

Water Infrastructure That Delivers More Public Value

Rather than just building more and bigger pipes, Columbus is taking a greener, more holistic approach.

BY: [Steve Goldsmith](#) | May 21, 2014

In 2017, Columbus, Ohio, will finish building a new tunnel, measuring just under five miles, in its downtown area to create enough capacity to prevent excess stormwater from mingling with sanitary waste and being discharged into bodies of water without treatment. This \$365 million project will effectively bring the city's outmoded combined sewer overflow system into compliance with federal Environmental Protection Agency mandates. However, once this project is complete, the city would have been staring at an even bigger infrastructure need: a 28-mile system of tunnels to create enough capacity in its sanitary sewer system.

The problem primarily concerns residential properties. Old, cracked pipes leading from homes let excess stormwater seep into the sanitary system, and gutters that dump run-off into yards funnel more water into an already overwhelmed system. Sanitary sewer overflows occur, backing up into basements and streams. The standard solution addresses this issue simply by adding capacity: building bigger pipes underground to hold the water until it can be treated.

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What made Columbus Mayor Michael B. Coleman take pause was that while the costs of building additional storage capacity were high, the benefits were markedly low and limited. The project would result in a new piece of infrastructure used maybe four or five days a year, and it would sit underground, literally, doing nothing for the landscape of the city and its citizens. The city got a delay from the Ohio EPA to design a better strategy.

The outcome of that effort is [Blueprint Columbus](#), a more holistic approach to the city's sanitary sewer overflow problems. We learned about Blueprint Columbus last month, when Coleman spoke at the National League of Cities' Big Ideas for Cities event in Chicago. As a follow-up, we had a chance to speak with Susan Ashbrook and Dax Blake, the city's assistant director of sustainability and its administrator of sewerage and drainage, about their cross-departmental approach. As Blake says, the goal of Blueprint Columbus is to "treat the cause, not the symptom." This means working with residents to improve drainage from homes by installing sump pumps, redirecting roof run-off and repairing "laterals," the pipes that carry wastewater from houses. And on a larger scale, it involves building a system of green infrastructure to keep excess stormwater from entering the sanitary system in the first place.

[We've written before](#) about this new generation of green-infrastructure approaches to dealing with the problem of combined-sewer overflows, such as Philadelphia's [Green City, Clean Waters](#) initiative. Most of those programs are limited to a city's rights of way. Columbus is taking the next logical step. Its 30-year, lot-by-lot approach won't be cheap, operating not just in its dense downtown where impervious surfaces make water management a must but throughout the city wherever there are residential properties. At the end of the day, it's expected to cost essentially just as much as building the traditional holding-tank infrastructure that the city is eschewing.

However, the benefits to the city from its alternative approach are plentiful, taking a piece of infrastructure that would sit underground and rarely be used and replacing it with a holistic approach that can work toward a number of goals. For example, since the jobs created to implement the program don't require highly specialized skills, instead of bringing in outside contracted construction labor the city has created a green workforce development program. Members of Columbus' hard-to-employ population are given work training and should be employed for the many years all this work will take. Employment creation will be tracked and analyzed, underscoring the city's vision of the program as a way to meet multiple public goals.

In the same vein, the public utilities department is partnering with the parks and recreation department to pilot a program for repurposing long-vacant lots into parks through the city's tax-delinquent land bank. Like other vacant property programs, the intention is to create an additional asset for the community and improve neighborhood stabilization and property values while simultaneously tackling the city's water-infrastructure needs. The city has started small with only five lots, but plans to repurpose hundreds of parcels into green infrastructure over the life of the project, demolishing old structures as needed to make way for new and

multiple uses.

What we're seeing in cities like Columbus is part of a trend toward using green infrastructure to meet specific needs of utilities while generating a host of additional benefits for their communities. These cities are turning their infrastructural liabilities into assets.

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