

CURBSIDE RECYCLING COLLECTION OPTIONS



This report presents three curbside recycling options for recycling and sustainability program managers to consider in their efforts to reduce inbound contamination of recyclables and/or recyclables collection costs.

It has been estimated that 53 percent of the US population (about 158 million persons living in approximately 62.7 million households) has curbside recycling services provided automatically to their homes as a part of the residential solid waste management systems in their communities. Furthermore, almost 90 percent of these residents are provided with single-stream recyclables collection service.

Curbside recycling collection programs began in the 1970's as an offspring of the environmental movement. Early programs relied on residents to set out their recyclables in separate boxes or other containers: one for glass jars and bottles, one for newspaper, one for tin cans, etc. The containers were then serviced by a multi-compartment, non-compacting collection trucks, in which the collection worker placed each material in a separate compartment.

As the number of materials and products targeted for recycling increased, the multi-compartment collection method gave way to a dual-stream approach, where residents were asked to separate their recyclables into two categories: rigid containers (plastic, metal and glass) and fibrous materials (newspaper, corrugated cardboard, junk mail, magazines, etc.). The dual-stream approach, in turn, was eventually replaced by an automated waste collection method, called single-stream recycling, for the collection of curbside recyclables. In this approach, residents are asked to place all of their recyclables—both fibrous materials and rigid containers—into a single container for collection.

The popularity of single-stream recycling grew quickly as large, wheeled, lidded carts offered greater potential to maximize the quantities of materials collected and recycled, while providing greater operational efficiency and increased safety for recycling collection personnel. In 2016, it was estimated that almost 90 percent of curbside recycling residences currently utilize the single-stream recycling method.

One downside of the growth in single-stream recycling systems has been the increase in contamination of discarded recyclables. There are a number of reasons for this, including large cart size and the similarity of recyclables carts to the type of cart used for waste collection. In addition, the fact that the cart is lidded prevents its contents from being inspected until they are emptied into the collection truck. In contrast, dual-stream recycling systems generally rely on smaller, unlidded containers that can be inspected before their contents are placed into the truck.

Curbside Recycling Options Reviewed in this Report

Option	Collection Approach	Collection Method	Collection Frequency	Cart Type	Case Study
1	Single-Stream	Automated Collection	Biweekly	Lidded, Roll-out Cart	Tucson, AZ
2	Dual-Stream	Automated Collection	Biweekly	Split Roll-out Cart	Mountain View, CA
3	Dual-Stream	Manual Collection	Weekly	Separate Bins	Lake Worth, FL

The report presents performance and cost data—as well as case studies—for each of these options. Each option provides a way for communities to achieve cost savings that would more than cover the reduction in revenues due to the China National Sword policy implemented in 2018.

Two of the options, namely the dual-stream options, also provide communities with the ability to significantly reduce contamination levels commonly associated with single-stream recycling. However, implementing these options requires the purchase of new recycling containers and collection trucks, as well as requiring a dual-stream materials recovery facility to efficiently process the recyclables.

It is SWANA's expectation that this report will serve as a valuable and timely reference document for solid waste, recycling, and sustainability managers as they evaluate recycling collection options that can significantly reduce costs and/or contamination associated with their current services.

The full report, *Curbside Recycling Collection Options* is currently only available to SWANA ARF subscribers. SWANA members receive free access to ARF industry reports one year after publication.