

Planning Shrinking Cities

by

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Abstract

Developed, modern cities throughout the world are facing population declines at an unprecedented scale. Over the last fifty years, 370 cities throughout the world with populations over 100,000 have shrunk by at least 10% (Oswalt and Rieniets 2007). Wide swaths of the U.S., Canada, Europe, and Japan are projecting double-digit declines in population in the coming decades. Internationally, scholars and practitioners of the built environment have responded to this crisis by reconceptualizing decline as shrinkage and have begun to explore creative and innovative ways for cities to successfully shrink (Stohr 2004; Swope 2006). The lack of strong market demand and an abundance of vacant land create unprecedented opportunities to improve green space networks and natural systems in shrinking cities. Capitalizing on decline to set aside land for recreation, agriculture, green infrastructure, and other non-traditional land uses will benefit existing residents and attract future development, and enable shrinking cities to reinvent themselves as more productive, sustainable, and ecologically sound places.

We offer two central challenges to the academic planning community to consider addressing in the shrinking cities phenomena. First, little is known about how existing planning tools used in growing communities can be adapted to be used in a shrinking environment. And second, planning researchers should study how planners, policy makers, citizens, businesses, and others operate within a shrinking city, how they conceptualize population loss, how they manage the physical changes that result from shrinkage, and what can they do to better plan for shrinkage.

The paper highlights the notion of “shrinking cities” as an emerging research agenda in planning that should be addresses in a global knowledge exchange. Shrinking cities might offer a paradigm shift from growth centered planning to a more careful and place-based approach towards more livable cities.

In recent years a small number of planners, both in the United States and abroad, have concerned themselves with how cities shrink as well as how they grow. The interest is overdue: according to an authoritative estimate (Pallagst 2007), one in six cities worldwide was shrinking substantially even before 2007's American subprime mortgage crisis and late 2008's international economic slowdown. In the United States, for instance, the 2006 Census estimates reveal that sixteen of 1950's twenty largest cities have shrunk since, often by serious amounts.

Thus Buffalo, Cleveland, Detroit, Pittsburgh and St. Louis have lost more than half their population, Baltimore and Philadelphia nearly a third, and other cities outside the Northeast and Midwest—Birmingham, Memphis, Norfolk, Richmond and pre-Katrina New Orleans—large proportions. Smaller cities—Ashland (Kentucky), Camden (New Jersey), East St. Louis (Illinois), Flint (Michigan), Reading (Pennsylvania) and Wheeling (West Virginia) shrunk comparably. Boston, Los Angeles, Miami and New York City would have shrunk too, were it not for their extraordinary intake of immigration. Most large British cities other than London are shrinking (Oswalt 2005). A German government-sponsored project, *Shrinking Cities*, found that globally since mid-century, over 450 cities of over 100,000 lost at least a tenth of their population, including 59 in the United States (Oswalt and Reinitz 2006).

Most planners lag in grasping the widespread existence and impressive implications of shrinking cities. While some planners were involved, the German *Shrinking Cities* initiative is primarily the work of architects, artists and activists. It sponsored a well-received international exhibit on the conceptual and developmental possibilities shrinking

cities offer, which has toured Western Europe and the United States, drawing large layperson crowds (Rugare and Schwarz 2008).

A mildly perverse result of planners' inattention to urban shrinkage is the striking public reception given to the plan of Youngstown, Ohio (City of Youngstown 2005). In 1950 the city, roughly midway between Cleveland and Pittsburgh, was the quintessential bustling steel town, with 170,000 people the fifty-seventh largest American city. Then suburbanization hit, in 1977 the steel mills began to close, and by 2000 it had 82,000 residents. Like many other shrinking cities, it featured visibly declining neighborhoods with abandoned or underoccupied buildings, empty overgrown lots, high crime, and an aging and heavily minority population (Hollander 2009, especially 176-202). In 2002 the city began formulating a creative plan to let such neighborhoods keep emptying and, in some cases, nearly (re)naturalize. The plan, still in its early implementation stages, would raze unused buildings, streets and alleys and create larger home lots, more green space and new parks. The core of the city's plan is that it accepts Youngstown's decline and tries to use it as a way to improve remaining buildings, infrastructure and services. The plan aims to depopulate, de-urbanize—and it does so deliberately.

The media and public reaction has been extraordinary. Youngstown's plan, planners, consultants and planning processes have appeared, among other places, on the Wall Street Journal's front page (Aepfel 2006), National Public Radio's "Morning Edition," (Saito 2007a), and the Voice of America (Saito 2007b), and in USA Today (El Nasser 2006). The New York Times Magazine's list of 2006's hundred most interesting new ideas included "Creative Shrinkage" and mentioned by name only Youngstown (Lanks 2006).

Yet many other cities, particularly in the US Rust Belt and even more in the former East Germany, have begun to formulate responses to shrinkage. A recent group of case studies, for instance, focused on Dresden, Buffalo, Cleveland and Detroit (Rugare and Schwarz 2008) and could just as easily added Flint, Michigan, and a dozen eastern German cities. Ohio alone has so many shrinking cities—every major one except Columbus—that a perceptive community organizer has written of “the failed state of Ohio” (Gecan 2008). Forbes has published lists of “fastest-dying cities” and “fastest-dying towns” (Zumbrun 2008, Woolsey 2008). Informative planning blogs such as FixBuffalo, MilwaukeeTalkie, Burgh Diaspora (Pittsburgh) and ThinkDetroit proliferate. There is still no question that Germany has devoted more intellectual and policy energy to shrinking cities than, say, the US or France.

Our fundamental finding is that urban shrinkage is a widespread First World occurrence for which planners have little background, experience or recourse. They are only beginning to comprehend it and find ways to respond to it. In particular, they have to overcome their aversion, usually induced by the growth-oriented wider culture they operate in, to the very idea of shrinkage. They believe it means a pessimistic, unhealthy acceptance of decline. But planners are in a unique position to reframe decline as an opportunity: a chance to re-envision cities and to explore nontraditional approaches to their growth at a time when cities desperately need them.

The phenomenon of shrinking cities

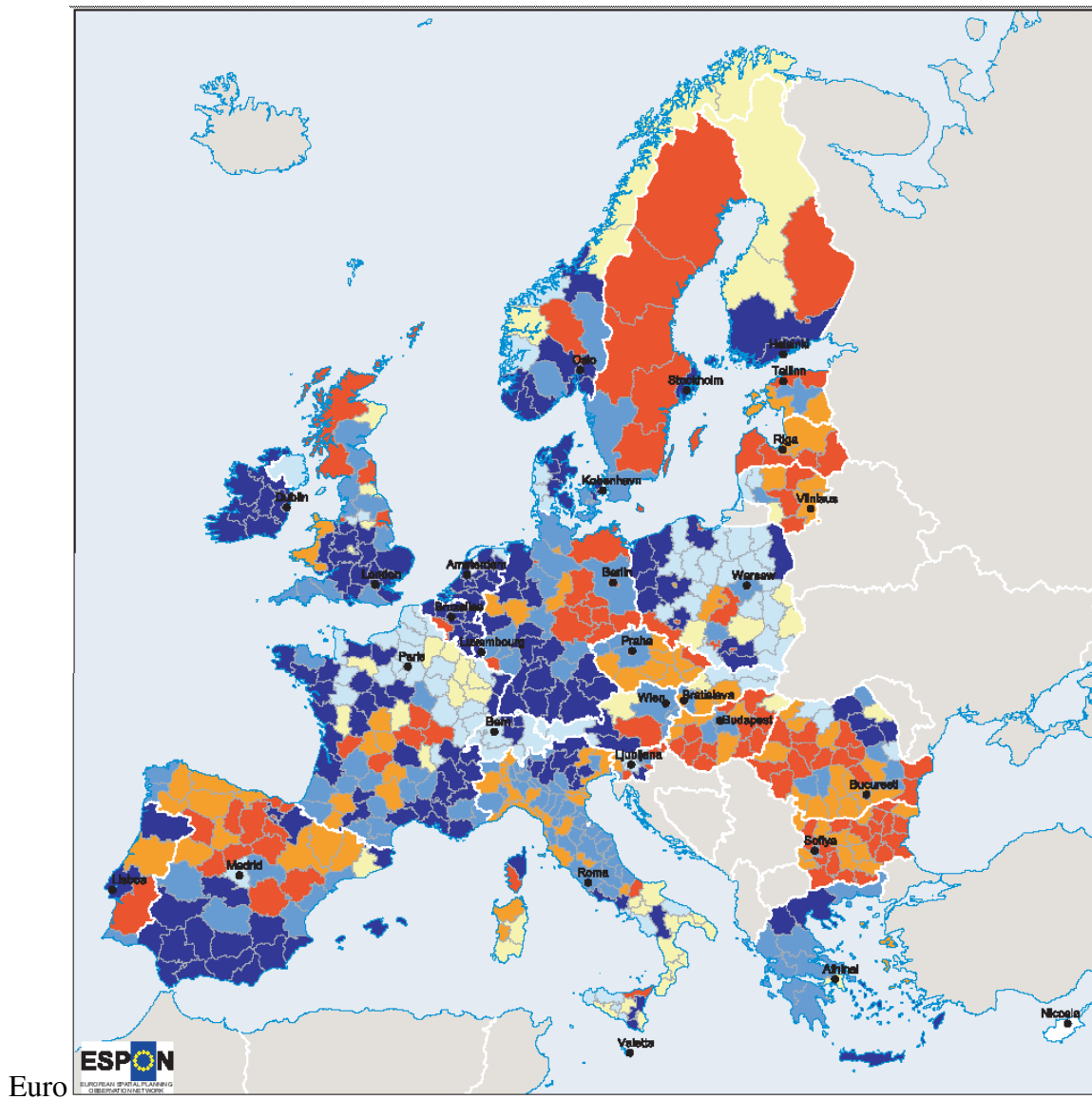
In 2004, in a relatively prescient move for planners, the Institute of Urban and Regional Development at the University of California, Berkeley launched a worldwide group of interdisciplinary specialists, the Shrinking Cities International Research Network (SCIRN), that came to a consensus definition of a shrinking city: a densely populated urban area with a minimum population of 10,000 residents that has faced population losses in large parts for more than two years and is undergoing economic transformations with some symptoms of a structural crisis (Wiechmann 2007). We will use this definition, both for the United States and internationally.

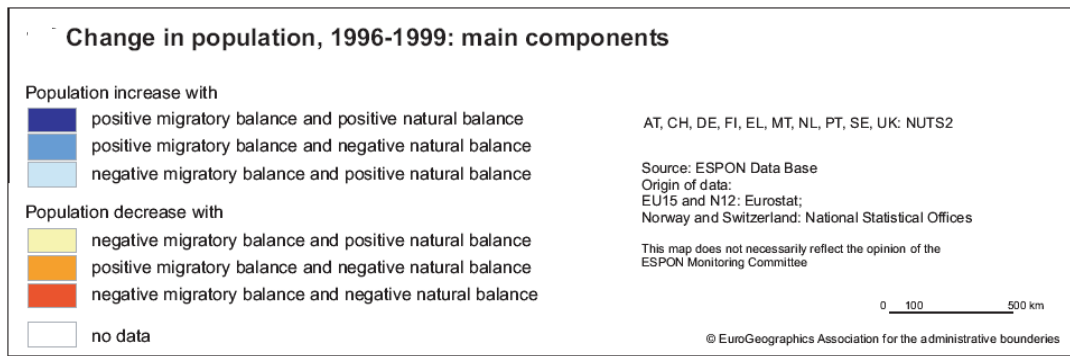
Many shrinking cities exist because of the post-industrial shift from manufacturing to service industries, with the resulting unemployment and outmigration (e.g., Pittsburgh, St. Louis, Manchester [UK]). Contributing factors might, among many others, be suburbanization, war, natural or human-induced disasters, an aging or low-fertility rate population, and the dissolution of socialist systems (in Eastern Europe and Russia). Such processes have drained essential resources from many urban areas, leaving the cities with a diminishing fiscal base (Pallagst 2007a).

Shrinking cities have a long history. In Late Antiquity, the Middle Ages and the Early Modern periods the collapse of the Roman Empire, diseases, war, fire and recurrent agricultural crises all left their mark on European and Asian cities that were never completely abandoned and usually resettled. By the late 19th century European, Asian, U.S. and Latin American industrialization and the railroads created larger cities (and regions) in some places, shrinking ones in others. Today the main European sites of shrinking cities are the post-socialist countries (especially Latvia, Bulgaria, Romania,

Hungary, Slovakia and eastern Germany), the northern ones (particularly Finland and Sweden), and Mediterranean ones (Italy and Spain). (Figure 1.)

Figure 1: Population change in Europe





Source: Federal Office for Building and Planning, Germany

The European causes of shrinkage are complex and partly overlapping. In the post-socialist countries, economic change led to migration (e.g., eastern Germany, much of the rest of Eastern Europe, and Russia). Such migration usually favors the capital or larger cities, causing remote and peripheral cities to lose population, which is also happening in much of northern Europe. Many European countries have low birth rates, which magnify shrinkage issues—as in Germany, where population decline and economic change reinforce each other.

In the United States large-scale shrinkage of large- and medium-sized cities became clear primarily after World War II. As Beauregard (2003) shows, between 1820 and 1930 only a few American cities lost population, all of them ports. Their decline occurred either because of the growth of railways elsewhere or disasters like fires or droughts. Conventional U.S. planning responses to shrinkage over the last half-century have dealt primarily with revitalizing distressed city centers. Yet shrinkage in the United States springs primarily from relative growth in the suburbs, which cuts off city growth and leads to decline. American urban planning often concentrates on either managing urban growth or addressing redevelopment in a fragmented, non-regional way that shows

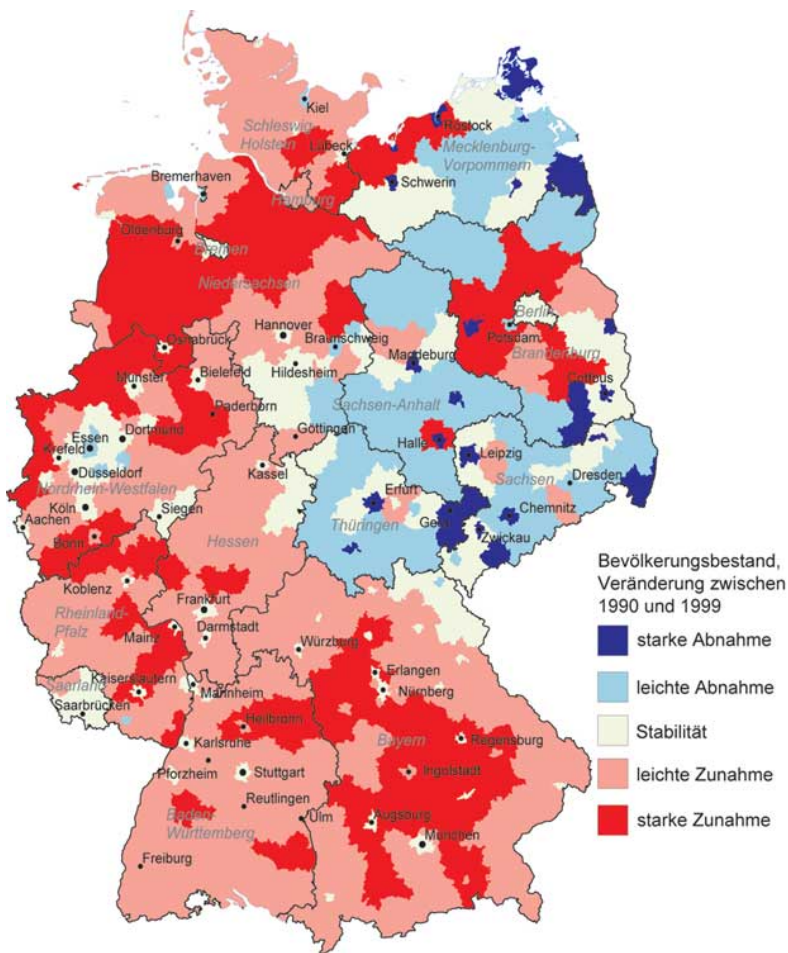
a high affinity toward growth. Despite the increasing popularity of the revitalization approach, which is usually focused narrowly on city centers, there has been little active discussion of shrinking cities (Popper and Popper 2002, Pallagst and Wiechmann 2005).

German and other discourses on shrinking cities

Post-industrial transformations have occurred in West Germany since the 1960s and 1970s, leading to the shrinkage of urban cores (Brandstetter *et al.*, 2005). The entire steel-making region of the Ruhr, an area roughly comparable to the American Rust Belt, shrunk. By 1988 West German shrinking cities had become distinct from growing ones (Haeussermann and Siebel 1988). But after the 1990 reunification with East Germany, the situation aggravated dramatically. A high rate of unemployment, often over 20% in many former East German cities, led to a massive movement of population to the former West Germany (Figure 2).

The policy trigger was a year 2000 report of a commission on housing vacancies that received huge public attention. It showed a change in perspective about the former East Germany, moving toward an urban development policy that would truly face declining development on a long-term basis. It was a paradigm shift in urban planning and development in eastern Germany. Population decline affects almost all eastern cities, but only specific western ones. Both sets of cities share the development trends of aging populations and low birth rates, problems that will increase future shrinkage in western Germany (Fuhrich and Kaltenbrunner 2005).

Figure 2: Population change in Germany



Source: Federal Office for Building and Planning

While there is an extensive planning debate in some European countries (e.g., Germany, Holland and Great Britain) about shrinking cities, international comparative research has largely overlooked them. Moreover, although shrinking cities exist all over the world, there has not been much of an international discourse on the topic. As the forerunners of the current debate, German planners are on the verge of developing a “German School” approach to shrinking cities. But these discussions take place in

German and the German intellectual elite, with few links to other countries' scholars or policymakers.

The SCIRN effort mentioned earlier offers a forum for the exchange of ideas on shrinking cities across the globe, including case studies from the US, Mexico, Brazil, Germany, France, United Kingdom, South Korea, Australia and Japan. The network has established a website (<http://www-iurd.ced.berkeley.edu/scg/>) and bi-weekly online discussions. The first results of this international research reveal that the location of shrinking cities varies between countries. Great Britain shows a north-south divide with shrinkage in the north. France's shrinking cities are located in the center of the country (Cunningham-Sabot and Fol, 2007), unlike the east-west divide of German city shrinkage mentioned earlier. US Rustbelt cities have shrunk more than other ones.

There are clearly varying patterns of shrinkage at the city level. In the US and a few European cities such as Glasgow (Cunningham-Sabot and Fol 2007), the pattern is usually a hollowing-out of the inner city compared to its suburbs, leading to a so-called "doughnut effect" (Pallagst and Wiechmann 2005). However, in the U.S. and Europe there are examples where the doughnut-effect is not evident. For example, In Cleveland, the fastest growing and fastest declining parts of the city are right next to each other, often intertwined. The Paris region has to face shrinkage in the outer suburban rings, which were the traditional places of industrial development, while the core remains stable (Fol and Cunningham-Sabot, 2007). Eastern German cities display a pattern of perforation, where shrinkage occurs in different areas throughout the city (Fuhrich and Kaltenbrunner 2005).

Another clear finding is that large parts of growth-oriented American and European cultures have an aversion to planning for shrinking cities. The dislike goes far deeper than the field of planning. Western civilization may indeed have a tropism toward growth in planning, economics, personal life and many other fields. Shrinkage or at least its perception thus becomes a threat or a taboo. Planning for shrinking cities comes to be equated with accepting an unhealthy decline (Popper and Popper 2002; Brandstetter *et al.*, 2005; Cunningham-Sabot and Fol 2007). Aiming for economic growth in order to regain population growth—an uneasy compromise—is the most typical response of planners and politicians, a strategy that rarely leads to success anywhere. Challenging growth as the key doctrine of planning, Martinez-Fernandez and Wu (2007) perceptively ask whether shrinkage is a problem to be solved or an opportunity not to be missed. Fuhrich and Kaltenbrunner (2005) advocate intellectual and political honesty about German shrinking cities, arguing that few are likely to see large-scale growth anytime soon—a point true of almost all shrinking cities.

Creating realistic visions for shrinkage is the main planning approach in eastern Germany, sponsored by the federal funding program Urban Renewal East (“Stadtumbau Ost”), which began in 2001. Leipzig was one of the first cities to undergo the painful process of moving from planning for growth toward planning for shrinkage (Glock, 2005). Dresden showed similarly aversive huge delays in planning reactions, resulting in miscalculated housing and building projections (Siedentop and Wiechmann 2007). The approach in the former East Germany focuses on tear-downs of vacant housing units and on revitalization measures, supplemented by integrated strategic plans at the city level.

Shrinking-cities planning often means attempts to make them greener, more compact and sustainable. Two German examples are the internationally acclaimed Building Exhibition “Emscher Park” in western Germany and the lesser-known project “Fuerst Pueckler Land” in eastern Germany. In both cases old industrial sites became landscape parks and cultural attractions. Many comparable projects exist elsewhere (Langner and Endlicher 2008; Schilling and Logan 2008; Spirn 2005). Cultural regeneration is another approach to planning shrinking cities. Glasgow’s strategy builds on tourism, recreation, and retail with a mix of exhibitions, media-industry investments, and a casino project. The German city of Duisburg created urban entertainment centers, and several parks and exhibitions (Glock 2005).

Emerging research questions: land use

Vacant land is the most visible byproduct of urban shrinkage. When redevelopment of vacant land is not feasible in the near term or for the foreseeable future, holding strategies and temporary uses can promote stability and uphold adjacent property values. Landscape beautification offers an established approach here. The city removes derelict structures and installs simple landscaping—often no more than grass and trees, shrubs or fencing to establish a perimeter edge—to provide an appearance of stewardship and control. Cleveland’s *Vacant Land Patternbook* (Cleveland Urban Design Collaborative and Neighborhood Progress, Inc, 2008) documents a wide variety of land holding strategies for managing urban vacancy. With an effective on-going maintenance program, these techniques create a perception of stability and can increase the market value of vacant properties for potential investors.

The Pennsylvania Horticultural Society's Philadelphia Green program, implemented in conjunction with the New Kensington Community Development Corporation, offers such a landscape initiative for 1,100 parcels of vacant land in the New Kensington neighborhood. Wachter (2005) analyzed the impact of this greening strategy by using more than 50 variables that affect surrounding residential real estate values. After examining the sales records of thousands of homes, she found that cleaning and greening of vacant lots can increase adjacent property values by as much as 30%. Planting a tree within 50 feet of a house can increase its value by about 9%. Houses up to a quarter of a mile from a park increase in value by 10%. Blocks with high concentrations of unmanaged vacant lots result in lower residential property values, typically a reduction of about 18% (Wachter 2005). The research provide a basis for public-sector implementation of landscape beautification strategies because the impacts appear to extend beyond the intangible benefits of urban green space and document a quantifiable economic return.

Prevention of illegal dumping of construction materials, tires, and other debris is a significant challenge for shrinking cities. Reduced populations and lower-density neighborhoods provide little informal oversight, the Jane Jacobs "eyes on the street" that have traditionally helped maintain community standards and deter illegal dumping. Many other factors contribute to illegal dumping: vacancy, abandoned buildings, topography, police presence and inconsistent enforcement of anti-dumping laws. A recent study in Pittsburgh and surrounding Allegheny County found "a disconcerting pattern to dumping that is more socio-economic than geographic" (Law 2006). Illegal dumping is more likely in neighborhoods where higher percentages of residents lack high school diplomas

and where per capita incomes are the lowest (Hrenko 2006). Illegal dumpsites appear equally prevalent in other shrinking cities and deserve more research.

More benign temporary uses for vacant land provide opportunities for grassroots economic development, local tourism, and enhanced quality of life for residents of depopulating areas. Temporary-use initiatives enable local entrepreneurs to envision new uses for vacant sites that are often former industrial and commercial properties and to transform them into temporary market places, venues for extreme sports and cultural events, outdoor art installations, gardens and agricultural sites, and community gathering places. Temporary uses are intended as low-cost and short-term. They provide a holding strategy that activates vacant land in ways that do not inhibit and can often facilitate a long-term, profitable use.

Berlin appears the epicenter of the burgeoning temporary-use movement. The basis for public sector promotion of temporary use strategies is that vacant land saps vitality from cities and converts a productive resource (real estate) into a community liability. Emerging research attempts to document the essential characteristics common to effective temporary use initiatives, the kinds of locations most suited for temporary use, and the range of development scenarios that can occur (Overmeyer, 2007).

Examples of innovative temporary use projects abound, from the youth-oriented extreme sports such as skateboarding, climbing and biking complexes being developed on former industrial sites (Dobberstein and Haase 2006), mobile cultural venues such as social clubs, artificial beaches, and performance areas occurring in Berlin (Oswalt 2005) and in Cleveland (Schwarz and Rugare 2009), and whimsical urban installations like the Hotel Neustadt in Halle-Neustadt, Germany. In this remarkable effort, 100 teenagers

altered an empty residential tower into a hotel and provided a wide range of entertainment and activities. When the Hotel Neustadt was open (August-October 2003), it had 2,952 overnight guests. This temporary use changed Halle-Neustadt from a little-known, declining industrial city into a major regional tourist destination (Rick 2005).

Wherever there are cities with excess vacant land, local entrepreneurs will attempt to extract value from such vacancy. However, local regulations, liability concerns and the objections of nearby landowners prevent them from pursuing innovative temporary uses. Research into temporary-use strategies in Berlin documents the economic and social benefits of many of these kinds of projects and provides guidelines and a preliminary planning framework for enabling temporary uses to occur on vacant properties (Overmeyer, 2007). Less regulation and more help for grassroots experimentation may provide large new opportunities for urban regeneration. How municipalities and public entities can aid temporary-use projects; what kinds of projects have the greatest economic, social, and cultural impacts; and how planners can deal with issues of legality and liability are among the potential research questions.

Emerging research questions: environmental mitigation and ecological restoration

Urban shrinkage often leads to unplanned landscapes or *terrains vagues*, “vast zone[s] of conspicuous neglect where residual nature is mixed with industry, waste and infrastructure” (Girot 2005). As industries leave and populations drop, nature begins to reassert itself. Resurgent nature may take the form of urban wilderness, forest, meadow, or succession areas. Green space is usually an amenity in cities, but these ambiguous unmanaged landscapes contribute to anxiety, reduced property values, and a

lack of confidence in a neighborhood's future. Containing and reconfiguring emergent nature can challenge shrinking cities, which often lack resources to construct, maintain and plan for new public landscapes. The project Industriewald Ruhrgebiet project, Industrial Forests of the Ruhr, is an innovative experiment in how to convert abandoned industrial lands into green space with little financial investment: it fosters a landscape of natural succession. Over time the land returns in a gradual, controlled way to forest. Formally designed elements occur only at public access points that let residents and tourists experience the environmentally valuable and aesthetically appealing landscape that has resulted. The project is replicating the model on other urban sites in the Ruhr (Dettmar 2006). There have been similar proposals for Philadelphia and St. Louis.

When vacancy is widespread, unused land can improve a city's environmental functions. Vacant land in strategic locations within a watershed can provide stormwater management, create wildlife habitat and establish concentrated areas of vegetation to improve air quality and reduce urban heat-island effects. Large-scale depopulation allows for the removal of buildings and pavement from floodplains. Low-lying, open land can retain stormwater before it reaches rivers, streams or sewer systems. (Spirn 1990). The reduction of impervious surfaces and the use of rain gardens, restored wetlands and bioswales can filter and retain stormwater (US Environmental Protection Agency 2001). The Center for Neighborhood Technology in Chicago is constructing a series of innovative stormwater projects in Illinois cities and suburbs. The resulting research data will measure the costs of urban stormwater initiatives against their benefits, producing more widespread implementation of such techniques. (Center for Neighborhood Technology 2007)

Some of the most aggressive models for managing urban stormwater and creating systems of green infrastructure come in response to city growth rather than decline. Open Space Seattle 2100 lays out an ambitious 100-year plan and a spatial template for an integrated green infrastructure (Rottle and Maryman 2006). Green urbanism strategies proposed for Seattle and other growing cities have direct application to shrinking cities as well--in fact it may be easier to carry out these strategies in shrinking cities with more available vacant land and less development pressure.

Urban greening can also put shade trees on vacant land. Where land has been vacant for ten years or more, trees species often take hold naturally. In other situations trees are planted intentionally. Large-scale urban reforestation is not a predominant strategy for shrinking American cities in the U.S., but growing cities, notably Sacramento, have implemented tree-planting programs and achieved measurable environmental and economic benefits such as energy savings, carbon and carbon dioxide sequestration and a reduction in urban heat-island effects (Sacramento Tree Foundation 2005). Shrinking cities can realize these benefits too if public policies encourage successional landscape strategies that lead to the restoration of the urban tree canopy on vacant properties.

Community gardens and market gardens increasingly appear in growing and declining cities of all sizes, in the U.S. and abroad. The gardens provide fresh produce to urban populations who often lack access to affordable, healthful, locally grown food (Steps to a Healthier U.S. 2005). In growing cities, urban agriculture typically occurs at the periphery of the metropolitan area. (Wartzman 2007) In shrinking cities, agricultural uses can permeate more deeply into urban neighborhoods, returning surplus and derelict land to productive use. Cleveland, for example, now has a large-scale farm (the Blue Pike

Farm) operating within city limits. At this stage, it is difficult to determine whether large-scale urban agriculture will remain an anomaly in urban settings or whether these uses represent a shift from industrialized urban production to agrarian rural production.

(Lauinger 2006) Research in urban agriculture and what is being deemed “The New Ruralism” coming from Berkeley’s Program for Agriculture at the Metropolitan Edge looks at mechanisms for connecting farmers who would like to be closer to urban neighborhoods with ample amounts of good reasonably-priced land and seeks to identify ways that agriculture within the urban core can foster a local, sustainable food system. As with stormwater management and reforestation, many of these mechanisms can be more readily applied in shrinking cities than in areas of high growth due to lower land costs and lack of development pressure. However, older industrial cities are likely to face greater challenges with soil conditions and environmental pollutants as they attempt to cultivate formerly developed areas for urban agriculture.

The overarching research question for environment, ecology, and agriculture in shrinking cities is how can a sustainable and aesthetically appealing urban landscape be created from the leftover spaces and dispersed vacancy that occurs in these places? Also, will it be possible to create a sustainable and interrelated network of green spaces and environmental uses around the buildings and settlement areas that remain? (Dettmar 2006).

Emerging research questions: social equity

Since the birth of the field of urban studies in the middle of the twentieth century, social scientists have studied the social dimensions of urban decline. Berry (1963) and

others were early pioneers in examining the impact of neighborhood depopulation on people. But the current shrinking cities movement embraces depopulation in a way that presents a set of new questions about social equity.

The older literature took for granted that decline was bad for social equity, with the focus of much of planning and public policy to reverse the decline. Ironically, there is a great deal of research that illustrates how growth can be bad for promoting social equity, as well (Logan and Molotch 1987; Molotch 1976; Nyden and Wiewel 1991). Instead of focusing so much on growth as a solution to social problems in cities, a new generation of researchers are asking about how to promote social equity in shrinking cities *sans* growth.

Can a city consistently lose population and yet maintain a high quality of life for both rich and poor? Research in Pittsburgh (Pennsylvania) suggest the answer is yes. Can local political decisions about how a city shrinks be made in a way that gives voice to the most disenfranchised? Research in East St. Louis (Illinois) and four coal mining cities in Korea provide some possible answers.

Demographically, Pittsburgh consistently ranks as one of the worst performing U.S. cities in terms of poverty, crime, employment, income, and housing abandonment (Hollander 2009). Yet Pittsburgh is widely recognized as a renaissance city, with a high level of quality of life coupled with affordability (Streitfeld 2009; Davis 2002; U.S. Environmental Protection Agency 2006; Stickers and Tarr 1999) Pallagst (2007) studied the Pittsburgh paradox as part of a series of case studies of U.S. cities which lost population from 2000 to 2004. Her research highlighted how Pittsburgh had gone through a series of steps including 1) preservation of historic buildings, 2) diversification

of its economy, 3) mixed-use/pedestrian-friendly redevelopment, and 4) regionalism, which have contributed to the city as a place of high quality of life and high population decline.

East St. Louis, Illinois, across the Mississippi River from St. Louis, Missouri, is a poster child for shrinking cities. Having experienced steep population losses for decades, the city has major problems with crime, education, and unemployment (Gordon 2008; Reardon 1998). But Kenneth Reardon's (1998) work there has demonstrated the potential for grass-roots, community-oriented planning even in such conditions. Likewise, Dong-Chun Shin (2007) found that community organizations played an important role in reuse planning in four shrinking coal mining cities in the Republic of Korea. This work may be the most important within the shrinking cities research agenda - it helps shed light on the people in these depopulating communities and coalesces around the fundamental questions of fairness and equity. These kinds of questions help us to ask: for shrinking cities, who does planning serve and for what purpose?

Emerging research questions: right-sizing infrastructure

While the term "shrinking cities" is a semantic improvement on "urban decline," it is politically unpalatable. As the phrase has gained some media attention in the last year, with coverage by more than two dozen major newspaper, magazine, and radio stories, the more corporatist "right-sizing" expression has also emerged ("Let's consider 'right-sizing' of Decatur" 2007). While businesses have long referred to the process of adjusting employment levels to better match shrinking sales and income as right-sizing, cities have only recently recognized the parallels in their own physical plant operations. For a city

that has less people, are there ways to reduce infrastructure to better match demand? Put another way, can cities with declining populations plan for less infrastructure in the future in the way that growing cities plan for more infrastructure in their future?

The nuts and bolts of running a city often include maintaining roads, collecting trash and sewerage, providing water, and providing for public transportation. There is great variety in how cities across the globe provide their businesses and residents with such services, but in the cases where cities own and operate power generation plants and water resources, there is an opportunity to sell excess capacity to neighboring communities. When drinking water consumption drops in an area, there is an increased incidence of standing water. More standing water represents an increased public health risk to those remaining populations (Koziol 2006).

Infrastructure right-sizing can also involve the closing of roads in depopulating neighborhoods. Just as the installation of new roads is done only after careful study, review, and computer modeling of traffic patterns, decommissioning streets also deserves such careful review. In shrinking cities, lower residential densities may demand a smaller road network. Ironically, the demand for public transit could increase in shrinking cities as populations tend to be increasingly poor and increasingly without access to private transportation.

Böhm's (2006) research into on-demand infrastructure illustrates the importance of integrating flexibility into urban infrastructure. She points to the example of the Australian Royal Flying Doctor Service (RFDS) which provides medical care to dispersed rural populations through radio service and air travel. For shrinking cities with populations lacking private transportation, this on-demand infrastructure can be

manifested by on-call buses or public subsidy of taxis, like New York City's dial-a-ride program.

The disaster planning literature has also touched on the challenges of matching infrastructure requirements with lower population levels. For millennia, disasters like earthquakes and hurricanes have obliterated urban populations. When faced with rebuilding, city planners often face the same problem faced by shrinking cities: too much infrastructure for too few people (Vale and Campanella 2005). With a population of an estimated population of 485,000, New Orleans (Louisiana) was hit by a massive hurricane on August 29, 2005 and much of the city was flooded. Ten days later, the city's population numbered in the thousands (McCarthy, *et al.* 2006). The RAND Corporation estimated the city's population to be 198,000 in September 2006 and that it will grow to 272,000 in September 2008 (McCarthy, *et al.* 2006). While some of the city's infrastructure was destroyed in the hurricane, local officials are struggling to determine how many roads, utilities, schools, and government offices to maintain for such a smaller city.

Emerging research questions: density

There are two key models for reconfiguring settlement patterns in response to persistent population decline—urban islands versus de-densification. The urban islands model had an early representation in the work of Oswald Mathias Unger's "Urban Archipelago" concept for Berlin in the 1977. Unger's concept described cities within a city—areas of dense, urban development concentrated at key nodes within the existing urban footprint, determined to be the most viable remaining areas of a depopulating

cities. Development would be constrained to these nodes, or urban islands, as a way of maintaining density and vitality as a city loses population. The area around these islands would be targeted for demolition and relocation of remaining populations, eventually reverting to a natural condition. (Cepl 2006)

The alternative model of de-densification suggests that, instead of concentrating development in some areas and vacating other, dispersed vacancy should be used to reduce overall density of a city. In this model, existing property owners are encouraged to take title to surrounding vacant lots. Cities could facilitate this process in exchange for the property owners agreeing to maintain their newly acquired land to established standards. Property owners would also be allowed and encouraged to use the land in creative, resourceful, and innovative ways, through relaxed zoning codes and land use policies (Urban Design Center of Northeast Ohio 2005; Interboro/Center of Urban Pedagogy 2006).

In contrasting the two models, de-densification would capitalize on a land use transformation currently underway in cities like Detroit, Youngstown, and Cleveland, where very low land values have enabled city residents to acquire adjacent properties and spread out over multiple lots, adding garages, gardens, auxiliary housing units, small home-based businesses, etc. This appears to be a grassroots transformation of former densely-populated urban areas into neighborhoods of a more suburban density. This strategy is relatively easy to implement because in many cities, it is already underway. The urban islands model is a more traditional planning framework that requires extensive land use regulations and public intervention to configure the city into a pre-conceived pattern. This model is much more difficult to implement, because it is politically difficult

to distinguish viable from non-viable areas within a city and institute public policies to direct resources and development to the nodes deemed to be viable. The benefit, however, would be the preservation of development densities and physical characteristics traditionally considered to be “urban.”

In 1990 Detroit’s City Planning Commission produced the Detroit Vacant Land Survey in which the most blighted and vacated parts of the city were identified. The recommendation of this report was that the blighted areas should be essentially shut down and residents from these dying areas would be relocated to more viable parts of the city, echoing Unger’s Urban Archipelago strategy. Buildings in the blighted areas would be demolished, city services discontinued, and the natural landscape would be allowed to take hold. (Waldheim and Santos-Munn 2001) This plan was never implemented, in large part because depopulated areas still retained substantial numbers of people, often low-income, minority residents, who strenuously objected to the idea of their neighborhoods being decommissioned.

A more politically tenable strategy addresses the question of municipal resources from the reverse perspective. Instead of closing off the weakest parts of a city, resources are being concentrated on the strongest parts. All areas of a city receive basic services but focused investment is being directed toward the most viable neighborhoods. Richmond’s Neighborhoods in Bloom program, Cleveland’s Strategic Investment Initiative, and Detroit’s Next Detroit Neighborhood Initiative are examples of this asset-based strategy.

A need for coherence

Shrinking cities are beginning to receive attention in a few countries, but large research questions remain unexplored, both intellectually and practically. What are the viable options for a shrinking city – redevelopment, landscape beautification, historic preservation, ecological restoration, temporary uses, demolition of neighborhoods, benign neglect, or perhaps something else? How can a shrinking city evaluate what works and what doesn't? How does it balance short-term considerations against long-term ones? Economic against environmental ones? How does it deal with inequality issues, or infrastructure, public-service or energy ones? How does it do all this against the probable background of overall economic decline? Especially when the decline means little or no help from state, provincial, central, or federal authorities? Is there a tipping point beyond which a shrinking city can no longer recover? Are there policies and strategies a city can implement to foster recovery? What differentiates a recovering city from one that continues in a downward spiral? There are no obvious answers, essentially because as we write (winter 2009) no one has seriously asked these obvious questions yet.

Shaving the edges off Youngstown, or Detroit or Dresden, will no longer suffice. In the face of the verbalisms around the idea of shrinking cities, it is still conceptually incoherent. Neither planners, politicians or the public seem willing to spell out what it means, why they might support it, or how planned shrinkage might differ from the unplanned kind.

The phrase “shrinking cities” implies that these afflicted places are following an inevitable trajectory, from something to nothing. But perhaps they are simply moving from one kind of urbanism to another. We can not be certain what the future holds for

cities that are experiencing dramatic and persistent decline, but planners can play an instrumental role in exploring alternatives to stabilize transitional cities and neighborhoods, and point the way to a more sustainable future. Shrinkage offers planners the opportunity to reimagine cities and their development.

Probably the key obstacle here is the notion--supported by folk and local-elite wisdom rather than empirical research--that a healthy city always grows in population and that only unhealthy ones shrink. If there were more, better, and especially cross-national research on shrinkage, the on-the-ground truth might turn out to be more complex and interesting. Some cities grow a lot, others shrink a lot, but the vast bulk of them fall somewhere between fast growth and fast shrinkage. They grow slowly, shrink slowly, remain reliably stable, or combine these patterns over time. Perhaps planners need to know more about the mechanics of these more prevalent patterns before they can make reliable statements about the outliers. In coming decades we will see many shrinking cities, cities recovering from shrinkage, cities that might disappear altogether, and within-city combinations of these outcomes. All offer compelling research questions.

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