



Spurring stormwater solutions

Are incentives converting skeptics or just preaching to the choir?

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Larger cities throughout the U.S. are integrating stormwater incentives into their stormwater programs, largely prompted by legal and regulatory action. These incentives are financial (grants, direct cost sharing, user fees, coupons) and nonfinancial (awards and recognition, education and outreach, giveaways). As more communities dedicate public funds for stormwater management incentives, best practices are needed to ensure the money, time, and effort achieve results.

The Metropolitan Planning Council in Chicago conducted a research study by compiling a literature review of successes and failures of existing stormwater incentive programs, as well

as nonstormwater private property incentive programs with similar limitations in terms of geographic scale, local agency authority, and the need for community cooperation. When relevant literature was identified, its reference lists and bibliographies were filtered for more sources. Additional sources were identified via recommendations from experts. Academic literature and white papers related to incentive programs not involving stormwater also were identified and collected for review, including incentive programs related to energy efficiency, wetlands banking, recycling, water conservation and efficiency, historic preservation, and invasive species removal.

◀ **Because one basic barrier to participation in stormwater improvements is property owners' lack of knowledge, individual site assessments and recommendations are critical.** Metropolitan Planning Council

Incentives for those already onboard

Throughout this study, it became apparent that even some of the most successful programs motivated only private property owners already inclined to manage stormwater on their property. Many programs reported that participants indicated the financial incentives were helpful, but they likely would have made the improvements anyway. In one case, the goal of the program was ultimately a “feel good” effort to reward good work that already had been done, rather than to incentivize change.

Furthermore, the high cost of initial participation and low return on investment – particularly for stormwater utility fee credits but even more so for programs that do not charge for stormwater services – yields unconvincing payback periods. As a result, property owners and third-party private entities that might play a role in financing are unconvinced. Some successful programs have accommodated this by using upfront construction incentive programs, such as grants, but often paired with local engagement in such a way that it's difficult to identify the effectiveness of the financial incentive portion of the strategy.

It is unclear that the wins attributed to stormwater incentive programs should be cited as successes across the board. Evidence exists that some incentive programs may not be any better than basic education programs to influence behavior change for stormwater management. A 2012 study titled, *Identification and Induction of Human, Social, and Cultural Capitals through an Experimental Approach to Stormwater Management*, by Olivia Green, William Shuster, Lee Rhea, Ahjond Garmestani, and Hale Thurston in the journal *Sustainability* found statistically significant indications that neighbors have a positive influence on adjacent property owners' likelihood of adopting stormwater solutions. The study concluded that investments in human capital (education) may be just as effective, if not more so, than financial or physical investments in stormwater management participation. Another study – *Examining Potential Residential Participation in Financial Incentives To Mitigate Impervious Surface Effects in Howard County, Maryland* by Kristin Larson, Jim Caldwell, and Alexander Cloninger – assessed the use of stormwater remediation fees to induce adoption of private property stormwater best management practices (BMPs). It found that financial incentives alone rarely lead many residents to adopt BMPs on their properties.

Current programs need to be designed with more program evaluation and tracking to determine truly whether skeptics are converted and whether nonfinancial incentive activities – such as technical assistance and one-on-one contact, increasing funding for public agencies, and leveraging relationships with third-party agencies – can play a larger, more effective role.

Importance of one-on-one contact

All hope is not lost when it comes to the role of private property owners in stormwater management. Repeatedly, program managers emphasized the importance of personal relationships. Particularly for programs that changed their structure to include one-on-one contact, these relationships with property owners improved

awareness of problems and potential solutions, increased the likelihood of program participation, and led to stronger applications and projects overall. One-on-one contact could be done by local agency staff or by third-party contractors, nonprofits, or vendors. As found in successful programs such as Washington D.C.'s RiverSmart Homes and The Conservation Foundation's Conservation@Home, individuals' participation in a solution encouraged a sense of ownership in the project and improved outreach, as programs were spread by word of mouth.

A critical component of one-on-one contact is a property or site assessment. Because one of the basic barriers to participation is property owners' lack of knowledge on best solutions, individual site assessments and recommendations are critical for a successful project. For programs that did some sort of property assessment, such as those in Philadelphia, Washington, D.C., Raleigh, N.C., Glenview, Ill., and by the Conservation Foundation, the ability to tailor recommendations in more cost-effective ways toward specific goals, to get to know property owners and understand their level of interest and knowledge, and to professionalize the project applications upfront increased the chance of success. Personal interaction is more likely to convert skeptics and those ignorant about stormwater interventions, as their specific concerns and priorities can be addressed directly.

And site assessments do not necessarily have to be part of an incentive program. Once property owners know what works best on their properties, they often move ahead on their own. This frees resources for those who want to act but who do not have the capacity to do so.

Barriers for local agencies

Inadequate staffing and financing are constant barriers for local agencies. Often the staffing issue can be addressed once financing is addressed. This is one of the biggest benefits of connecting stormwater incentive programs with stormwater utility fees or other user-based fees as a dedicated revenue stream, which improves the longevity and sustainability of the program. One of the best examples is the RainScapes suite of programs in Montgomery County, Md., which includes outreach, workshops, site assessments and recommendations, application assistance and review, inspections, maintenance, and tracking done mostly by dedicated staff. The RainScapes program is funded by the Water Quality Protection Charge and is part of the county's property taxes with an annual budget of \$385,000, not including staff time or IT support for its robust database and mobile technologies.

Several other funding sources are available for agencies without a dedicated revenue stream via a user-based fee. One issue is the question of capital costs versus operating costs. In New York, because the stormwater program is funded through capital dollars, spending is limited to design and construction costs and does not include soft costs such as outreach or ongoing maintenance. Washington, D.C.'s, successful program has been funded by several sources, including a municipal plastic bag fee, the regional restoration fund, foundation grants, and federal stimulus dollars. But these funding sources are not sustained, long-term revenue sources. Many other programs, particularly in smaller communities, are funded or supplied by regional, state, and federal sources. The Milwaukee Metropolitan Sewerage District (Milwaukee, Wis.), a regional wastewater and stormwater entity, found that funding its



Third-party entities such as nonprofits and local community groups play a large role in implementing stormwater management programs, such as this one in the City of Blue Island, a Chicago suburb. Metropolitan Planning Council

member municipalities to run their own programs did not provide results as positive as when property owners were funded directly. Many communities are experimenting with leveraging private sources of money to fund programs, but none have done so in any substantive way to fund stormwater interventions on private properties.

The role of third parties

Third-party entities – nonprofit partners, local community groups, private contractors, and consultants – play a large role implementing programs. They can specialize in particular topics, geographic areas, or parts of the process in ways local agencies cannot. They can build local relationships that focus on property owner goals, rather than just regulatory mandates. They have more flexible, less bureaucratic processes that allow for faster timelines. They have more freedom and flexibility to experiment with innovative techniques.

For the outreach component of these programs, strong neighborhood groups or local nonprofits can help provide an ear to the ground that helps identify opportunities for potential applicants as well as concerns with existing programs. Seattle uses its nonprofit local Stewardship Partners to travel door-to-door to advertise its RainWise program.

Nonprofit partners can assist with outreach and also conduct the pre-application property assessments and provide

recommendations to potential applicants. Chicago regional groups like The Conservation Foundation and the Center for Neighborhood Technology's RainReady Home service as well as nonprofit partners in Philadelphia; Kitchener, Ontario, Canada; and Washington, D.C., provide free or low-cost assessments of private properties, make recommendations on actions, and sometimes assist in planning and design or recommend contractors. In these cases, nonprofits often are contracted by the local agency.

Private contractors and landscape architects also play the same role. In Glenview, Ill., the municipality was able to negotiate a reduced price for site assessments with a private engineering firm, the benefits of which were shared with property owners through a cost-share incentive program. In the Milwaukee Avenue Green Development Corridor program in Chicago, it was not until third-party landscape architects became the champions for the program and helped property owners with completing complicated paperwork that applications started coming in.

In this case and in similar ones, it was not necessarily one firm hired by the local agency, but rather individual consultants that understood the business development benefits of promoting the local agency's incentive program. Not only do these private entities conduct site assessments, but they generally are hired to install stormwater interventions. Some programs contract with specific contractors to do the work, but for the most part, local agencies (such as those in Seattle; Washington, D.C.; Philadelphia; and



Studies indicate that neighbors have a positive influence on adjacent property owners' likelihood of adopting stormwater solutions, such as the use of rain barrels. Metropolitan Planning Council

Montgomery County, Md.) develop a certification or approval process through which they can impart to contractors their messaging, goals, and requirements in return for recommended status for applicants to contract with directly. In some cases, the incentive benefits go directly to the third party rather than passing through the property owner.

Philadelphia is just beginning to identify job creation opportunities stemming from the burgeoning responsibilities for third-party entities. Similar efforts by local agencies to hire, mobilize, and train local job corps (either through nonprofits or private entities) to go door-to-door to make personalized recommendations are happening in the energy efficiency field in the U.S. and in water efficiency in the United Kingdom.

In sum, technical assistance and education may be more important than financial incentives to motivate meaningful action by private property owners. Thus, future investment in job creation to enhance these strategies, rather than subsidizing projects that may have been completed without an incentive, is a major opportunity to improve stormwater incentive programs.

Research continues

The question is whether stormwater programs should continue maximizing participation by focusing on willing participants or whether they should seek to convert unwilling or unfamiliar participants. If programs are not truly incentivizing, what ultimately

are the benefits of investing in these types of programs? It may be the case that momentum, particularly in communities that adopt incentive programs, is at the point that the general public can be left to identify private property solutions on their own or be guided by third parties.

Because of how new stormwater incentive programs are relative to other incentive programs, much additional research is necessary. Overall, additional program evaluation is needed to identify whether financial incentives are effective above and beyond educational efforts and one-on-one technical assistance. As more attention is paid to partnering with the private sector to fund infrastructure investments, research is needed into how to capture the greatest benefits from both public and private investments in green infrastructure and other stormwater management best practices.

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