



Worth the **EFFORT**

Public space recycling programs face unique challenges that can hobble a program if not addressed.

BY ALEC COOLEY, KEEP AMERICA BEAUTIFUL

For decades, communities have been investing in recycling infrastructure, including for residential and commercial recovery. Investments in recycling programs targeting public spaces, such as parks, downtown areas, event venues and other on-the-go settings, however, have been sporadic and often adapted in a piecemeal fashion.

In addition to smaller quantities of recyclables, public space recycling programs face unique challenges that can result in lower participation, higher contamination rates and a break-even (at best) economic model. A 2009 survey by Stamford, Connecticut-based Keep America Beautiful found only 12 percent of public locations with trash collection also offer recycling. This disparity reflects a reasonable bang-for-the-buck prioritization for the higher-volume and generally cleaner materials that come from residential programs.

As curbside and other recycling programs reach maturity, however, many local governments and other institutions are looking for new sources of recoverable

material to further increase their diversion rates. Public spaces are increasingly seen as one of the more promising sources. Cities ranging from Miami and New York City to Des Moines, Iowa, and Tuscaloosa, Alabama, have been resolute in expanding recycling in their downtown areas. States like Vermont and Connecticut have enacted laws aimed directly, or in part, at mandating recycling in public spaces. And companies such as the concert promoter AEG and convenience store chain Sheetz have made concerted efforts to place recycling bins at their facilities nationwide.

In addition to an untapped source of materials, public space recycling offers other potential benefits. Recycling bins in downtowns and other prominent areas can reinforce the community's values as an inviting, clean and environmentally conscious place to visit. It is also an opportunity to "market" recycling itself, reinforcing it as a "full-time" activity people should do throughout the day. To be successful, though, one must address the barriers that can hobble a program.

TACKLING THE ECONOMICS

Like any infrastructure operation, public space recycling comes with a cost. Sturdy outdoor recycling bins can cost as much as \$1,500 apiece, and automated, self-compacting units can cost more than \$4,000. Matching recycling and trash containers throughout the downtown of a midsize city easily can cost more than \$500,000 for installation alone. Collection and maintenance add ongoing costs that may be offset only partially by revenue from selling the recyclables.

While support from state governments or programs such as Keep America Beautiful's public space recycling infrastructure grants can help, the heavy lifting to significantly grow public space recycling investment ultimately falls to local communities and facility owners.

Two ongoing projects illustrate strategies communities can follow to overcome this barrier. Baton Rouge Recreation and Parks Commission (BREC) is a local government agency that manages all parks located in Baton Rouge, Louisiana, and the surrounding parish. Since 2014, BREC has placed approximately 500 bins at nine of its facilities. It has taken an incremental approach, expanding to new locations each year with a goal of having recycling at all 23 of its community parks and sports facilities by 2020.

Working with the Massachusetts Bay Transportation Authority (MBTA), a partnership led by MassRecycle is placing recycling and waste bins with advertising boards that MassRecycle's Executive Director Edward Hsieh estimates have an average market value as high as \$47,000 per station. Having successfully piloted the program in six stations, Hsieh sees potential to cover both the capital and operating costs necessary to eventually expand recycling to all 113 stations in the MBTA.

GETTING PEOPLE TO SORT CORRECTLY

Low participation and contamination are equally significant barriers. Audits of public area recycling and trash bins in Washington, Toronto and other locations have found 35 percent and higher contamination rates and an equal percentage of recyclables ending up in the trash.

In a national survey about consumer recycling beliefs and practices commissioned by Keep America Beautiful in 2016, 80 percent of the respondents said it was

important to recycle in public spaces, and 34 percent indicating that it is difficult to do so. In their homes or offices, routine can guide them to toss a bottle in the correct bin. In public locations, however, a lack of familiarity and an inconsistent and confusing system of bin designs and labels require concentrated focus to understand which bin opening to use. With a primary focus on other things, many people default to whichever receptacle is closest.

Keeping this in mind, the appearance, labeling and placement of bins are critical to their functionality. At a glance, recycling bins must telegraph they are not trash bins.

Academic research in recent decades has shown how design attributes such as color, shape and size of opening, among other bin characteristics, influence recycling behavior. A study at Michigan State University (Montazeri, et al, 2012) reveals that changing recycling bins to a different color from that used for trash increased the rate of correct sorting from 52 percent to



MassRecycle leads a partnership that is placing recycling and waste bins with advertising in Massachusetts Bay Transportation Authority stations.

88 percent. Another study (Duffy, et al., 2008) found that restricting the size of the opening on a recycling bin increased the container recycling rate by 34 percent. Taking these and other factors, such as signage

and bin placement, into consideration are among the keys to improving recovery and contamination rates.

In Tuscaloosa, Alabama, the city successfully placed 50 recycling bins along its pedestrian Riverwalk and adjacent 7,400-seat Amphitheater in 2015 with support from the Dr Pepper Snapple/Keep America Beautiful Park Recycling Grant. Tuscaloosa Environmental Coordinator Ashley Chambers estimates less than a 10 percent contamination rate was experienced because a conscious effort was made to influence user behavior in the program design.

“We make it an easy choice for them by ‘twinning the bin’ in all of our public spaces,” says Chambers. “The blue color of the bins and the holes on the side of the bins keep rainwater and large contaminants and garbage from being forced into the bins.” With similarly designed bins, BREC saw an average 9 percent contamination rate in its City-Brooks Community Park.

The length of time a program has been

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in operation also contributes to improved sorting practices, according to communities such as Charleston, South Carolina, and Des Moines, Iowa.

In Des Moines, which received a Coca-Cola/Keep America Beautiful Public Space Recycling Infrastructure Grant, waste audits conducted immediately after the introduction of streetscape recycling bins in its East Village neighborhood showed an 18 percent contamination rate. An audit six months later found contamination had dropped below 10 percent, suggesting familiarity with the bins was a factor in helping people sort correctly.

Pilot projects in the greater Vancouver area in 2014 and 2015 found that nonrecyclable paper was a major contaminant, and that collecting paper in separate containers (instead of commingled or single-stream bins) resulted in cleaner recyclables.

While much effort has been made to document average generation and recovery rates, equipment needs, operational

costs and other key metrics for residential curbside programs, few studies about public space recycling are available to guide public works or facility managers when improving existing programs or planning new ones.

Public space recycling programs often are developed through a trial-and-error process that starts with small pilots. Keep America Beautiful is working with Skumatz Economic Research Associates (SERA), Boulder, Colorado, on a study designed to document key benchmarking metrics for recycling at parks and other outdoor public areas based on a sampling from multiple locations.

PUBLIC SPACE RECYCLING BENEFITS

For all the challenges, public space recycling also offers significant benefits. Though not generating the same tonnages as residential programs, public locations still offer meaningful recovery potential. A limited program like Tuscaloosa's with just

60 bins overall generates approximately 23 tons annually, while BREC estimates it will collect 125 tons of recyclables in 2017.

Chambers says the Tuscaloosa Riverwalk recycling bins help to project an inviting image of the community in a high-profile area frequented by thousands of visitors daily. Community interest is an important factor motivating BREC's investment.

Amanda Takacs, who coordinates the program out of BREC's Special Facilities Department, says, "The residents of East Baton Rouge Parish have indicated that this is an important component of the recreation lifestyle they want us to provide."

Recycling in public spaces presents very real challenges and warrants careful planning. The experience of these communities and many others, however, shows the investment can pay off. **rt**

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