Greening the Rust Belt

A Green Infrastructure Model for Right Sizing America’s Shrinking Cities

Joseph Schilling and Jonathan Logan

Existing planning and redevelopment models do not offer a holistic approach for addressing the challenges arising from sustained population loss and the increasing presence of vacant and abandoned properties in America’s older industrial communities. With an abundance of vacant properties, these shrinking cities provide fertile ground for neighborhood-scale and citywide greening strategies that can revitalize urban environments, empower community residents, and stabilize dysfunctional markets. Pioneering cities like Philadelphia, Pennsylvania, and Lawrence, Massachusetts, have developed successful, cutting-edge urban greening initiatives (Bonham, Spilika,

---

**Problem:** Existing planning and redevelopment models do not offer a holistic approach for addressing the challenges arising from sustained population loss and the increasing presence of vacant and abandoned properties in America’s older industrial communities. With an abundance of vacant properties, these shrinking cities provide fertile ground for neighborhood-scale and citywide greening strategies that can revitalize urban environments, empower community residents, and stabilize dysfunctional markets. Pioneering cities like Philadelphia, Pennsylvania, and Lawrence, Massachusetts, have developed successful, cutting-edge urban greening initiatives (Bonham, Spilika,

**Purpose:** We define strategies shrinking cities can use to convert vacant properties to valuable green infrastructure to revitalize urban environments, empower community residents, and stabilize dysfunctional real estate markets. To do this, we examine shrinking cities and their vacant property challenges; identify the benefits of urban greening; explore the policies, obstacles, and promise of a green infrastructure initiative; and discuss vacant property reclamation programs and policies that would form the nucleus of a model green infrastructure right-sizing initiative designed to stabilize the communities with the greatest level of abandonment.

**Methods:** We draw our conclusions based on fieldwork, practitioner interviews, and a review of the current literature.

**Results and conclusions:** We propose a new model to effectively right-size shrinking cities by (a) instituting green infrastructure plans and programs, (b) creating land banks to manage the effort, and (c) building community consensus through collaborative neighborhood planning. Our model builds on lessons learned from successful vacant property and urban greening programs, including nonprofit leadership and empowerment of neighborhood residents, land banking, strategic neighborhood planning, targeted revitalization investments, and collaborative planning. It will require planners and policymakers to address challenges such as financing, displacement of local residents, and lack of legal authority.

**Takeaway for practice:** We conclude that academics, practitioners, and policymakers should collaborate to (a) explore alternative urban designs and innovative planning and zoning approaches to right sizing; (b) collect accurate data on the number and costs of vacant properties and potential savings of different right-sizing strategies; (c) craft statewide vacant property policy agendas; and (d) establish a policy network of shrinking cities to share information, collaboratively solve problems, and diffuse policy innovations.

**Keywords:** shrinking cities, right sizing, green infrastructure, vacant properties, land banking

**Research support:** Our field work was supported by technical assistance grants and contracts through the National Vacant Properties Campaign.

---

**About the Authors:** Joseph Schilling (jms33@vt.edu) is associate director of the Green Regions Initiative for Virginia Tech’s Metropolitan Institute. Professor Schilling’s research explores the development of sustainable communities through collaborative planning and the design and transfer of innovative policies. As a cofounder of the National Vacant Properties Campaign, he works with communities to devise holistic strategies that reclaim vacant properties and facilitate city revitalization. Jonathan Logan (jlogan@rrcdc.org), a design coordinator at the Rochester Regional Community Design Center in Rochester, New York, received his master’s degree in urban and regional planning from Virginia Tech. His research with the National Vacant Properties Campaign involves vacant property management in shrinking cities and green infrastructure planning for community development.
& Rastorfer, 2002) that could provide other rust belt communities with the foundation for a sustainable future.

We propose a new model to effectively right size or stabilize communities and neighborhoods with the greatest levels of abandonment by (a) instituting a green infrastructure program and plan; (b) creating a land bank to manage the right-sizing effort; and (c) building community consensus through collaborative neighborhood planning. This article reviews the vacant and abandoned property challenges of shrinking cities; examines the policies, obstacles, and promise of green infrastructure initiatives; identifies the economic and environmental benefits these green strategies can bring to cities and neighborhoods; and discusses programs and policies that, taken together, would form the nucleus of a cohesive right-sizing model.

Shrinking Cities, Vacant Properties, and Existing Planning Approaches

Although urban shrinkage is not a new phenomenon (Rybczynski & Linneman, 1999), some cities cannot seem to stem population decline and effectively address an increased presence of vacant and abandoned properties. We identify as shrinking cities a special subset of older industrial cities (Vey, 2007) with significant and sustained population loss (25% or greater over the past 40 years) and increasing levels of vacant and abandoned properties, including blighted residential, commercial, and industrial buildings.¹

Estimates of the number of abandoned housing units vary over time and with the method used (Dewar, 2006).² The 65 older industrial cities identified in the Brookings Institution’s Restoring Prosperity report (Vey, 2007) have higher residential vacancy rates (9.4%) than their 237 peers (6.7%). More alarmingly, these cities have nearly twice the rate of other vacant units as compared to their peers (28.4% vs. 15.7%). This category includes units that are vacant for reasons other than being for sale or for rent, or being reserved for seasonal, recreational, or migrant worker use. Thus, other vacant units include those that are abandoned and blighted. Table 1 contains the 20 older industrial cities with the greatest percentage population declines between 1960 and 2000 and their residential vacancy rates. Cities such as Baltimore, Buffalo, Detroit, St. Louis, and Pittsburgh have particularly high rates of other vacant units, and thus need effective strategies to address the insidious nature of blight and abandonment.³

As both a “symptom and a disease” (Burchell & Listokin, 1981, p. 15), property abandonment challenges cities across the United States by influencing crime and the vitality of residential and commercial areas (Accordino &

<table>
<thead>
<tr>
<th>City</th>
<th>Population decline 1960-2000 (%)</th>
<th>Vacant units (% of total units)</th>
<th>Other vacant units (% of vacant units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Louis, MO</td>
<td>53.6</td>
<td>16.6</td>
<td>37.2</td>
</tr>
<tr>
<td>Youngstown, OH</td>
<td>51.6</td>
<td>13.4</td>
<td>12.6</td>
</tr>
<tr>
<td>Cleveland, OH</td>
<td>45.4</td>
<td>11.7</td>
<td>26.7</td>
</tr>
<tr>
<td>Buffalo, NY</td>
<td>45.1</td>
<td>15.7</td>
<td>41.6</td>
</tr>
<tr>
<td>Pittsburgh, PA</td>
<td>44.6</td>
<td>12.0</td>
<td>35.8</td>
</tr>
<tr>
<td>Detroit, MI</td>
<td>43.0</td>
<td>10.3</td>
<td>32.6</td>
</tr>
<tr>
<td>Utica, NY</td>
<td>39.6</td>
<td>14.0</td>
<td>30.6</td>
</tr>
<tr>
<td>Harrisburg, PA</td>
<td>38.6</td>
<td>15.4</td>
<td>22.6</td>
</tr>
<tr>
<td>Huntington, WV</td>
<td>38.4</td>
<td>11.4</td>
<td>34.1</td>
</tr>
<tr>
<td>Binghamton, NY</td>
<td>37.6</td>
<td>12.0</td>
<td>18.2</td>
</tr>
<tr>
<td>Saginaw, MI</td>
<td>37.1</td>
<td>9.6</td>
<td>40.3</td>
</tr>
<tr>
<td>Dayton, OH</td>
<td>36.7</td>
<td>12.8</td>
<td>25.9</td>
</tr>
<tr>
<td>Flint, MI</td>
<td>36.6</td>
<td>12.1</td>
<td>24.0</td>
</tr>
<tr>
<td>Cincinnati, OH</td>
<td>34.1</td>
<td>10.8</td>
<td>20.9</td>
</tr>
<tr>
<td>Newark, NJ</td>
<td>32.5</td>
<td>8.7</td>
<td>26.0</td>
</tr>
<tr>
<td>Syracuse, NY</td>
<td>31.8</td>
<td>12.8</td>
<td>16.4</td>
</tr>
<tr>
<td>Scranton, PA</td>
<td>31.4</td>
<td>11.4</td>
<td>29.6</td>
</tr>
<tr>
<td>Rochester, NY</td>
<td>31.0</td>
<td>10.8</td>
<td>24.4</td>
</tr>
<tr>
<td>Baltimore, MD</td>
<td>30.7</td>
<td>14.1</td>
<td>43.9</td>
</tr>
<tr>
<td>Canton, OH</td>
<td>28.9</td>
<td>8.3</td>
<td>14.5</td>
</tr>
</tbody>
</table>


Johnston, 2000). Vacant and abandoned properties also pose fiscal challenges of property maintenance and management while a dwindling tax base caused by the loss of residents and businesses makes it extremely difficult to address the increasing social and service needs of the remaining population (Glaeser & Gyourko, 2005; National Vacant Properties Campaign, 2005).⁴

Current Planning Models Fail to Address Population Decline and Abandonment

A surplus of blighted, vacant properties deters reinvestment (Rybczynski & Linneman, 1999), creating market dysfunction and limiting the impact of public and nonprofit revitalization efforts. An oversupply of urban vacant land depresses land prices, property values, and tax revenues (Pagano & Bowman, 2004). Conventional market-based redevelopment policies to induce reinvestment are insufficient to reverse this imbalance and the cyclical nature of decay and disinvestment (Pagano & Bowman, 2004),

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
creating a race to the bottom (Bernt, 2005). Nelson, Dawkins, and Sanchez (2007) contend that government intervention is necessary to rectify the inherent inefficiencies of urban land markets.

Urban policymakers and practitioners are challenged by shrinkage because they lack models of how existing and foreseeable future population levels influence urban systems (Kabisch, Haase, & Haase, 2006). Planners must develop new policies and strategies to address the challenges shrinkage presents (Oswalt, 2005). Policymakers and community and business leaders should capitalize on local assets to revitalize older industrial shrinking cities (Vey, 2007), starting with the reclamation of vacant and abandoned properties.

**Right-Sizing Models for Shrinking Cities**

Planning and economic and community development literature provides little guidance on right sizing, except perhaps in relation to military base closure. Thanks to the recent publications and exhibitions of the international shrinking cities network, new planning and design approaches to shrinkage are just beginning to emerge here in the United States.⁵

Our definition of right sizing refers to stabilizing dysfunctional markets and distressed neighborhoods by more closely aligning a city's built environment with the needs of existing and foreseeable future populations by adjusting the amount of land available for development. Right sizing by replacing vacant and abandoned properties with green infrastructure converts surplus, blighted land into green space. This creates community assets while aligning supply more closely with existing and foreseeable future levels of demand. The success of this strategy can be measured by the stabilization of property values and population and the number of blighted properties greened.

Table 2 sets forth a suite of right-sizing strategies ranging from decommissioning surplus public infrastructure to adopting urban growth boundaries. Some of these policies are fraught with political complexities, or may provoke legal challenges, or require new state legislation to implement. Though they are worthy of further research, exploring them in greater detail is beyond the scope of this article.

Any right-sizing strategy raises issues of social equity, as residents in neighborhoods with high concentrations of vacant properties are often predominately low-income and people of color. The environmental and social scars of urban renewal stand as an unsavory reminder of past planning efforts used to address decline (Fullilove, 2004). Given the legacy of urban renewal, moving forward with a green infrastructure right-sizing model will require politicians and planners to equitably balance residents’ immediate interests with long-term visions of community viability. Planning efforts to ameliorate blight should address resident’s needs and concerns, such as safety, job training, shelter and neighborhood cohesion. Residents must be actively engaged in developing plans and relocation alternatives as some displacement for green infrastructure seems inevitable in those reclamation neighborhoods with significant blight and abandonment.⁶

A right-sizing initiative should first address the blight and decay caused by vacant properties, aiming to stabilize neighborhoods with significant levels of property abandonment. Without intervention, many of these surplus properties will eventually become blighted as the spiral

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Goal and task</th>
</tr>
</thead>
<tbody>
<tr>
<td>De-annexation</td>
<td>Readjust municipal boundaries to shrink urban service areas and reduce costs</td>
</tr>
<tr>
<td>Decommission surplus public infrastructure and limit municipal services (Rybczynski &amp; Linneman, 1999)</td>
<td>Reduce costs for maintaining infrastructure and providing municipal services to neighborhoods that have been largely abandoned</td>
</tr>
<tr>
<td>Moratorium on public and nonprofit investments (Swope, 2006)</td>
<td>Use community and economic development resources more efficiently by targeting money to neighborhoods with fewer abandonments</td>
</tr>
<tr>
<td>Transfer service responsibility to private entity (i.e., homeowners association)</td>
<td>Place burden of providing municipal services on the private sector to reduce municipal costs</td>
</tr>
<tr>
<td>Urban growth boundary (Nelson, Dawkins, &amp; Sanchez, 2007)</td>
<td>Rectify the inefficiencies in regional land markets by redirecting the demand for infill development and vacant property reclamation towards existing communities</td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
of decay spreads from block to block (Spelman, 1993). Inevitably, vacancies will continue to spread beyond the city limits and infest the adjacent inner-ring suburbs (Schilling, Schamess, & Logan, 2006). Vacant properties, however, are also raw materials communities can use to develop a vibrant urban environment (Pagano & Bowman, 2004).

A handful of cities have launched initiatives designed to address vacant and abandoned properties. Philadelphia’s Neighborhood Transformation Initiative (NTI) and Baltimore’s Project 5000 each sought to demolish thousands of vacant structures in those city’s most distressed neighborhoods (Kromer, 2002; McGovern, 2006). These initiatives spawned innovative data collection and management programs (Baltimore’s Citistats and Philadelphia’s Neighborhood Information System). In August 2007, Buffalo Mayor Byron Brown announced his “5 in 5 Demolition Plan” (to demolish 5,000 properties in five years), but curiously did not link it with the Buffalo comprehensive plan’s Vacant Property Asset Management Strategy. While demolition of vacant and abandoned properties is a necessary component of right sizing, it must be guided by community driven acquisition and reuse plans (Dewar, 2006).

We developed our model based on fieldwork through the National Vacant Properties Campaign (NVPC), and a synthesis of innovative urban greening and vacant property reclamation programs and policies. Although no American shrinking city has effectively linked green infrastructure, land banking, and collaborative neighborhood planning to effectively right size itself, our model offers a framework for doing so.

### Benefits and Lessons From Urban Green Infrastructure Programs

Reclaiming vacant and abandoned properties for green infrastructure is different from traditional planning for green infrastructure at the urban periphery, in which preserving open space and habitat often have additional utility as tools for managing growth. Traditional green infrastructure is defined as “an interconnected network of green space that conserves natural ecosystem values and functions and provides associated benefits to human populations” (Randolph, 2004, p. 98) such as recreation, aesthetics, and flood control. Definitions by Randolph (2004) and Benedict and McMahon (2006) apply best to the preservation of existing green spaces such as stream corridors, wetlands, steep slopes, and sensitive habitat that have not been previously developed.

In shrinking cities, past urban development will likely have removed most of the original green and natural elements. Some sites may have environmental contamination left behind by a community’s industrial past. A green infrastructure network for shrinking cities will involve the regeneration of vacant properties for new parks, community gardens, restored habitat, flood mitigation and storm water treatment sites, and urban agriculture plots linked with existing green spaces. Figure 1 identifies the elements of such a network and also highlights more traditional green infrastructure on undeveloped land at the urban periphery.

#### Green infrastructure within cities
- Neighborhood, city, and regional parks
- Playgrounds, play areas, ball fields, and recreation centers
- Community gardens
- Recreational trails and greenways
- Surplus or underused private and public land used for passive or active recreation
- The “urban forest” including street trees and parkland trees
- Public landscapes, quadrangles, and plazas
- Landscape streetscapes, gateways, and highway verges
- Waterfronts
- Green roofs
- Abandoned land that can be converted to new green spaces
- Commercial agricultural and forestry sites

Figure 1. Elements of green infrastructure.

Sources: Green infrastructure within cities adapted from Carroll (2007). Traditional green infrastructure on the urban periphery adapted from Randolph (2004).

#### Traditional green infrastructure on the urban periphery
- Waterways
- Wetlands
- Woodlands
- Wildlife habitats
- Greenways
- Parks
- Conservation lands and corridors
- Working farms
- Ranches
- Forests
- Riparian floodplains
The Benefits of Urban Greening

Olmstead, Howard, and others believed that greening cities would provide a cure for urban physical and social ills (Lindsey & Knaap, 1999). The Trust for Public Land cites numerous studies on the benefits of parks while arguing for an increase in parks and open space in U.S. cities (Sherer, 2006). Table 3 highlights recent research documenting the environmental, social, and economic benefits of urban greening initiatives. Right sizing through green infrastructure offers shrinking cities potential to increase property values, improve public health, and provide new green-collar jobs.

Emerging Green Markets. Shrinking cities should transition to the new green economy by converting their vacant and abandoned properties to create new and different economic opportunities. Green technologies present opportunities for vacant properties to become sources of green energy including plots to produce biofuels or tradable commodities. Growth through Energy and Community Health (GTECH), a nonprofit business spun off from Carnegie Mellon University, is planting sunflowers, switchgrass, and other vegetation on vacant lots throughout Pittsburgh for biofuel production (Toland, 2007). Vacant lots could become sites for community-based renewable energy stations. Green-collar jobs could arise through the deconstruction and recycling of materials from the demolition of abandoned buildings (Leigh & Patterson, 2006). Additionally, cities could market vacant land as sites for urban forests capable of long-term carbon sequestration (Groffman, Pournat, McDonnell, Pickett, & Zipperer, 1995) or for urban farms and community supported agriculture initiatives.

Lessons From Leading Urban Greening Programs. Challenges to urban greening and the creation of green infrastructure include funding, maintenance costs, accessibility, and poor design and site programming (De Sousa, 2003). De Sousa identifies real and perceived barriers to green reclamation of brownfields as: lack of money, marginal evidence of economic return on investment, lack of government leadership and coordination, and lack of similar greening models. In Pittsburgh, a greening forum identified legal issues such as liability, liens, and zoning, as well as a confusing system for the acquisition and reuse of vacant lots, as challenges to urban greening activities (Systems Synthesis, 2006). Leading urban greening programs within the United States and abroad can provide relevant lessons on how to address these classic barriers to green infrastructure initiatives. Programs in Toronto, Lawrence, Massachusetts, and Philadelphia offer a diverse sample of approaches, scale, and focus. Table 4 highlights these program activities and strategies.

The Toronto Waterfront Regeneration Trust has been developing and implementing a greening strategy for the Port Lands, an area of brownfields along the city’s waterfront (De Sousa, 2003). It pioneered the creation of a large-scale green infrastructure network as part of an overall revitalization effort for the Port Lands involving support from local, provincial, and national agencies (Groeneveld, 2002). As a regional nonprofit, the Trust serves as a con-

Table 3. Summary of urban greening benefits.

<table>
<thead>
<tr>
<th>Urban greening effect (sources)</th>
<th>Environmental</th>
<th>Social</th>
<th>Economic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide opportunity to create community through social interactions (Coley, Sullivan, &amp; Kuo, 1997)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduce ADHD in children (Taylor, Kuo, &amp; Sullivan, 2001)</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Improve self-discipline in inner-city girls (Taylor, Kuo, &amp; Sullivan, 2002)</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Reduce crime (Kuo &amp; Sullivan, 2001b) and domestic violence (Kuo &amp; Sullivan, 2001a)</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Increase physical activity opportunities (Kahn et al., 2002)</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase potential consumer spending (Wolf, 2005)</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Address flooding and reduce storm water runoff (Carroll, 2006; Kloss &amp; Calarusse, 2006)</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase property values (Voicu &amp; Been, 2008; Wachter, 2004; Wachter &amp; Gillen, 2006)</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase access to healthy, local food (American Planning Association, 2007; Baroff, 2006; Hung, 2004)</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Reduce urban heat island effect (Hardin &amp; Jensen, 2007)</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Table 4. Leading urban greening programs.

<table>
<thead>
<tr>
<th>Program (sources)</th>
<th>Vision</th>
<th>Projects</th>
<th>Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toronto Waterfront Regeneration Trust (De Sousa, 2003; Groeneveld, 2002; Laidley, 2007)</td>
<td>Take an ecosystems approach to redeveloping brownfields and vacant waterfront properties; incorporate economic, environmental, and social elements while involving the community</td>
<td>Create greenways, retention ponds, and pocket parks to increase land value and aesthetics, and mitigate air and water pollution; develop a 460-mile waterfront trail responsible for initiating redevelopment projects along the Toronto Port Lands</td>
<td>Advise decision makers on how redevelopment can incorporate green infrastructure and link existing green spaces; coordinate stakeholders to address zoning challenges, jurisdictional gridlock, and public-private relations</td>
</tr>
<tr>
<td>Philadelphia Green (Bonham, Spilka, &amp; Rastorfer, 2002; PHS, 2008b, 2008c)</td>
<td>Use urban greening to reclaim vacant lots; engage residents, city agencies, and local organizations as a means to educate and empower residents while creating a greener, more livable city</td>
<td>Clean and green vacant lots to create community gardens and storm water management sites; transfer lots to adjacent owners; develop urban agriculture farms</td>
<td>Engage community residents in the preparation, greening, and maintenance of vacant lots; coordinate the involvement of city departments, businesses, residents, and other nonprofit organizations</td>
</tr>
<tr>
<td>Groundwork Lawrence (Groundwork Lawrence, 2007; K. O’Brien, personal communication, January 30, 2008)</td>
<td>Facilitate on-the-ground projects, education, and volunteer programs to help transform local communities</td>
<td>Alley greening, brownfields redevelopment, open space planning, community visioning, Safe Routes to School, community parks, workforce housing</td>
<td>Treat vacant properties as assets that can provide diverse community benefits when incorporated into neighborhood planning; start with small projects to build successes and capacity; engage numerous and diverse stakeholders</td>
</tr>
</tbody>
</table>

...vening body to address regulatory barriers and coordinate public-private relations (Laidley, 2007). Groundwork Lawrence began with an alleyway greening project in Lawrence, Massachusetts, and continues to complete urban greening projects addressing vacant properties and brownfields, including the development of an open space plan for the city (K. O’Brien, personal communication, January 30, 2008). Affiliated with Groundwork USA, it uses community-driven planning processes to ensure resident buy-in and garner political and economic support from public officials, developers, and foundations.7 Vacant properties are viewed as opportunities rather than being treated as liabilities when struggling with development challenges. A collaborative neighborhood planning process addressing 600 vacant lots culminated in an urban village concept for the North Common Neighborhood.

Since 1974, the Pennsylvania Horticultural Society’s (PHS) Philadelphia Green program has been developing and implementing urban greening initiatives to mitigate the presence of over 31,000 vacant properties in the city, improving the physical and social environment of neighborhoods (Bonham et al., 2002). Working with the City of Philadelphia’s NTI and other stakeholders including residents, development and civic organizations, and businesses, its vacant land management program organizes and empowers neighborhood groups to clean, prepare, landscape, and maintain these sites (Bonham et al., 2002). Site selection is based on a series of criteria including location, community support and interest, lot size, and a desire to provide safe routes to schools and other public buildings (Bonham, 2007). By engaging neighborhood residents throughout the entire process, Philadelphia Green ensures that greened lots will remain green. It also partners with workforce training organizations such as Ready, Willing & Able and SELF, Inc., which provide homeless persons and ex-convicts the opportunity to gain self-sufficiency through employment in the upkeep of greened lots (PHS, 2008a).

As part of a $16 million grant from the city’s NTI, with supplemental funding from the U.S. Department of Housing and Urban Development and the U.S. Forest Service, PHS cleaned and planted over 7,000 lots in six target neighborhoods from 2003 to 2007 (Bonham & Groman, 2008). A 2006 Wharton School study found that values of properties located next to stabilized and green lots...
increased 17%, while those located next to vacant and abandoned lots declined by 20% (Wachter & Gillen, 2006). Based on the success of Philadelphia Green projects, in 2006–2007, the city partnered with PHS to manage the public outreach process for a new citywide green infrastructure initiative called GreenPlan Philadelphia.

Part of Philadelphia Green's success is due to the financial capacity and leadership of PHS and the respect it has earned from the city and its residents. Its Philadelphia Flower Show is a world-class event providing a consistent funding stream for the PHS organization and its urban greening initiatives. To adapt Philadelphia Green's practices and approaches to another city would require a strong institutional home like the one PHS provides, especially during the start-up of an urban greening initiative. Moreover, the historically dense growth pattern of Philadelphia preserved little green space in private ownership, helping to generate neighborhood demand for community gardens and other open spaces.

The urban greening efforts in Toronto, Lawrence, and Philadelphia have led to the creation of more stable neighborhood environments and established innovative programs that provide jobs, skills training, and local fresh food for residents through the reclamation of vacant properties. They offer the following lessons and insights on how greening strategies might work for right sizing shrinking cities.

- **Nonprofit leadership.** Nonprofit organizations can often navigate tricky political situations, giving urban greening efforts continuity and longevity. Nonprofits can also organize stakeholders and provide leadership in legal, financial, and organizational matters.

- **Urban greening to empower communities.** Philadelphia and Lawrence used the greening process to build neighborhood capacity to address social conditions by engaging residents early and continuously in planning, implementation, and maintenance.

- **Varied green uses.** New green spaces must have varied purposes (community gardens, urban agriculture sites, pocket parks, storm water management sites, green places to play, greenways linking destinations), as each vacant lot is unique. Planning that considers a menu of green uses will allow more vacant lots to be reclaimed (K. O'Brien, personal communication, January 30, 2008).

- **Creative and diverse financing and partnerships.** A diverse portfolio of funds, from foundation grants to state programs and local bonds, are necessary for financing the greening of vacant lots. Meaningful urban greening requires engaging numerous stakeholders and developing partnerships with public and private entities, other nonprofits, and community residents.

- **Process of evolution.** Successful programs move from small-scale, place-based, pilot projects to broader programs and eventually community or citywide green plans by building on initial successes that demonstrate capacity and commitment and establish trust and credibility with local officials and community stakeholders.

**Right-Sizing Strategies and Tools**

Implementing of our green infrastructure model will raise many questions and pose its share of challenges: (a) How does a community decide where to right size? (b) What data are needed to begin? (c) How can a community finance and manage an effective right-sizing initiative? (d) What does right sizing mean for remaining residents? Given the lack of comprehensive right-sizing models, our approach builds on the vacant property reclamation experiences of cities including Philadelphia; Baltimore; Youngstown, OH; Flint, MI; and Richmond, VA. The following discussion focuses on the vacant property policies and programs that communities would likely use to implement a comprehensive, coordinated approach to right sizing through green infrastructure, as shown in Figure 2.

**Green Infrastructure Planning**

Because planners cannot control where vacancy and abandonment occur, a shrinking city needs a green infrastructure plan to connect its green assets and strategically guide resources and reuse initiatives. Such a plan should include policies for interim and permanent green reuse identified by location, ecological value, and economic conditions. Conducting a vacant land inventory and environmental assessment, as well as monitoring the demand for land, can help determine these uses. Green infrastructure planning also requires staying aware of available properties through land monitoring tools including field inspections, tax assessor's data, and interpretation of aerial or satellite imagery (Knaap, 2004). Due to variations in accuracy and usefulness, national data sources for counting and locating vacant properties (i.e., U.S. Census, U.S. Postal Service) should be augmented with local information such as county auditor records, code enforcement cases, community-based reporting, and utility records (Community Research Partners, 2008).
Preparation: Assess and survey existing conditions
- Identify possible revenue options and business models
- Identify and rectify potential legal barriers
- Forecast population change, evaluate economic/market trends, and monitor demand for land
- Inventory and map parks, open space, trails, etc., and identify underserved areas
- Inventory, map, and conduct environmental assessment of vacant properties

Plan and Design: Engage in collaborative neighborhood planning process
- Create green infrastructure right-sizing plan
- Propose design solutions based on social, environmental, and economic conditions
- Identify potential green infrastructure linkages
- Identify strategic investment areas and pilot projects
- Categorize neighborhoods’ levels of stress
- Identify and engage neighborhood and citywide stakeholders

Action: Implement green infrastructure and right-sizing plan
- Provide relocation and displacement assistance
- Begin strategic acquisition, transfers, demolition, and rehabilitation
- Identify potential partners (e.g., civic, private sector, CDCs, federal and state government, universities, etc.)
- Pursue and obtain initial funding
- Establish land bank

Figure 2. Potential steps to building and implementing a green infrastructure, right-sizing plan.

Citywide vacant property initiatives in Philadelphia, Baltimore, and Richmond relied on solid real property information. Unfortunately, few local governments have the resources or capacity to maintain a comprehensive inventory of the number, type, and location of vacant lands and abandoned buildings (Pagano & Bowman, 2004). According to a 1997–1998 survey of 74 local governments, cities average about 15% vacant land available for infill development, but how they define and capture the range of vacant properties varies (Pagano & Bowman, 2004). Without an accurate and comprehensive inventory covering all vacant property types, communities cannot effectively deploy the appropriate initiatives or strategically focus their resources.

Cities with GIS capabilities and electronic tax assessor data possess the essential resources to develop an inventorying and monitoring system, though this requires significant effort. The information can be used to map concentrations of vacant and abandoned properties, locating them in relation to other community assets such as schools, parks, and natural features. These maps, combined with population and economic forecasting, can help civic leaders and community residents formulate comprehensive green infrastructure plans and develop projects to guide right sizing.

Right sizing can also build on recent examples of areawide brownfields redevelopment. Like vacant and abandoned properties, many brownfields are small, scattered sites with low value. An areawide brownfields redevelopment plan can provide important economies of scale to site preparation, cleanup, and eventual reuse (Van Hook, Auer Shaw, & Kloo, 2003). Van Hook further calls for a single point of contact on implementation oversight and coordination, a strategy echoed in a recent Carnegie Mellon report on vacant property greening in Pittsburgh (Systems Synthesis, 2006). Under our right-sizing model we propose vesting these essential management responsibilities in a land bank.

Land Banks

Effective right sizing will require an entity with sufficient capacity and expertise to acquire, demolish, maintain, and reuse inventories of vacant properties. Different from redevelopment authorities, land banks are typically governmental or quasi-public entities that convert vacant, abandoned, and tax-delinquent properties to productive reuse (Alexander, 2005). They can assemble and hold multiple properties, eventually transferring legal title to responsible nonprofit and private developers (Alexander, 2005). By taking the initial risk of preparing land in weak real estate markets, land banks can encourage private investment and create momentum for neighborhood revitalization. Under our model, they could also assist with neighborhood revitalization strategies, administer urban greening initiatives, and oversee the demolition of abandoned buildings.

Attempting to reverse the economic misfortunes of Flint, MI, the Genesee County Land Bank (GCLB) is emerging as the nation’s most comprehensive land-banking operation. Since 2003, the GCLB has demolished more than 800 unsafe and abandoned buildings, managed the rehabilitation of 90 affordable rental units and 80 single family homes, and sold 500 side yard lots to adjacent property owners (Harvard University, 2007). GCLB also has a Clean and Green program that develops vacant lots for community gardens and pocket parks, and experiments with alternative plantings to remediate contaminated soils.

The GCLB relies on three primary revenue sources to cover the management and holding costs of properties: (1) a state tax-foreclosure fee to fund staff, overhead, and basic maintenance; (2) land-sale proceeds for mowing,
cleaning, and other routine cleanups; and (3) brownfields tax increment finance (TIF) revenue derived from a $5 million land-bank issuance of TIF bonds to cover the majority of demolition and site-preparation funding. Pooling all of these revenue sources together, the GCLB maintains an $8 million self-sustaining land revitalization fund. A 2007 study by Michigan State University’s Land Policy Institute found that GCLB expenditures of $3.5 million from 2002 to 2005 on rehabilitation and reclamation of tax delinquent properties leveraged more than $112 million in economic benefits for the city of Flint (Griswold & Norris, 2007).

The GCLB shows how a land bank could work as part of a right-sizing initiative, but two preliminary challenges must be addressed:

1. **Obtaining state authorizing legislation.** Only a handful of states (Georgia, Ohio, Michigan, Kentucky, and Missouri) expressly grant municipalities the authority to create land banks (Alexander, 2005); however, several cities and counties have established land-banking programs without specific land-bank legislation by entering into interlocal, joint powers agreements that create special public benefit corporations or authorities (Mallach, 2006). Recently Maryland enacted new legislation to create a land bank for the City of Baltimore (Fritz, 2008) and the New York legislature adopted a special land-banking bill that would give counties authority to manage county wide land-banking programs under the auspices of the Empire State Development Corporation (Fairbanks, 2008).

2. **Financing the land-bank operation.** Financing the start of a land bank and its operations is difficult for shrinking cities with inherently weak fiscal capacity. Land banks typically receive funds from a combination of bonds, foundation grants, local funds, and sometimes federal and state housing, community, and economic development programs. Federal and state resources will be needed to help shrinking cities start land-bank operations, cover demolition costs, and finance land acquisition. Pending legislation in the 110th Congress (H.R. 3498 and S. 2054 introduced by Congressman Higgins from Buffalo, NY, and H.R. 5870 introduced by Congressman Ryan from Youngstown, OH) would provide additional Community Development Block Grant (CDBG) funds for housing demolition initiatives in many shrinking cities; some of these funds could be channeled to charter land-bank programs and develop green infrastructure plans. We recommend, however, that demolition funds be provided only to implement holistic, community-driven plans that address how the vacant properties will be managed after demolition and eventually reused.

Recent research comparing the land-banking programs in Detroit and Cleveland offers important insights for right sizing and reveals dramatic differences in results, structures, and commitment to the disposition and reuse of tax-delinquent land (Dewar, 2006). Characteristics critical to Cleveland’s greater success included (a) transparent disposition policies; (b) cooperation among the city, county, and the community development corporation (CDC) community; (c) connection to a redevelopment mission; (d) state legislation providing clear title; (e) realistic pricing of land; and (f) willingness and capacity to hold land for redevelopment. Curiously, neither program established strong connections to citywide or neighborhood-level plans (Dewar, 2006).

**Strategic Neighborhood Plans and Investments**

Neighborhood plans for how to reuse vacant properties could direct investments to strategic locations, reinforcing city assets and strengthening declining property markets (Dewar, 2006). A critical planning tool is a neighborhood typology based on city and neighborhood market and demographic analyses to allow local officials and community leaders to tailor revitalization strategies to unique neighborhood conditions. Philadelphia’s neighborhood typology is a notable model that could help identify opportunities for right sizing through green infrastructure.

As part of Philadelphia Mayor John F. Street’s NTI, the community development consulting firm The Reinvestment Fund classified all city neighborhoods into six categories based on market and neighborhood conditions such as vacancy rates, housing sale prices, owner occupancy rates, housing age, demolition activity, and consumer credit profiles (McGovern, 2006). At the bottom of the spectrum were neighborhood classifications (e.g., transitional, distressed, and reclamation) that exhibited significant population loss, high vacancy rates, and low property values. Neighborhoods in the reclamation category would require the greatest level of government intervention through large-scale site acquisitions, land assembly, and demolition, and thus are ideal candidates for right sizing through green infrastructure.

Neighborhoods in Bloom (NiB), in Richmond, VA, offers further guidance for right sizing. City officials, in partnership with the Virginia office of the Local Initiative Support Corporation (LISC), devised a targeted investment
strategy that concentrated federal CDBG and Home Investment Partnership (HOME) funds and general fund projects in seven city neighborhoods of roughly 300 blocks (Galster, Tatian, & Accordino, 2006). Critical to NiB’s success was formulating indicators of neighborhood conditions and development potential for each of the city’s 49 neighborhoods. LISC and city officials worked collaboratively with representatives from Richmond’s civic associations and community development corporations to categorize each neighborhood into one of four treatment groups based on the indicators. The city’s community development department organized work teams of neighborhood civic organizations, CDCs, and the Richmond Redevelopment and Housing Authority to develop a budget and two-year work plans, and refine target area boundaries (Galster, Tatian, & Accordino, 2006). Figure 3 summarizes the costs and benefits of the NiB program.

**Collaborative Planning Strategies and Insights**

Many diverse stakeholders will be involved in developing a comprehensive green infrastructure network and right-sizing initiative. The challenge for policymakers and planners is how to engage these stakeholders, empower residents, and coordinate various right-sizing strategies and tools. We contend that collaborative planning offers the ideal vehicle for bringing together the players and the policies necessary for effective right sizing.

Collaborative planning processes are viable ways for diverse stakeholders to reach consensus when making controversial public decisions (Innes, 1996) and to obtain meaningful results (Martin & Pentel, 2002). Collaborative planning, consensus building, and facilitation often result in feasible policies and implementable plans that address community issues (Forester, 2006). Identifying a comprehensive plan for greening that takes into account neighborhood and city interests will require planners to develop flexible policies respectful of, and in collaboration with, a diverse group of stakeholders. The process will likely highlight issues as identified in Figure 4.

Planning efforts to ameliorate blight and to right size cities must address residents’ needs and concerns. Recent experiences in Philadelphia and Youngstown offer insights on how to engage community leaders and residents in honest conversations about right sizing through green infrastructure development. Philadelphia’s NTI did not initially plan for and effectively address neighborhood fears about relocation; nor did the mayor and NTI staff make clear how demolition and land assembly would benefit local residents. By contrast, the 2010 comprehensive planning process of Youngstown offers a good example of how to engage the public in the design of the nation’s first shrinking city comprehensive plan.

During the first two years of operation, NTI encountered strong community opposition in its two preliminary reclamation neighborhoods, Strawberry Mansion and Mantua. In addition to the debris-filled vacant lots resulting from demolitions, residents were concerned they would be forced to relocate. For older residents, it brought back nightmares of urban renewal. NTI’s program for demolition did not articulate how local residents would benefit. Activists worried that demolition and land assembly would benefit private developers and result in market-rate housing (McGovern, 2006). NTI did not have procedures or guidelines for moving residents to new locations or data

**Total city investment by source of funds**

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDBG</td>
<td>$6,250,747</td>
</tr>
<tr>
<td>HOME</td>
<td>4,536,349</td>
</tr>
<tr>
<td>Other fed grants</td>
<td>1,104,771</td>
</tr>
<tr>
<td>CIP</td>
<td>297,551</td>
</tr>
<tr>
<td>General Fund</td>
<td>81,878</td>
</tr>
<tr>
<td>HOME/108 loans</td>
<td>621,883</td>
</tr>
<tr>
<td>Other fed loans</td>
<td>200,260</td>
</tr>
<tr>
<td>State grant</td>
<td>172,595</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>657,330</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$13,923,364</strong></td>
</tr>
</tbody>
</table>

**LISC investments**

<table>
<thead>
<tr>
<th>Type</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inside NiB</td>
<td>$4,709,858</td>
</tr>
<tr>
<td>Outside NiB</td>
<td>2,529,769</td>
</tr>
<tr>
<td>Unspecified</td>
<td>214,149</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$7,453,776</strong></td>
</tr>
</tbody>
</table>

**Total**

$21,377,140

**Results**

- Housing prices in NiB areas rose 9.9% faster than citywide.
- Housing prices outside of NiB areas (within 5,000 feet of NiB) rose 5.3% faster than the citywide average.
- Home price impacts were greatest when investments in the same block exceeded the threshold of $20,100.
- Nearly 400 new or renovated houses were sold or were under development.
- More than 130 private homeowners repaired their homes.
- Aggregate value for tax assessment increased from 44% to 63%.
- Crime decreased in the first three years in NiB areas by 19% compared with 6% reduction citywide.

Figure 3. Summary of Neighborhoods in Bloom program, Richmond, Virginia, investments and results, 1999 through February, 2004.

on the anticipated number of relocations or their costs (McGovern, 2006). In response to community concerns, the city eventually instituted new procedures to inform and work with relocating residents and provided full benefits under the federal Uniform Relocation Act. However, the fallout over relocation, along with higher demolition costs, prevented NTI from achieving its ambitious goals to reclaim more than 14,000 vacant properties; by fiscal year 2006 they projected razing only 5,000 to 6,000 derelict structures (McGovern, 2006).

In 2000, Youngstown began to revise its 1951 comprehensive land use plan through a series of civic engagement processes (Faga, 2006). Starting with a visioning process, the city and its public engagement consultant, Urban Strategies, Inc., brought together more than 250 public, community, and private sector leaders for six workshops. A set of four principles emerged from these leadership forums, setting the foundation for the plan’s vision statements. The visioning process culminated at a public meeting in December 2002 at which more than 1,200 attendees participated in a town hall meeting (Faga, 2006).

After the city council unanimously adopted the vision principles in February 2003, volunteers were mobilized to perform systematic assessments of neighborhood property conditions. Neighborhood planning meetings were held to target 11 neighborhood clusters for citizen input. More than 800 residents participated in the forums throughout 2004. In order to sustain momentum, the planning committee, with assistance from a local media professional, launched a citywide branding campaign in March 2004.

Armed with brochures, billboards, a website, and public service announcements, the campaign featured Youngstown citizens offering comments about public values and where the plan would take them in the future. In January 2005, more than 1,300 Youngstown residents attended the formal presentation of the 2010 comprehensive plan (Faga, 2006).

The Youngstown 2010 process engaged the naysayers rather than avoiding them, so that they ultimately became owners of the process and its results (Faga, 2006). Youngstown’s former community development director and current mayor, Jay Williams, reminded the 2010 planning team, “You have to address the ‘what’s in it for me’ issues” (Faga, 2006, p. 72). The Youngstown experience illustrates the importance of champions articulating the problems, developing potential solutions, and investing money and other resources to accomplish transformative change (Faga, 2006). Public leaders in shrinking cities must embrace public participation as an important way to solve urban problems. Youngstown 2010 made effective dialogue with the public a primary goal, rather than just a peripheral one (Faga, 2006).

Figure 5 lists lessons for using a collaborative planning process to right size a city with green infrastructure as well as some strategies for addressing the challenges that will likely arise.

Since adoption of its 2010 Plan, Youngstown and Mayor Jay Williams have received nationwide attention for the plan’s right-sizing goal, labeled “smart decline” (El Nasser, 2006; Lanks, 2006; Swope, 2006). They continue to focus on aggressive demolition (1,000 units since 2005–2006) and channeling development incentives and rehabilitation programs to more densely populated neighborhoods (Miller, 2008). Youngstown’s current challenge is creating more than 120 neighborhood plans that translate the 2010 right-sizing vision into detailed action steps with only one full-time planner on staff. Residents remain engaged and seem positive about the neighborhood planning process, but officials worry whether the slow pace of change will cause frustrations that could undermine support for concrete right-sizing activities, such as demolition, land acquisition, and conversion to green infrastructure.13

Conclusion: Policy and Research Implications of Right Sizing

Despite good intentions and modest success, our existing planning and urban revitalization policies fail to effectively address the surplus vacant and abandoned properties found in all shrinking cities. Building on the combined insights from successful vacant property initiatives
Philadelphia’s NTI Program

- Design a phased reclamation process to guarantee displaced owners a home in a new development at their current mortgage payment.
- Include a series of affordable housing strategies, such as a housing trust fund and mixed income development policies.
- Partner with CDCs from the outset to advance a collective reuse vision.
- Invest mayoral leadership in clarifying goals and community outcomes.
- Engage political leaders throughout the initiative’s design and implementation.

Youngstown’s 2010 Comprehensive Planning Process

- Engage the public in a meaningful way throughout the visioning and neighborhood planning processes.
- Form a leadership group to devise guiding principles for the vision.
- Recruit the media and dissenters to participate in the process and address their interests.
- Create a brand and market the adopted comprehensive plan through the media.
- Involve residents in a neighborhood planning process to apply the comprehensive plan’s citywide vision to their neighborhood.

Figure 5. Lessons from Philadelphia and Youngstown.

in Philadelphia, Lawrence, Youngstown, Richmond, and Toronto, the greening of vacant urban properties can increase the value of adjacent properties, reduce storm water runoff, and increase access to healthy local foods. More importantly, urban greening and vacant property reclamation can rebuild social capital by engaging residents in a collaborative neighborhood planning process. Older industrial cities desperately need a new vision, so why not ride today’s green policy wave by infusing sustainability and green infrastructure to right size or stabilize the most distressed neighborhoods in these shrinking cities? Transforming our green infrastructure vision into action will require planners and policymakers to revamp old approaches, craft innovative programs, and test new models. We conclude with a few observations about potential policy reforms and research ideas.

Planning and Innovative Neighborhood Design

Right sizing will require new ways to plan, design, and rebuild communities. The international Shrinking Cities Project sets forth several intriguing neighborhood designs to reduce the density of the existing urban fabric, substituting clusters of activity centers surrounded by green space (Oswalt, 2006). Shrinking cities should also consider hosting design competitions to generate and test alternative designs and reuses for vacant properties such as Philadelphia’s 2006 LANDvisions’ Urban Voids competition (Van Alen Institute, 2008). Through strategic side-lot acquisition, remaining residents in some of Detroit’s most distressed neighborhoods are creating suburban-scale residential enclaves labeled blots by local architects (Armbrust, D’Oca, & Theodore, 2007). The compact housing options proposed for rebuilding New Orleans might also work as part of a right-sizing neighborhood plan for Cleveland, Buffalo, or Youngstown.

Developing these new designs will require planners to rethink the existing Euclidean zoning system. New urbanists may need to further refine form-based codes and even recalibrate the Transect planning model to accommodate rural and semi-rural land uses (e.g., urban agriculture, open space sanctuaries, etc.) adjacent to a shrinking city’s central business district. Our entire zoning apparatus (administrators, boards of appeals, inspectors, and attorneys) would need a complete reorientation to administer and interpret zoning regulations in a shrinking city. Perhaps cities could create overlay zones with special rules and procedures to ensure compatibility and facilitate creative regeneration of these neighborhoods.

A Vacant Properties Policy Agenda

Right sizing with green infrastructure will require legislative reforms to provide local governments with critical vacant property reclamation strategies and tools. Vacant property inventory and information systems, land banks, and tax foreclosure reforms must be top priorities so shrinking cities can systematically acquire, manage, and dispose of vacant properties. The 2007 Harvard Innovations in Government Award was presented to the Genesee County Land Bank Authority, indicating that the land-bank model is gaining traction in broader policy circles.

Financing a greening strategy will be a challenge for fiscally constrained shrinking cities. Policymakers should explore urban green infrastructure bonds to leverage the anticipated returns on improved property values resulting from greening activities. Voter-supported bond measures already sponsor state and local parks, open space, and conservation initiatives, so why not issue bonds to support...
planning, land acquisition, demolition, and the management of urban greening. Cities could also link these bonds to climate change initiatives such as promoting new urban forestry and greening initiatives that capture carbon emissions and reduce energy consumption by mitigating the urban heat island effect.

**Planning and Policy Research**

Policymakers will need better data and solid research to advance these planning and policy reforms. Researchers should expand and update the survey work of Pagano and Bowman (2004) and collaborate with policymakers to develop better national datasets on vacancy and abandonment. Building on the cost report from Rebuild Ohio (Community Research Partners, 2008), researchers should create templates that communities could use to track the true costs of vacant properties over time. While researchers have devised methods to identify the amount of vacant land potentially ready for redevelopment (Knaap & Moore, 2000) and for infill housing (Landis, Hood, Li, Rogers, & Warren, 2006), these models must be adapted for green infrastructure reuse and made accessible to shrinking cities.

Building on research like that of Wachter (2004), Wachter and Gillen (2006), Voicu and Been (2008), and Griswold and Norris (2007) will be critical to estimate the economic benefits of urban greening. Additional research is needed on how vacant properties can address urban ecological issues such as habitat restoration, storm water management, and the urban heat island effect, to allow right sizing to leverage the current green policy wave.

Implicit in the logic of right sizing is the presumption that decommissioning surplus infrastructure and transforming urban spaces into green space will decrease government operating costs; this argument is critical to success in today’s political climate. But little data supports this cost-savings argument. Effective right-sizing initiatives will require collecting government fiscal data and creating models to track performance over time.

**A Policy Network of Shrinking Cities**

Finally, we recommend devoting effort to improving the transfer and diffusion of these policy innovations. Research on network power by Booher and Innes (2002) illustrates that collective actions to achieve previously unattainable goals can unite individual stakeholders and interest groups that may have insignificant influence operating alone. While a few communities continue to pilot test individual elements like Youngstown’s smart-decline comprehensive plan and the Genesee County Land Bank Authority, no American city has yet combined these policies and programs into a comprehensive right-sizing initiative. We propose that a network of shrinking cities share model practices and collaboratively solve problems. These communities could import each other’s successes, bringing the Philadelphia Green program concept to Genesee County and the idea of a land-bank authority to Philadelphia and Youngstown. A national organization, such as the National Vacant Properties Campaign, could facilitate such exchanges and then export these models to other shrinking cities.

**Notes**

1. The National Vacant Properties Campaign (n.d.) defines vacant properties as “vacant residential, commercial, and industrial buildings and lots that threaten public safety and/or have been subject to the neglect of fundamental duties of property ownership.” Neglect of ownership duty includes failure to pay taxes or utility bills, mortgage default, and failure to pay liens on the property.
2. In 2000, the City of Baltimore estimated it had 12,700 abandoned housing units, while the Census count was 42,480. Philadelphia estimated it had 26,000 vacant housing units and 31,000 vacant lots. Detroit owned about 36,000 parcels of tax reverted land in 2004 (Dewar, 2006).
3. Philadelphia is also a city with a high other vacant rate but is not listed in the top 20 based on its lower overall population percentage loss (24.2%) between 1960 and 2000.
4. A 2007 study of eight cities in Ohio estimated that vacant properties cost $49 million in lost tax revenue and $15 million in city services (Community Research Partners, 2008). City services include code enforcement, demolition and boarding, yard maintenance, and fire and police calls. Lost tax revenue creates financial hardships, particularly for school districts that rely on property taxes for a bulk of their funding (Community Research Partners, 2008).
5. The Shrinking Cities Project from Germany produced three publications: *The Atlas of Shrinking Cities* (Oswalt & Rieniets, 2006), *Shrinking Cities Volume 1: International Research* (Oswalt, 2005) and *Shrinking Cities Volume 2: Interventions* (Oswalt, 2006) as well as an international traveling exhibit that was shown in New York, Detroit, and Cleveland. Additionally, in 2007, the Institute for Urban and Regional Development at the University of California, Berkeley, held an international symposium to discuss shrinking cities, the first of its kind in the United States. Articles have appeared in the popular press as well, including in *Governing* (Swope, 2006), *USA Today* (El Nasser, 2006), and the *New York Times* (Lanks, 2006).
6. Through a partnership among the Annie E. Casey Foundation, Johns Hopkins University, the City of Baltimore, and the State of Maryland, the East Baltimore Revitalization Initiative near the Johns Hopkins campus takes a comprehensive approach to displacement and relocation by providing job training and placement, asset building strategies, housing, financial legal and transportation services, along with counseling both before and after the move and offering residents a variety of relocation options (Annie E. Casey Foundation, 2008).
7. Groundwork USA, modeled after Groundwork UK, works in cities across the U.S. such as Minneapolis, Milwaukee, New Orleans, San Diego, and Providence, in partnership with the EPA Brownfields Program and the National Parks Service Rivers & Trails Assistance Program to build sustainable communities by engaging local people.
businesses, government, and other organizations. Projects seek to improve the environment, economy, and quality of life, as Groundwork USA believes "people, places and prosperity are inextricably linked" (Groundwork USA, n.d.).

8. Through a partnership with the University of Pennsylvania, the City of Philadelphia's Neighborhood Information System (NIS) provides city officials and community groups with current and comprehensive real property information ranging from code violations to properties with active building permits. The university acts as a data intermediary to ensure compatibility among the various databases, facilitates data sharing among government agencies and community organizations, and converts this information into maps (Schilling, Schamess & Logan, 2006).

9. While most brownfields redevelopment still happens on a site-by-site basis, New Jersey and New York have enacted legislation and regulatory guidelines to facilitate local area wide revitalization plans (Schilling, Schamess, & Logan, 2006; Van Hooke et al., 2003).

10. Atlanta, Louisville, Cleveland, and St. Louis have some of the longest-running land-banking programs in the nation (Alexander, 2005). These programs vary in capacity depending on government support, market conditions, and community demands. Michigan has the nation's most comprehensive land-banking legislation coupled with fast-track tax foreclosure processes for vacant properties. Currently 10 Michigan counties have adopted special land bank authorities. The state also operates its own land bank that now owns or manages more than 6,000 properties (D. Kildee, personal communication, February 15, 2008; see also State of Michigan, 2008).

11. The researchers examined profits from the sale and redevelopment of GCLB properties, the financial assets retained in the community by helping keep habitable properties out of foreclosure, and the subsequent increase in the value of adjacent homes and land (Griswold & Norris, 2007).

12. The GCLB received an initial grant of $250,000 from the C.S. Mott Foundation to design and pilot test its programs (D. Kildee, personal communication, February 15, 2008).

13. Through the National Vacant Properties Campaign, we made a study visit to Youngstown, OH on June 9-11, 2008. These observations reflect our opinions.

14. Oswald Mathias Ungers’s 1977 plan for West Berlin called for a restructuring of the city into urban villages surrounded by green space (Cepi, 2006). Leinweber, a former East German city, is planning for shrinkage by deconstructing areas at its edge and concentrating modernizing improvements in its core; it also has planned for a green corridor from its center to outlying areas (Steglich, 2006).

15. Unlike conventional zoning, form-based codes elevate urban design and its relationship to adjacent public spaces to the primary means of regulating land use (Katz, 2004). New urbanist architect, Andres Duany, devised the Transect as a continuum of zones stretching from urban to rural areas. Each Transect zone’s built environment has its own density and character, reflecting its location in that continuum. Within new urbanist circles the Transect serves as the design and policy template for the comprehensive plan and its code.

16. The Trust for Public Land tracks the number of land conservation bonds voted on, approved, and the funding consequently generated. In 2007, 65% of open space and conservation bonds voted on were approved, providing $1.9 billion in conservation funding (Trust for Public Land, 2008).

17. In Onondaga County, New York, where the county executive decided to forego the construction of a controversial sewage treatment facility in favor of a more holistic approach incorporating the use of green infrastructure, a subsequent project will use vacant properties to help manage storm water runoff. Various organizations are using state and local funds to create rain gardens and reforest vacant lot owned by the City of Syracuse in an effort to mitigate the combined sewer overflow discharges contributing to the pollution in Onondaga Lake (Mariani, 2008).

18. A smaller network is already emerging linking Pittsburgh, Cleveland, and Youngstown. With assistance from the Sirdna Foundation, Kent State’s Urban Design Center and the Cleveland-based nonprofit Neighborhood Progress, Inc. organized a one-day learning session to facilitate the sharing of shrinking city strategies among these three rust belt communities (Janko, 2008).

References


