



Whose Problem Is It?

Individual action for collective storm water management

By Abby Crisostomo

Rain falls everywhere, without consideration for jurisdictional boundaries. That means that in large, older cities, rain often falls on a private landowner's property, is collected into storm sewers owned and maintained by the local municipality, sometimes mixed with wastewater from individual buildings, and then eventually treated by a wastewater utility or sent out into nearby streams.

The entities that own local sewers and treat storm water end up being responsible for dealing with a lot of storm water that did not initially fall on property they control. They can make storm water improvements on publicly owned land and partner with other public entities, like schools, park districts and forest preserves, but at some point, they will have to work with private landowners. The best way to do that is still an open question.

It is not as simple as creating regulations that require property owners to do X to stop Y. One easy way to alleviate pressure on local storm sewers is to disconnect downspouts from the sewer and redirect the water to a garden, lawn or rain barrel. Doing this prevents the relatively clean water that falls on the roof from overwhelming storm sewers. Yet, while many communities require property owners to disconnect their downspouts, enforcement is difficult.

As a result, communities and utilities develop programs, from education and outreach to financial incentives, to encourage private property owners to participate

as part of the solution. Other government agencies get into the act as well.

For example, the Illinois Environmental Protection Agency runs the Illinois Green Infrastructure Grant (IGIG) program. Currently in its fourth year, IGIG distributes \$5 million annually to fund green infrastructure projects in urban areas throughout the state.

Testing a Theory

As part of the IGIG program, the Metropolitan Planning Council (MPC)—in partnership with the city of Chicago, Alderman Rey Colón of the 35th ward and the Chicago Community Loan Fund—was awarded \$200,000 to test an approach to funding private property green infrastructure projects. The Milwaukee Avenue Green Development Corridor grant concentrated funds in Logan Square, a neighborhood on the northwest side of Chicago. The neighborhood is largely built up, with a main commercial corridor, Milwaukee Avenue, running through the center, and a mix of multifamily and single-family residential properties along the side streets.

With little green space and one of the highest incidences of city service calls for basement backups and flooding in the city, the neighborhood demonstrated a need for investment in storm water management at the individual scale. The theory was that concentrating grant funding within one neighborhood would have a greater impact than spreading the money throughout the entire city would. By specifically targeting businesses and

residences in the neighborhood through workshops, direct mailers, tables at the local farmers market, word of mouth, door-to-door visits, and following up with them during and after installation, the project would encourage people who might not otherwise install green infrastructure to do it. This was different than existing programs in Chicago at the time that provided rebates to people who bought rain barrels or native plants without regard to whether they would go to places with identifiable storm water problems or whether the purchases were ever installed.

A little more than two years into the Milwaukee Avenue grant process, all of the money has been allocated, leveraging an additional \$66,000 for projects ranging from rain barrel installations to backyard rain gardens to green roofs. Five projects have been installed, capturing a total of 3,996 gal of water in a 1-in. storm. Another dozen or so are waiting for the spring for installation, including at a disused plaza redesigned by the Chicago Department of Transportation into a permeable pavement plaza that can accommodate storm water from surrounding streets.

Individual Action for Collective Benefit

As the Milwaukee Avenue project draws to a close, MPC is assessing whether a strategy like this is an effective use of the limited dollars available for storm water management. While the project was awarded a

Sustainable Landscaping Award from the Metropolitan Water Reclamation District of Greater Chicago, and has provided substantial storm water relief to the handful of properties that received the grants, the costs may have outweighed the larger-scale benefits to the sewershed.

One fundamental question that should be asked in considering any storm water solution is: What is the goal? There are many different types of storm water problems, from basement backups and flooding to water quality issues. The different entities involved with each aspect of collection and treatment of storm water have different levels of concern, regulatory requirements and funding. There are just as many strategies for dealing with storm water as there are problems. Not only should a goal be identified, but the beneficiaries of the goals as well. For the municipality or utility, it may be meeting regulatory requirements or resolving collective flooding issues. For the individual property owner, however, the goal may be

to relieve basement backups or just to do something green.

Using incentives to encourage storm water management is an attempt to harness the bottom-up desire to address parcel-level storm water problems using top-down motivation and funding to solve a collective problem. Acknowledging that individual landowners may not be motivated to spend money and effort on what seem to them intangible goals means communicating with them about storm water management in a way that addresses their concerns. At the start of the Milwaukee Avenue incentive efforts, there were few applicants for the grant program. Until communications stopped focusing on “storm water management” and started emphasizing “landscape improvements,” local property owners had little interest in participating.

When storm water practitioners talk about storm water management, it is easy to focus on the technologies that address the problems, whether they be

grey infrastructure, like upsizing sewer mains or digging reservoirs, or green infrastructure, like rain gardens and green roofs. Plenty of research exists to refine and improve both grey and green storm water technologies, but a critical component that requires more research is the people factor. Prompted by the lessons from running the Milwaukee Avenue experiment and looking into other incentive programs around the country, such as rebates, grants, storm water utility fee credits and more, MPC is researching how best to design programs that encourage storm water management and most effectively make people a part of the collective solution. **SWS**

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