic Home Ownership Assistance Act which had gained 221 House sponsors and 39 Senate sponsors as of November 2000. This legislation would provide a 20 percent federal income tax credit toward the restoration of older homes. Eligible homes must be deemed "contributing structures" in designated historic districts where median income is less than 200% of state median income. Some states such as Michigan currently provide similar tax credits but the proposed law has additional innovative features. For example, if an applicant cannot use the entire credit, it can be transferred to a mortgage lender in exchange for a lower interest rate. Also, the law provides for professional rehabbers to take the credit and pass the benefit (reduction in project cost) on to homeowners provided the house is owned for five years.

22. Modify brownfield grant and loan programs to allow non-governmental organizations like community groups and business associations to be eligible to apply for these funding assistance tools.

All Great Lakes states have funding programs to encourage brownfields cleanup and redevelopment. Some grant and loan programs are only available to local units of government. In these instances, non-profit organizations and community groups who might be interested in redeveloping a parcel in their neighborhood are not eligible for these financial incentives. In some metropolitan areas, local units of government and community organizations do not have the same redevelopment priorities, so the requirement that funding go only to local governments is yet another obstacle to non-profit organizations. Broadening the eligibility to non-profit organizations will increase opportunities for community-led initiatives in brownfields redevelopment.

23. Great Lakes states and provinces should adopt public participation policies within existing brownfields cleanup and redevelopment programs that provide meaningful opportunities for neighborhood involvement throughout the cleanup and redevelopment process, and support the use of neighborhood-based land use plans.

Residents and citizen groups can be a resource for redevelopment projects, providing information on the history, current conditions, and needs of the community for projects considered by local governments. Greater public outreach and community involvement improves public relations with respect to redevelopment proposals, and also has the potential to generate neighborhood support for individual projects and a supportive constituency for development/redevelopment on surrounding parcels.

For many Great Lakes states, public participation is synonymous with notification. In some states, an evaluation by “responsible parties” is required to determine the need for public participation. One of the criteria for this evaluation is the level of public concern, which is a very subjective analysis. If there has been little or no public outreach for a specific site, how is the public to know if it should be concerned? Notification is only one step in the public participation process. A proactive and ongoing approach to public participation that includes early and continual notification in a variety of media sources is needed.

It could be argued that holding public hearings for zoning changes, variances or permitting requests provides ample public participation. However, permitting does not occur until after a property has already been purchased with a particular interest in mind. Additionally, zoning changes or variances are not always required with brownfields redevelopment. So while the planning process does provide for some public involvement, it does not necessarily provide residents with the opportunity to impact redevelopment activities occurring in their neighborhoods. Public meetings, like notification, are an ongoing outreach tool. Community involvement in decisions that affect the neighborhood is a logical component of economic development. Periodic meeting should be held from the beginning of a redevelopment project and treated as an opportunity to involve neighborhood residents throughout the process.

Specific actions states/provinces can take to further enhance public participation include encouraging public participation as part of brownfields financial assistance applications and ensuring that local or field offices have staff that are knowledgeable and informed about brownfields redevelopment process and local redevelopment issues. Specific actions local governments can take include encouraging citizen representation on local redevelopment authorities or similar institutions, and developing partnerships with existing community groups/associations.

State/Provincial Actions

24. Enact legislation to reform condemnation and demolition procedures and combat fraud/negligence when owners avoid responsibility for abandoned buildings. Innovative funding, along with more personnel and equipment for abandoned building demolition, are needed to cope with a serious situation.

Abandoned buildings are a visible symptom of urban decay. These structures are physical hazards subject to arson, trespass and other forms of criminal mischief. The central cities of the Great Lakes metropolitan areas have a concentrated version of the problem but vacant, ill-kept premises can be a problem virtually anywhere.

A certain number of such buildings can tip a neighborhood over the edge spiraling relentlessly downward when even long-standing residents can't take it anymore. Neighbors fear the impact on property values and the safety of school children on their way to and from school. According to *The Detroit News*, of Detroit's 12,000 vacant buildings more than 1,100 are within a block of a public school.

Demolition and condemnation actions are fraught with legal complexities, but not having adequate resources to ultimately get the job done is also a major impediment. Communities should explore new funding sources such as tapping into property transfer taxes or special urban revitalization funds (perhaps tied to greenfield development fees). The problem requires a major commitment of resources to stem the tide. If left unaddressed, the deterioration builds upon itself. Also, new legal tools should be available to rectify cases of fraud or negligence when building owners abandon buildings or arrange sham sales for the purpose of escaping property maintenance/demolition responsibilities.

25. Provide incentives for brownfields cleanup to residential or unrestricted use levels with special emphasis on mixed use and affordable housing projects.

Broad use of exposure controls has helped reduce costs associated with brownfields cleanup, allowing literally thousands of sites in the Great Lakes region to be redeveloped where they might not otherwise have been had they been required to actually treat or remove all the contaminants. However, current issues over which level of government is responsible for long-term monitoring and enforcement of exposure controls raises questions about their long-term implications for human health and the environment. Also, the use of such controls may restrict future land-use options.

Cleaning up a property to residential or unrestricted use levels will build in flexibility to change land uses in the future without concerns about past contamination or the use of exposure controls. Proposed legislation in New York, which provides added tax incentives for cleanup to residential standards, is an innovative approach to encouraging greater actual cleanup, while still providing flexibility to choose a remedy based on future land uses associated with fewer risks (and potentially less cleanup or greater reliance on exposure controls). A similar policy in Québec provides incentives for cleanup over containment. In Québec, remedial actions that involve only engineering controls are eligible for up to 50 percent financing from the province. However, where cleanup involves the use of treatment technologies instead of engineering controls, an additional 20 percent financing is available. State legislation or executive action establishing new programs or modifying existing ones will provide incentives for the use of treatment technologies over engineering and institutional controls. A focus on mixed use will allow for a variety of reuse options and attention to affordable housing will address the continuing challenge of providing affordable housing in urban areas.

State/Provincial and Local Actions

26. The leading state/provincial agency, in cooperation with local government and community groups, should organize informational and capacity-building educational workshops periodically in targeted metropolitan areas with an emphasis on economically challenged urban neighborhoods. Neighborhood residents, representatives of local and state brownfields programs, financial institutions, and private developers should be encouraged to participate in and even help organize these workshops to share information and experiences related to brownfields redevelopment.

One of the most frequently heard arguments against increased public participation is that it slows down or complicates the redevelopment process. One of the major reasons for this is often the general public's lack of awareness and understanding about state and local brownfields programs, (e.g., funding assistance opportunities and technical resources) and the cleanup and redevelopment process. Inadequate communication between neighborhood residents and other stakeholders involved in brownfields redevelopment such as developers, local government agencies and financial institutions can compromise the outcome and overall success of redevelopment projects.

Outreach should be targeted toward neighborhood residents and local business owners, primarily in areas with disproportionately high numbers of brownfields. In addition, representatives from state and local government, financial institutions, and private developers should be encouraged to attend and provide their expertise about brownfields redevelopment in general, as well as their specific redevelopment interests.

An important objective of such workshops is to stimulate local interest and involvement in redevelopment decisionmaking. Such workshops provide the opportunity for residents to speak face to face with the people who are directly involved with redevelopment projects and programs and get instant feedback. In-person meetings allow participants to share information and experiences and help educate and empower citizens for more effective involvement in brownfields redevelopment decisionmaking.

27. In cooperation with relevant state agencies, local governments should produce and disseminate a community development guidebook to serve as a resource for community members interested in pursuing a brownfields redevelopment project.

One of the difficulties for neighborhood residents is knowing to whom they should address their questions about a redevelopment project or even what questions they should be asking. This can be very discouraging for neighborhood residents. Many residents new to the concept of brownfields redevelopment are unfamiliar with the steps involved in taking an underutilized or abandoned piece of property through the redevelopment process. Such a manual would provide community residents with a framework for designing or optimizing community input into a redevelopment project. It would include information about local, state and federal resources. Community development corporations and local non-profits should be involved in the creation of the manual to ensure that the manual addresses brownfields redevelopment from a neighborhood-level perspective. This publication would be a useful tool to provide during the proposed brownfield workshops and should be widely available.

Local Actions

28. Through the use of fee incentives and permit expediting, promote small-scale infill development in urban areas.

Vacant city land is both a liability and an opportunity. On or off the tax rolls, contaminated or clean, is a site suitable for development or is it otherwise unusable? These matters count. There are generally enough good reasons for cities to focus development on already built-up places. However, what can be done to induce such development beyond the tax forgiveness, site preparation, liability waivers, interest reductions, and job training deals which large, higher profile projects can at times leverage? Fee incentives and permit expediting, applied fairly, could be the catalytic agent.

29. Adopt local zoning ordinances and building codes that are flexible, and design standards that promote mixed uses to facilitate rehabilitation and redevelopment of older buildings and neighborhoods.

Many traditional building codes or zoning rules prohibit mixing residential and commercial uses within a single building or on a single building site. This is based on old-fashioned notions that such shared uses are incompatible architecturally and functionally, and thus must be separated. Such codes and ordinances encourage or even require relatively uniform low-density development and can be significant obstacles to urban rehabilitation and redevelopment. In fact, many residential and commercial activities can operate in tandem, often with mutual benefits. For example, residents living above stores provide extra eyes on the street when those commercial operations are closed. Building codes, design standards and zoning ordinances that focus on maximizing the areas of compatibility can enhance opportunities for redeveloping whole neighborhoods, not just “sites.” Performance-based zoning—zoning that considers the net and cumulative impacts and benefits of a project to meet the goals and objectives of an overall project or to meet consistency with comprehensive plans—provides an alternative to standard zoning practices.

Maryland’s Smart Codes program provides a model for Great Lakes states. Modeled after a 1997 New Jersey rehabilitation code, Maryland’s Smart Codes program provides an example of a revised approach to building and zoning that promotes infill and urban redevelopment. Enacted in April 2000, Maryland’s Smart Codes replaced a confusing patchwork of construction codes with an easy to use code that spells out all of the code requirements for existing buildings, clearly separates rehabilitation requirements from those for new construction, and provides a framework in which code requirements will gradually increase as the scope of the rehabilitation project increases. This allows small rehabilitation projects to proceed that otherwise would have been postponed or abandoned due to the unnecessarily long time delays and high costs of achieving compliance with the full set of construction codes for new buildings. Financial incentives are provided to those localities which adopt the code without amendments.

Local and Private Actions

30. Encourage design competitions for redevelopment of central city and first-ring suburban commercial nodes where higher density and mixed-use zoning are combined with traffic calming initiatives.

Many communities have organized forums/meetings where particular redevelopment projects and related planning initiatives are described. The larger the scale of the project or plan the more likely it is that public participation is strongly encouraged. Design charettes are another form of get-together where community members and design professionals engage in directed discussion sometimes grounded in a “visioning” exercise. Once political and community buy-in is achieved, communities can organize design competitions in which architectural models, renderings, drawings and relevant documents are the products.

Central cities and first ring suburbs usually have aging infrastructure, housing stock and commercial districts in common. Commercial strips and nodes are woven throughout the urban fabric but many of these places look out-of-date and have lost their competitive appeal to newer shopping centers. A diversity of retail, restaurant and other service-oriented stores is a factor in creating a successful commercial mix. Also, traffic patterns, flow and parking availability with ample consideration to preserving pedestrian amenities, is important.

The regeneration of urban neighborhoods is not all pegged to high-end development or gentrified rehabilitation. Going after the “nuts and bolts” of daily life such as making errands, the journey to work and leisure pursuits more convenient and enjoyable will have immediate payoff and more widespread appeal. Communities can start with commercial nodes by bringing together developers, design professionals and residents to jointly plan a mutual effort. Design competitions can raise public interest and distill financially feasible and well-designed solutions.

Private Actions

31. Private sector employers and financial institutions should review policies and programs and where appropriate, modify them to encourage investments such as infill development, transit oriented and pedestrian friendly development, and location efficient mortgages that will contribute to neighborhood revitalization or enhancement.

The private sector also has an important role to play in revitalizing cities and older suburbs. Business has long recognized that a crucial asset is its human capital, namely a productive workforce. Many companies invest in workplace amenities. Some see a financial commitment to communities and neighborhoods near their office or plant as part of the overall package, whether it directly benefits employees or not. Options for a constructive role are many.

Companies can “adopt” neighborhoods, organizations or schools. These actions usually invoke employee participation ranging from working on a Habitat for Humanity project to mentoring/tutoring at a local school. Some businesses have remained in central city locations even when tempted to move out to the suburbs. They become anchors for new development and revitalization efforts, and the symbol of staying put sends a powerful message. In Maryland, through its diverse smart growth initiatives, companies are contributing to a Live Near Your Work Program. Participating employers make a minimum \$1000 contribution to employees to help them purchase homes near work; the state and local jurisdictions match with equal amounts.

Banks have had a long history of wariness when it comes to inner-city commercial and residential lending. Often constrained by past lending formulas and policies that left little leeway for innovative financing, banks today are more receptive to finding a way. Brownfields cleanup and redevelopment have surmounted some lending obstacles through the availability of liability releases, one product of state voluntary cleanup programs. The pooling of resources from government sources and multiple financing initiatives have spread risk and freed up more money. A good example of this is the Cuyahoga County Brownfields Redevelopment Fund, created in 1998 by the county, seven private banks, a private utility, the state of Ohio, and two private foundations. The \$29 million fund provides low-interest loans and grants to finance brownfields cleanup and reuse throughout the county, with an initial focus on Cleveland’s older first-ring suburbs.

The Location Efficient Mortgage (LEM) is an innovative mortgage product. Through the initiative and research of the Chicago-based Center for Neighborhood Technology, the LEM is available in Chicago and a few other places around the country. The nation’s largest supplier of mortgage money, Fannie Mae, has dedicated \$100 million for LEMs to help establish the market. These mortgages utilize the transportation savings that accrue from not using a car and living in developed urban areas with good public transportation access. Such transportation savings are presumed to reduce living costs and thereby increase the amount of a mortgage a homeowner can qualify for. Such “win-win” arrangements promote home ownership, help the environment and urban revitalization efforts.

32. Create a private-sector financing pool to attract bank and corporate capital as well as leverage government funds for the purpose of restoring brownfields.

The brownfields redevelopment process has been generally burdened by inadequate funding. Private sector capital for brownfields redevelopment must account for risk and return factors. In some cases such as banks, regulatory constraints inhibit lending money for site assessment and cleanup activities. What is proposed is an innovative financing vehicle capitalized by corporate and bank members capable of pooling resources and leveraging government funding. It would make money available for brownfields projects that cannot currently be serviced by the private marketplace. These kinds of financing pools have been successfully created in other states for various purposes, including community development activities such as building affordable housing.

The new financing pool would be created as a permanent and self-sustaining financing source that would attract investments and/or loan capital from banks and corporate participants on a significant scale, most likely in the tens of millions of dollars. The new vehicle would achieve this scale by creating an investment mechanism with the following advantages:

- Creation of an independent entity that is not subject to the same bank regulatory constraints as regulated financial institutions;
- Risk-sharing and portfolio diversification, to further enhance its ability to reach projects that could not be otherwise served by the private marketplace;
- “Reasonable” rates of return to support large-scale investments by participating banks and corporations;
- A liability shield to help mitigate legal issues associated with lending on contaminated property;
- Centralized, shared expertise in this type of specialized lending for site assessment and cleanup;
- Fulfillment of all banking and investment regulatory requirements; and
- Utilization of the Community Reinvestment Act and other available public incentives.

BRIDGES

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