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Arts and Sciences
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The Center for Public Policy is a think tank located within Drexel's College of Arts and Sciences. It serves as an interdisciplinary hub for Drexel faculty from a number of colleges and schools who do policy-oriented research, and as an interface between those faculty and relevant government agencies and nonprofit organizations, especially those on the Philadelphia region.

Urban Environmental Policy

Richardson Dilworth

In 2009 Drexel University established its Center for Public Policy, for the purposes of serving as an interdisciplinary hub for faculty engaged in policy-oriented research; an interface between those faculty and relevant government agencies and nonprofit organizations, especially those on the Philadelphia region; and as an academic unit that offers Drexel's Master of Science in Public Policy degree, and, as of 2013, the Master of Science in Environmental Policy degree.

Also in 2009, the Philadelphia Mayor's Office of Sustainability released its sustainability plan, *Greenworks*, which set ambitious goals for the city in terms of reducing energy consumption, greenhouse gas emissions, vehicle miles traveled, and the amount of solid waste going to landfills; and increasing alternative energy consumption, energy efficiency,

infrastructure resiliency, air quality, green space, tree coverage, access to locally produced food, and green jobs. In that same years as well, the Philadelphia Water Department submitted to the US Environmental Protection Agency its ambitious plan, *Green Cities, Clean Waters*, to reduce combined sewer overflows through more than \$1 billion in green infrastructure investments – a revolutionary step in reimagining the role of a water utility in an American metropolitan region.

Traditionally, urban environmental policy has consisted of cities transforming the natural world for the purposes of human consumption: Building aqueducts that deliver water to households, transforming creeks into sewers, and rivers into shipping routes. At the turn of the 21st Century, cities throughout the world emerged as active partici-

pants in progressive environmental problem-solving, and have begun to reimagine their relationship to the natural world. The research reported in this newsletter, primarily by faculty and graduate students at Drexel, reflects a small piece of this global transformation, primarily as it has manifested itself in Philadelphia.

As the end of Mayor Nutter's second and final term as mayor of Philadelphia approaches, cities have increasingly turned their attention to climate change adaptation, knowing that over the next several decades, and beyond, they will be dealing with the

effects of increasing temperatures, rising sea levels, increased flooding, and invasive species. Over the Winter 2014 quarter, Drexel's Center for Public Policy invited officials from San Diego and Phoenix to engage with both our graduate students and officials from Philadelphia in comparing notes on climate change adaptation, as part of a larger initiative to encourage policy innovation across cities. Look for more information about this initiative in later editions of *Drexel Policy Notes*.

Richardson Dilworth is Director of the Center for Public Policy and Associate Professor of Political Science at Drexel University.

The Place of Planning in Sustainability Metrics for Public Works: Lessons from the Philadelphia Region

Richardson Dilworth, Robert Stokes,
Rachel Weinberger, and Sabrina Spatari

Sustainability is a term with paradigm-shifting potential, yet it has come to mean so many things that it runs the risk of ultimately meaning very little. An important challenge is to come to rough consensus over what sustainability means at a given place and time, with a definition that can be used to set policy goals related to the responsible use of natural resources.

City sustainability plans have to some degree skirted the definition of baselines by adopting “goals” and “targets” that represent improvements over current conditions, thus making current conditions the implicit baseline, above which anything becomes, ipso facto, “sustainable.” Philadelphia’s sustainability plan, Greenworks (released in 2009), for example, consists of a series

of laudable goals and initiatives, though no overarching definition of sustainability, and thus no explanation of how meeting the stated goals would make the city more sustainable. Like San Francisco, Philadelphia established greenhouse gas (GHG) reduction targets with no clear indications of how they would achieve something that can meaningfully be called sustainability.

Our study is a preliminary foray into the relationship between land-use planning and sustainability in public works within a single region. Philadelphia is representative of a group of other large and midsized U.S. cities to have experienced dramatic changes over the last 60 years that had a significant impact on infrastructure systems.

Having preselected (through a snowball sampling method) 55 decision makers and technically proficient personnel from government, industry, the nonprofit sector, and academia in the region, we administered a survey via email and then conducted a workshop in June 2008. Participants were divided into four focus groups, organized by policy area (transportation, land-use planning, energy, and water and sewerage). The survey and focus groups established a basic understanding of how the regional environmental policy community understood and defined sustainability and what they would like to see in terms of new measurements.

The major conclusion is that land-use policies could most likely serve as a common matrix for sustainability baselines and measurements in water, energy, and transportation. Cities should use land-use planning variables—such as the type and mix of land uses, and population and housing density—to construct scales of sustainability, and regression analyses can estimate the impacts of land use on direct measures such as water quality, vehicle miles traveled, and energy use.

Two major issues are crucial to sustainability metrics: (1) baselines that establish goals in preserving/improving resources for future generations may conflict (as between economic development and environmental protection); and (2) sustainability baselines and goals must be set at specific scales. Baseline definitions

also must embody the general moral imperative of intergenerational justice that lies at the core of the sustainability concept. The survey asked respondents to choose between inter-generational justice (between people of different generations) or intragenerational justice (between different people of the present generation). Responses support our assumption that intergenerational justice lies at the conceptual core of sustainability.

Water professionals' notions of sustainability may differ significantly from those in other policy areas, which suggests the need for area-specific baselines and measurement. However, focus groups also revealed commonalities between policy fields. Sustainability baselines are not appropriate for land use, but we could and should use land-use outcomes as a measure of sustainability in other areas. Our results suggest a comprehensive model of sustainability in which land-use policies serve as independent variables and sustainability metrics serve as dependent variables. There is already substantial evidence that some land-use practices relate to possible sustainability measures, as with well-established relationships between impervious surfaces and water quality and between energy consumption and housing stock. Results suggest that future research should specify the impact of land-use policies and practices on measurements related to water, energy, and transportation.

Our study suggests several new avenues for research:

- Specifying and testing a model of the relationship between land use and sustainability in public works.
- Including in the model metrics a greater array of policy areas, to gain a greater understanding of how land use can explain various facets of regional sustainability.
- Including what is proposed here in a larger model that places public works and land-use criteria in the broader context of more general urban forms.
- Expanding on the sustainability baselines and definitions through broader random sample surveys.

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Defining Sustainability Through Implementation: The Mayor's Office of Sustainability in Philadelphia and Greenworks

Brian Gilmore

Sustainable development continues to be a prominent topic of discussion at all levels of policy making, from organizational strategic planning to global summits on climate change. This case study examines one such institution committed to promoting sustainable development in Philadelphia—the Mayor's Office of Sustainability (MOS)—to better understand how the city defines sustainable development. The study asks how that definition of sustainable development influences the development and implementation of Greenworks (the city's comprehensive sustainability plan), including its impact on collaborations and partnerships between the MOS and other agencies and on how the local media frames Greenworks in reporting.

To determine whether the MOS and the Greenworks plan could be

meaningfully called sustainable development, this study examines the progress of the plan in its first two years with reference to the three pillars of sustainability (economy, equity, and environment), growth coalition theory, and collaborative governance theory. The MOS has a limited role in defining sustainable development that focuses on making the city government more resilient to the threat of rising energy costs. Sustainable development in the city is more broadly defined by the relative influence of the partner organizations involved in the plan and their individual or organizational definition of sustainability. This leads to a sustainable development plan that fails to adequately address social equity issues.

Rather than develop a plan with strong quantitative sustainability metrics, the MOS has cultivated

a broader “vision” of sustainability that permits the Greenworks partners and stakeholders to define and implement sustainable development goals that are consistent with those of individuals or organizations. The MOS is involved in direct implementation of goals that seek to build resiliency into city government operations in the face of rising energy costs, yet this is only one of many diverse, partner-driven goals. The success of the MOS depends on the ability to act as a unifying force for disparate and potentially conflicting visions for the city, to balance the three pillars of sustainable development. One way to combat these shifts and foster change that can

be sustained beyond a single term of office is to enter into continuous, formal, and informal partnerships with partners inside and outside of city government, particularly through shared applications for grants or funding.

These findings provide insight into the challenges cities face as they attempt to develop and implement comprehensive sustainability plans. This case is limited in its generalizability, but nonetheless suggests a valuable framework for understanding how a city defines and implements sustainable development by examining the composition of the governing regime.

Brian Gilmore is Projects Lead at Benefits Data Trust, and a 2012 graduate of Drexel’s MS in Public Policy program. The research reported here was part of his final case study project as a graduate student at Drexel.

Community-Based Organizations in City Environmental Policy:

Lessons from Philadelphia

Robert Stokes, Lynn Mandarano, and
Richardson Dilworth

This paper examines the role of community-based organizations (CBOs) in the environmental policy regime of Philadelphia. Like other American cities over the past decade, Philadelphia has incorporated environmental and sustainability provisions into various policy areas. Local governments achieve environmental goals as part of a “regime” that relies on non- or quasi-governmental organizations for help in policy formulation and implementation. The city’s environmental policy regime is reflected in increasing media attention to sustainability issues, the emergence of a city sustainability plan, the creation of new non-profits devoted to sustainability, and new sustainability programs within existing non-profits.

This article focuses on local, place-based, non-profit development and civic organizations rather than on

environmentally focused non-profits. To understand the role of CBOs in this policy regime, we sent an online survey to (and interviewed leaders from) three types of CBOs citywide: community development corporations (CDCs, of which 19 replied), civic associations (CAs, of which 15 replied), and business-improvement organizations (of which 6 replied).

We asked three types of questions: (1) the types of sustainability activities in which CBOs engage; (2) the extent to which CBOs have changed their missions and governance structures to engage in sustainability activities; and (3) partnerships that CBOs formed with government agencies and other nonprofits to carry out sustainability activities.

We found that CBOs of all types have changed their organizational

missions and identities in response to their pursuit of sustainability goals, but that CDCs—more than CAs or business organizations—have integrated sustainability into their governance structures. Second, CBOs have expanded their work to involve environmental policy and programming. Third, the work of CBOs is linked to the city's comprehensive sustainability plan, Greenworks, released in 2009 by Mayor Michael Nutter's Office of Sustainability (MOS). The plan consists of 150 activities, categorized into 15 targets to be reached by 2015, and grouped into five major themes: energy, environment, equity, economy, and engagement. The city council also embraced sustainability policies, creating a new standing committee on the environment in 2007.

With regard to the role of CBOs in local environmental policy, it is relevant that Philadelphia is among the poorest of the country's biggest cities. The environmental activities of the city's building industry are significant, because CDCs are property owners and developers. The 21st century saw the creation of new non-profits in Philadelphia devoted to environmental and sustainability initiatives, and several established non-profits also became more actively involved in local sustainability initiatives.

CBOs have altered their governance structures to reflect new foci on sustainability, and they work with various organizations in pursuing goals for sustainability. Yet different types of CBOs have changed their structures differently, they interact with various government agencies and non-profits, and their sustainability activities

contribute to different goals within Greenworks. While CDCs were more likely to engage in sustainability activities, and more clearly connected to the goals of Greenworks, the sustainability activities of CAs contributed to a broader range of Greenworks' goals.

We looked primarily at the development and property management activities of CDCs, to illustrate how CBO activities have contributed to some of Greenworks' concrete activities. In property development and management, the major impediment to sustainability activities was cost. Higher up-front development costs have rendered many CDCs reluctant to get behind green building. The main impediment to sustainability practices for CDCs in rental property management was the expense of energy-efficient systems.

A broader range of CBOs—82% of those in our survey, including 100% of the CAs and business organizations—reported having or being involved in a community beautification and greening program. Expense was a main impediment to more expansive community greening and beautification programming. While only a limited number of CBOs offered planning and education programs, the variety of activities suggests a relatively deep involvement.

We found a strong commitment to the concept of sustainability across a wide spectrum of CBOs. The better-funded CDCs and, to a lesser extent, BAs were able to expand or adapt their current programs to fit into funding and policy incentives around sustainability. Many of Philadelphia's CDCs revealed the most

substantial impacts in environmental activities; they are extremely involved in sustainability programming, which has become a core value. The environmental activities of CAs, as volunteer organizations, are more limited in scope. Business organizations had a few definable sets of environmental activities.

The study also assessed the nature of an emerging public policy network

around community-based sustainability planning and programming. In Philadelphia, the increasing level of interaction between community-based non-profits and environmental policy advocacy organizations predicts that broader community development goals will continue to embrace environmental improvement as a core value of urban living.

Robert Stokes is Associate Professor of Sociology and an affiliate of the Center for Public Policy at Drexel University. **Lynn Mandarano** is Associate Professor of Community and Regional Planning at Temple University. **Richardson Dilworth** is Director of the Center for Public Policy and Associate Professor of Political Science at Drexel University. This research originally appeared in "Community-Based Organizations in City Environmental Policy Regimes: Lessons from Philadelphia" *Local Environment: The International Journal of Justice and Sustainability* 19 (2014): 402-416.

The Effectiveness of the Comprehensive Environmental Response Compensation Liability Act (CERCLA): How Clean is Clean?

Charu Vaidya

For decades, chemical, oil, and/or industrial corporations had disposed of toxic waste without considering the public health or environmental ramifications. In 1980 the Federal Government mandated the Comprehensive Environmental Response, Compensation, Liability Act (CERCLA, or “the Superfund Act”), to provide funds to clean up hazardous waste sites and hold contaminators accountable for their actions. This paper addresses the legislative history leading up to CERCLA, the effectiveness of the Superfund Program, and its biggest challenges.

Issues involving hazardous waste sites have been ever-present since the industrial age. The Love Canal Tragedy in the late 1970s, involving 21,000 tons of hazardous chemicals dumped into the canal over

13 years, unleashed mass panic regarding the possible effects of exposure toxic waste. The Government realized they had to intervene, and in 1980 Congress passed CERCLA. The legislation sought to define a hazardous substance, provide a cost-effective ways to deal with the cleanup process, and designate four categories of Potentially Responsible Parties (PRPs).

Before the Superfund Law, the EPA estimated there were approximately 30,000–50,000 hazardous waste sites in the U.S., 1,200–2,000 of which might pose a serious threat to communities in close proximity. In 1981 the EPA announced the first 114 Top-Priority Superfund Sites—a daunting task, given a 5-year time frame and only \$1.6 billion for clean-up of 400 sites (with \$3.6 million

budgeted per site). The EPA had underestimated time cost and time needed for remediation, since on average site remediation costs start at \$10–20 million, and it can take decades for the investigation phase as well as the cleanup. \$8.6 billion in additional funds came from the Superfund Amendment Reauthorization Act (SARA) in 1985.

Since 1980, the Superfund program has investigated 44,700 potentially contaminated sites, and over 33,000 sites have been removed from the Superfund inventory. From 1996 to 2012, 382 sites were listed as a National Priority to the EPA, and during that time about 275 were cleaned and removed from that list. The National Priorities List (NPL) now

contains approximately 1,200 sites, and yet there are tens of thousands of sites not on the NPL.

CERCLA is clearly doing its job of remediating contaminated sites, and yet the Superfund process has continued to evolve. The ever-growing issue of the loopholes involving liability within CERCLA became increasingly prevalent as old sites were exhumed. Case studies of asbestos sites in Millington, NJ, and Ambler, PA, reveal common issues in these two manufacturing towns that were dumpsites for 40 years. Their decades-long cleanups reveal the important role of the public as well as bureaucracy on the process.

Ways to improve CERCLA include:

- refining the Hazardous Ranking System (HRS) again to factor in time, funds, and project feasibility
- modifying CERCLA parameters to address long term impacts of contaminants (on, e.g., health)
- prioritizing the limited resources among large as well as small sites
- granting states increased Superfund Authority
- reducing the unnecessary stages within the bureaucratic process, without impacting the quality of investigative research

Amending the law so it remains up to date with current issues will take us one step closer to a creating a nation that is rid of hazardous waste sites. Until that day, the Superfund Program will continue to investigate, evaluate, and remediate.

Charu Vaidya is an Environmental Specialist at the New Jersey Department of Transportation, and a 2013 graduate of Drexel's MS in Public Policy program. The research reported here was part of her final case study project as a graduate student at Drexel.

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