



# Outlining a Successful Recycling Program

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## A successful program

What does a successful recycling program look like? The answer is different in each community. But successful programs have a few things in common. They have the support from their elected officials. They communicate regularly with the public. They remain flexible to react to industry changes. And they are constantly looking for ways to improve.

By outlining short and long term program goals, you can help to ensure that your community's program will be a champion example of the state.

## Where to start?

Let's start by taking a look at your waste stream. Before planning ahead, we need to know what's what. Start with your waste stream – what and in what quantities does your community throw away?

### **EPA REGION 4'S MUNICIPAL GOVERNMENT RECYCLING TOOLKIT**

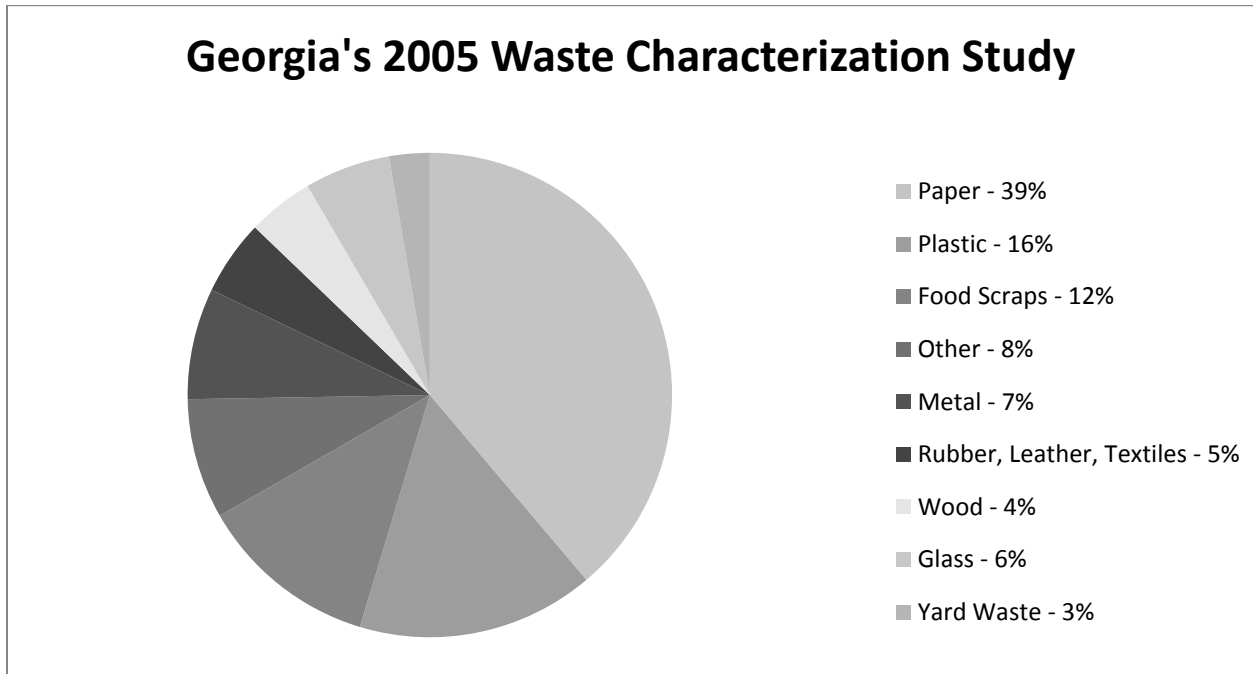
EPA Region 4's Municipal Government Toolkit (MGTK) can be a valuable tool for any Southeastern recycling program.

The MGTK provides a centralized Web-based resource for recycling-related information including economic data, sample legislation, waste reduction efforts, guidance resources, and case studies regarding the impacts of recycling in the Southeast.

The Web site focuses on six areas related to recycling in our region: economic impacts, climate change aspects, community benefits of recycling, and recycling hot topics, as well as modules on starting a recycling program, and improving a recycling program.

[www.epa.gov/region4/recycle](http://www.epa.gov/region4/recycle)

Not sure what's in your waste stream? In 2005, Georgia conducted a lengthy waste characterization study to find out exactly what's in their waste stream. Looking at their numbers can be a very helpful start.



## What makes your community different?

Using Georgia's figures as a base for your own, think about what makes your community unique. Consider questions such as:

- What manufacturing operations are in town? What do they produce? What wastes do they generate?
- What types of agriculture are in the area? What programs exist to help those farmers manage their bio-wastes?
- Is my community rural or urban? What's the economy like in my part of town?
- Are there business parks with easy access to lots of paper?
- Is there an active downtown that may be easy to tap for route in-fill?
- What's going on at the local college or university? Would there be a partnering option there?
- Are residents used to hauling their trash? Could a drop-off center be expanded to include recycling?
- How close is a major transportation corridor? For instance, those communities along the

routes towards Atlanta may be able to leverage partnerships with other communities.

- Most community waste streams break down into four main kinds of waste: residential, commercial, industrial, and construction and demolition. Getting a basic sense of how big each of these pieces of the pie are helps determine how to prioritize your recycling efforts.

### **Bigger Recycling Bins Help Show a Commitment to Recycling**

Nearly four years after the transition of their curbside program from 18-gallon recycling bins to 95-gallon carts, the city of Norfolk, Virginia experienced a jump in participation from 25% in 2004 to 56% in January 2007.

Nicknamed “The Big Easy,” the service features collection of recyclables in blue, 95-gallon rolling carts that resemble the city’s refuse containers.

With the new service, additional materials such as corrugated cardboard, magazines, office paper, and discarded mail are accepted and the city saved \$100,000 in tipping fees (fees paid per ton to dispose solid waste) in January 2007 due to the 57% participation rate.

*Source: EPA Region 4 MGTK*

### **How do you identify potential for recycling?**

Many communities tend to focus most of their efforts on the residential waste stream. What is your potential for recycling household materials? North Carolina’s recycling program estimates that each household generates about 745 lbs of recyclable materials each year. A good way to measure your program’s potential and how well your program is doing is to track total pounds recycled divided by all the households that are served in your program. Because it is very difficult to get 100 percent participation and sometimes harder to recycle some materials than others, 400 lbs per household served is a good benchmark for a high performing program.

### **How can you move materials through the fastest?**

Now that you know what you have and have a fresh perspective on what your community looks like, the next step is to match your assets with local markets. The goal of a recycling program isn’t necessarily to take every possible commodity. A strong program should start first with the materials that they can collect a lot

of and move through the easiest. For much of the state, this probably includes aluminum, steel, HDPE plastic, PETE plastic, newspaper, and cardboard.

How do you know what materials you can move through the fastest? It goes back to the previous chapters on markets. Finding out who will take what materials and in what way will help you shape how to start or improve your program.

## What are my short- and long-term goals?

Goals can come in many forms for recycling programs. Regardless of what goals you choose, it is important to set goals and even more important to consistently measure against them. Here are some examples of community recycling goals:

- Total tonnage goal – “we want to recycle 1,000 tons of material this year”
- Percentage increase goal – “we want to increase our materials collection by 10% over last year.”
- Participation goal – “we want to achieve a 65% participation rate in our curbside recycling program
- Materials collection goal – “we want to add mixed paper to our collection program in 2012”
- Programs services goal – “we want to conduct an HHW collection event in 2011”
- Diversion goal – “ we want to divert 20% of our waste stream from disposal by 2015”

Setting a number of goals in sequence over time can help drive program improvement. Getting your governing board to endorse your program goals also helps them commit to funding those programs over time.

A common goal of many recycling programs is to be cost efficient. How do you know how cost efficient your program is? An obvious measure is total cost-per-ton, which includes accounting of all program

### Conversion Rates

Mississippi DEQ has a handy tool to help you convert recycling totals into tons. Their conversion rates cover yard waste, phone books, appliances, glass, plastic, aluminum, steel, paper, cardboard, and more.

Go to:

[deq.state.ms.us/MDEQ.nsf/page/Recycling\\_MaterialDensityandVolumeConversion](http://deq.state.ms.us/MDEQ.nsf/page/Recycling_MaterialDensityandVolumeConversion)

expenses. A good method for doing this measurement is “full cost accounting.”

When it comes to growing a program, EPA’s Full Cost Accounting<sup>1</sup> for solid waste and recycling programs can help you make the most of your money. What is full cost accounting? EPA describes it like this, “Full cost accounting provides a common-sense approach to:

- Identifying and assessing the cost of managing solid waste operations, and
- Aiding decision-makers with short- and long-term program planning to help identify measures for streamlining and improving operations.”

## **What’s involved in a residential program?**

Residential programs collect materials from households using curbside collection, drop-off centers, or both. But effective programs include more than just putting out bins or carts. Communities should be prepared to engage in regular communication with the public to keep interested people informed, educate those new to the community, and appeal those who are not currently recycling.

They should also be ready to discuss their value with elected officials. Building support from the top down is equally important.

## **Is a curbside collection program for me?**

Curbside collection programs most often collect single stream, or commingled. Some communities still operate curb-sort programs where recycling employees sort the materials in the bin into a compartmentalized truck. Still other communities operate using both techniques – maybe they pull out one commodity, such as cardboard, and commingle the rest.

While most curbside programs target residential communities, some tie in business recycling into residential routes. Infilling a residential route with business parks or down town buildings can help programs maximize collection space.

How you decide to manage your curbside program will depend in large part how you can move through and market materials.

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<sup>1</sup> EPA’s Full Cost Accounting: [www.epa.gov/epawaste/conserves/tools/fca/index.htm](http://www.epa.gov/epawaste/conserves/tools/fca/index.htm)

Curbside collection programs often manage the following equipment:

- Collection bins. 18-gallon bins are a minimum. Many communities see a strong return from larger containers or multiple bins. Roll carts can be used instead of bins and are easier for citizens to use, giving them convenience and more capacity. Carts also allow for automation of the collection process. But carts are generally only usable if there is access to a single stream MRF for processing
- Curbside collection trucks. Rear-load compactor trucks are often used for programs that use laborers to empty bins. Compartment trucks allow for curbside sorting. In an automated system, the driver will maneuver the side arm to lift, empty, and replace the collection container.

## What should be included at an effective drop-off center?

Drop-off recycling centers often target rural communities but can also serve populated areas. However, even municipalities with curbside programs may find it worthwhile to have drop-off centers to served multi-family households, small businesses, and folks that miss their curbside day or have extra stuff not picked up curbside. While participation rates at drop-off centers are often capped by the distance and difficulty perceived by the recycler, they can often have fairly low contamination rates. This is especially true where facilities are staffed and the attendants are helpful. Unstaffed locations often have to deal with illegal dumping, higher contamination rates, and lower participation. Good, clear signage is a must at unstaffed centers.

### Recycling Program Planning Guide

In their Community Recycling Guide, Kentucky recycling officials outline effective recycling program among other handy things. Download this free resource at:  
[www.waste.ky.gov/recycling](http://www.waste.ky.gov/recycling)

Communities that require residents to haul their trash to a dumpster drop-off location can often easily expand these drop-off locations to include recyclables. Smaller collection facilities may need a single covered trailer designed to collect commodities separately. Larger facilities may look instead towards 8- or 40-yard dumpsters to collect sorted materials. Just like in curbside collection programs, drop-off centers may be able to collect some materials commingled, even single stream. This helps hold down the capital expenses of buying multiple roll-off containers or dumpsters.

How many drop-off centers does your community need? A lot has to do with wise placement for easy access. The Mississippi Department of Environmental Conservation encourages communities to provide

one drop-off location per every 3,000 to 3,500 people.

EPA Region 4's MGTK<sup>2</sup> encourages recycling coordinators with drop-off centers to ask themselves the following questions:

- Have you provided the public with adequate facilities to drop off recycling? Where are these facilities located? Schools are a prime spot for recycling with the opportunities to educate children and easy access for parents to drop off home recycling. School yards also often have large parking lots and ample space for storage bins. Fire departments are also popular spots, as they receive high visibility in the community, and the funds are often returned to the community through charitable purposes. Washington County, Kentucky has seen success with their drop-off bins located at local churches. Members of their community often frequent the local church they attend upwards of twice of week. This tactic targets all ages. Lastly, another possible location are shopping centers – for example, Wal-Marts will often allow a community to establish drop-off containers in their parking lots.
- How many drop-off facilities do you have throughout your community? Does everyone have easy access? Regardless of whether your community is extremely remote or just the opposite and in an urban location, drop-off facilities can make an impact on recycling numbers. In Oxford, Mississippi, the city saw a 308,750-pound boost to their recycling numbers in 2006-2007 simply by adding in a second drop-off center.

Many drop-off facilities contract with a hauler to remove and recycle all or some of their sorted materials. See contracting information below.

Drop-off facilities often maintain the following equipment:

- Trailers. Facilities that manage their own sorting floor often use compartmentalized trailers that can be hauled by a pick-up truck with a standard hitch.
- Gaylords. In covered facilities, these large, reusable cardboard boxes can be an effective and inexpensive collection tool. A Gaylord box is 48" x 40" x 36" and fits neatly on a standard pallet.
- 8-yard dumpsters. Communities often rely on open top or side open 8-yard collection dumpsters to collect sorted material. Be sure to communicate with your recycler to discuss moisture concerns for specific materials.
- Roll-off containers. Forty-yard containers can often be compartmentalized to accept multiple types of materials. Often smaller roll-offs are more easily accessible and are better fits for a drop-off center. Rolloffs can be covered or open-top, depending on your needs.

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<sup>2</sup> EPA's MGTK Drop Off Center Information:  
<http://epa.gov/region4/waste/rcra/mgtoolkit/improving.html#techniques>

- Attendant’s booth. Staffed recycling centers have the most effective and public-friendly recycling.
- Forklift. Programs that use Gaylord containers or other containers on pallets should have a forklift or a pallet jack.
- Pick-up truck. Facilities that use trailers often use in house trucks to move the trailers.
- Front-load or roll-off truck. Programs that do not contract with a hauler should be prepared to empty and haul material in house.
- Compactors. While not necessary, some drop-off centers utilize a compactor on-site for bulky materials like cardboard.

## **Should I bale and market my material myself?**

Before buying a baler and deciding to manage and market materials in-house, ensure that you understand the specifics of handling recyclable materials. The best way to do that is to communicate with the recycler you anticipate working with. They’ll walk you through equipment options and baler specs.

## **Writing an effective contract: Tips for a strong partnership**

EPA WasteWise Resource Management<sup>3</sup> encourages communities who contract for solid waste and/or recycling services to think of their contract not just as a way to move trash but instead to manage resources. What’s the difference? Here’s how they explain it: “Unlike traditional solid waste service contracts, resource management (RM) compensates waste contractors based on performance in achieving your organization's waste reduction goals rather than the volume of waste disposed. As a result, RM aligns waste contractor incentives with your own goals as you both explore innovative approaches that foster cost-effective resource efficiency through prevention, recycling, and recovery.”

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<sup>3</sup>EPA Resource Management Hauler Contracting: [www.epa.gov/epawaste/partnerships/wastewise/wrr/rm.htm](http://www.epa.gov/epawaste/partnerships/wastewise/wrr/rm.htm)



This chart, adopted from EPA WasteWise, further explains the differences:

<i>Feature</i>	<i>Traditional Hauling and Disposal Contracts</i>	<i>RM Contracts</i>
<b>Contractor compensation</b>	Unit price based on waste volume or number of pick-ups.	Capped fee for waste hauling/disposal service. Performance bonuses based on value of resource efficiency savings.
<b>Incentive structure</b>	Contractor has a profit incentive to maximize waste service and volume.	Contractor seeks profitable resource efficiency innovation.
<b>Waste Generator-Contractor Relationship</b>	Minimal generator-contractor interface.	Strategic alliance: waste generator and contractor work together to derive value from resource efficiency.
<b>Scope of Service</b>	Container rental and maintenance, hauling, and disposal or processing. Contractor responsibilities begin at the dumpster and end at landfill or processing site.	Services addressed in traditional hauling and disposal contracts plus services that inform and influence waste generation (i.e. product/process design, material purchase, internal storage, material use, material handling, data management, reporting).

*Source: EPA WasteWise*

Looking for a local example of contracted collection done well? One such example is the Huntsville, Alabama Solid Waste Disposal Authority<sup>4</sup>. They operate their curbside program through BFI/Allied Waste. Their program has been operating for a decade and they’ve learned a lot along the way. What tips does program manager Dixie Bray suggest to other communities working on a hauler contract? She encourages you to:

- Identify your goal. Is it to provide comprehensive recycling or to pick up trash?
- If you don’t have a market, don’t pick it up.
- Remain flexible and ensure that your contract is amenable to change.
- Be sure your contract is super-clear as to everyone’s responsibilities. Outline consequences if objectives are not met.

<sup>4</sup> Huntsville Solid Waste Authority: [www.swdahsv.org/](http://www.swdahsv.org/)

## **Suffering from collection stagnation? Don't worry – there's a cure.**

In a recent article for *Resource Recycling Magazine*, North Carolina's Division of Pollution Prevention and Environmental Assistance, (DPPEA) reported findings from both a targeted study and ongoing assistance work with mid-sized community recycling programs with flat recovery rates.<sup>5</sup> Based on the findings DPPEA encourages NC collection programs to consider a few key best management practices geared at refueling recycling recovery rates:

- Providing additional household recycling storage capacity to match the amount of recyclables in a typical household.
- Moving to a different collection format, in particular going from bins to carts.
- Increasing the range of materials included in the curbside mix.
- Altering post-collection material handling techniques.
- Changing to different Material Recycling Facilities (MRFs) or processing service providers.
- Looking for opportunities to generally improve on-route collection efficiency.

The DPPEA report continues that in many North Carolina communities, flat participation has been a major cause for program stagnation. A commitment to education is absolutely critical to good curbside program performance. The elements of education and outreach that DPPEA emphasizes include:

- Investment of additional resources and a refocus on outreach efforts.
- Creation and use of outreach mechanisms new to the community – for example, truck advertisements.
- Creation and use of basic educational materials, especially in support of operational program changes.
- Development of new types of messages to reach different demographics and to teach citizens why recycling is important.
- Integration of the state's Recycle Guys and RE3.org outreach programs into local educational programs.
- Implementation of award programs to incentivize citizen participation.

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<sup>5</sup> <http://www.p2pays.org/ref/45/44983.pdf>