

PLANNING FOR SUCCESS

Ten Tips For Designing
Public Space Recycling Programs



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Recycling has become commonplace in the home and workplace for many people, but it is only in recent years that more communities have focused on expanding recycling opportunities to public settings such as parks, sports venues, convenience stores and other areas. One of the main reasons for this slow development has been the difficulty getting people to use recycling bins properly. Faced with low participation and overly-contaminated bins, public works administrators and facility planners have been hesitant to invest in bins and collection infrastructure under the belief that people simply aren't willing to make the necessary effort to recycle properly. Behavioral research and experience over time, however, have shown that recycling in public spaces can work when programs are designed with a greater appreciation for the user's thought process.

Recycling activity for most people in the home or workplace is about building habits that are supported by having familiar bins in predictable places coupled with a consistent understanding of what can be recycled. When one is away from one's curbside bin or the bucket by one's desk, this predictability is often lost along with the steady rhythm that drives recycling activity for many people. Recycling bins in public locations that are available to people as they pass through their day frequently come in different shapes and colors, and are labeled to accept different materials, if they exist

at all. People who are predisposed to recycle, already with busy lives and other priorities, will casually toss waste items – correctly or incorrectly – wherever they see the opportunity.

This guide specifically addresses program design elements that help get people to use bins correctly. Where public space recycling programs often fail is when these considerations are ignored or treated as an afterthought to other planning priorities, such as aesthetics of the recycling bin or placement of bins in relation to landscaping and other site features. While these other considerations are important to address, it is critical to a program's success that user behavior be considered at the outset of planning a program. No single practice outlined in this guide will guarantee success; rather, it usually requires a combination of them. Also keep in mind that each setting is unique; what works well in one location may need refinement to work in another.

A number of excellent best practice guides have been created by other organizations addressing operational and other planning issues outside the scope of this guide. You can find these and a Resource Recycling journal article by KAB that explores academic research into attitudes and behavior around recycling at <http://americarecyclesday.org/public-space-recycling-resources>.

What is a Public Space?

Public space recycling generally refers to bins placed in open location accessible to a broad population of people. It generally applies to medium sized recycling bins between 15 gallons and 45 gallons in settings such as:

- Streetscapes
- Airports
- Special events
- Fairs
- Sports & concert venues
- Beaches
- Parks
- Plazas & pedestrian malls
- Courtyards
- Building lobbies
- Office break rooms
- Food courts
- Commercial zones
- Gas stations

1 RECYCLING MUST BE SIMPLE AND CONVENIENT

It's a beautiful day and a man is at the central town park with his family and hundreds of others enjoying the Fourth of July festivities. They've finished their picnic and the kids are bolting for the playground, even as their mom struggles to wipe BBQ sauce from the face of the youngest child. The man, we'll call him Steve, is setting out from the picnic table with a stack of used paper plates in one hand and a few empty cans precariously held in the other. We don't know if the kids will keep up their good behavior or if the youngest will stay awake for the fireworks. But we can say with some certainty that Steve will use the nearest set of waste receptacles he sees and that he's going to dedicate no more than one or two seconds at most to consider which bin opening he drops the plates and cans into. Whether the items in his hands make it into the correct bins depends more on how the recycling program was designed than on whether Steve is a "recycler."

Getting Steve to recycle correctly comes down to two overriding factors: convenience and an immediately clear understanding of what is supposed to go into which bin. Studies about environmental attitudes show that roughly 15% of Americans are motivated to recycle by an intrinsic appreciation of the resulting environmental benefits. For the other 85% of people, recycling is a vaguely "good thing" they're more or less inclined to do if they are presented a choice. Ultimately, the waste item in someone's hand, almost by definition, holds no value to them and therefore is not the main focus of their attention. Someone in Steve's position is already thinking ahead to joining

the kids on the playground or finding a sink to wash his hands. Even in the limited one or two seconds that he considers a waste bin his focus is split, not unlike someone texting while he or she walks.

At each stage of designing a public space recycling program it's important to keep this in mind. It is not realistic to assume people will adapt to the waste infrastructure provided, whether walking past trash bins to find recycling or taking time to read detailed signage. Instead, the design and placement of bins must adapt to their needs by being convenient to access and simple enough for them to make the right choice without focused concentration.



Make recycling simple and convenient.

People using bins are often focused on other things, similar to someone texting while walking.

2 KNOW YOUR WASTE STREAM

While many recycling best practices are universal from one setting to another, each location has unique conditions that can impact a program's success. The types of material in the waste stream, where it is coming from and where it is going to should all be considered up front in the planning process before bin styles or messaging are decided.

Know what's in the waste stream before selecting a recycling bin or label message.

What is in the trash?

Knowing what materials are being discarded in a target area is important to designing the program in a number of ways. A picnic area that generates large family-size water or juice bottles may warrant larger bin openings than would otherwise be used. Even if only PET and HDPE plastic bottles are accepted locally, it may nonetheless be best to leave the “#1 and #2” message off the label if only a very small percentage of the plastics generated are of a different type. A formal waste audit based on samples from multiple trash bins on different occasions can provide a scientific breakout of the recyclable and non-recyclable materials that allow you to craft the labels and signage that best work for that location. Another example: you may have a single-stream program that allows for collecting recyclable paper in commingled bins. But if an audit tells you that 75% of the paper generated at that location is paper plates and other non-recyclable papers, you may want to avoid collecting paper or be very clear about collecting “Magazines & Newspapers.” Formal audits can be expensive and you may decide limited funds are better spent purchasing more bins. There is still value to casually looking inside trash bins from time to time. Some of the nuance is lost, but even an

anecdotal understanding can spot trends important to improving programs. Finally, pay attention to how much waste is being discarded at certain locations to know if multiple bins should be clustered in the area or if there is a need for frequent collection service.

Follow the waste upstream

Upstream issues can result in downstream problems. Is there a coffee shop across the street from the park benches where bins will be located? Be prepared for disposable cups. This guide advises against lengthy lists of non-acceptable items, but this may be a situation that warrants an image of a cup with a red strike. Similar to a waste audit, understanding where waste is generated and the common traffic patterns through the area should influence the design of the collection system. Anticipate where people are likely to dispose of recyclables. Do you really need a recycling bin next to a soda vending machine? Is someone likely to stand there for the next 15 minutes as they drink their soda? Instead, consider placing the recycling bin by the restroom entrance where people instinctively discard unwanted items before entering. The position of the trash and recycling bins can also be important in relation to foot traffic. If you find a location mostly generates non-recyclable items and the foot traffic primarily moves in one direction – for instance, toward the exit of a sports arena – placing the trash bin first in line to receive the items can help reduce contamination.



Adapt labels to address major contaminants in the waste stream.

Special events and certain closed-system locations such as a food court provide an opportunity to influence what gets discarded before the public even arrives. For example, if #3 through #7 plastics are not locally recyclable, coordinate with vendors or food service managers to switch these for acceptable alternatives. If you're looking to capture food waste, talk to them about using compostable dinnerware that can be accepted in the same bin as the food organics without the need for sorting.

Where are the recyclables going?

Which type of recycling facility are the collected items going to? If they are processed in automated material recycling facility (MRF) that can efficiently sort mixed recyclables, using a single recycling bin for all materials presents a simpler recycling option to users and reduces the need for multiple bins labeled for individual materials. Regardless, it is worth communicating up front with the recycling facility or the hauler who will cart items off to understand what their tolerance is for contamination. Some facilities can handle plastic bags, but others are particularly weary of their potential to get caught in sorting equipment causing maintenance headaches. Coordinating efforts and showing concern for their needs up front can buy patience later on if extended time is required to train users and reduce contamination.

3 PLACE RECYCLING AND TRASH BINS TOGETHER

Trash and recycling bins are first and foremost "waste bins" in people's minds. If there is only one bin in front of them, they are likely to use it regardless of what they're discarding or whether it is labeled "Trash" or "Recycling." The distinction only applies for most people when both options are presented side by side. With that in mind:

Pair bins together in all locations

Placing recycling next to trash in every location addresses the convenience factor and also helps to reinforce the message that recycling is a full-time activity. There are common sense exceptions but for locations that warrant recycling at all, it is best to provide even coverage throughout the area. Where limited budgets prevent buying the full number of recycling bins needed, consider reducing the number of trash bins or converting some to recycling to find a balance. While fewer trash receptacles can lead to more litter in some situations, this is not the case in others. An increasing number of state and other park locations have successfully removed all bins without significant litter problems as part of a "pack-it-in, pack-it-out" policy.

Place bins directly next to each other

There are exceptions, but in most circumstances it is important to have recycling and trash immediately next to each other. Some people will use the first one they come across regardless of how it is labeled, even if it is separated by only a couple feet or placed on opposite ends of a park bench. The further apart they are, the greater the risk of cross-contamination you're likely to experience. Where bins must be separated, it can help reduce contamination by increasing the visual contrast between bins – bigger signage, make the entire bin blue instead of just the lid, etc., so that the distinction is obvious from a far distance as people approach the bins.



Pair recycling and trash directly next to each other in each location.

4 USE RESTRICTIVE LIDS

It takes concentration to shove a 10-inch wide paper plate with chicken bones through a round, four-inch wide hole. While it can be done, that extra moment of concentration required to navigate past a small opening increases the likelihood they'll notice the "Cans and Bottles" label on the lid. In addition to reducing contamination, research has shown that restrictive lids themselves can increase recycling participation by providing the visual cue to people who have come to associate the smaller opening with recycling cans or paper and the larger openings with trash.

Small openings vs. flaps

Restrictive lids typically involve either a small round opening for cans and bottles, a narrow slot for paper or hybrid combination for mixed collections. A flap or other physical barrier can help minimize bees and other pests. Both can be effective, but flaps or baffles made of flexible plastic or rubber strips across the opening run the risk of warding off people concerned about touching them and picking up germs.



Restrictive lids are important to reduce contamination.

How big should the opening be?

This depends on your situation. People too distracted to read the label on the bin will generally gravitate toward the largest opening. In most cases – and especially where contamination is a significant problem – it makes sense to use a smaller opening on the recycling bin and a larger one on the trash. A larger opening for the recycling bin may be warranted for where odd-shaped or larger recyclable items are

common in the waste stream. Conversely, where experience shows recyclables going in the trash is a bigger problem than contaminated recycling bins, equally-sized openings on both bins could make sense.

5 USE CLEAR, SIMPLE LABELS AND SIGNAGE

With only a fleeting moment of attention, it is important to convey what should go in a bin in the simplest possible terms.

Use a few key words

"Cans & Bottles," "Paper," "Plastic Bottles," etc. There is a balancing act between informing people and avoiding too much information that causes them to tune out. Listing out each material with detail can lead some people to not read the signage at all. Even if you cannot accept other plastic resin types locally, you may end up with less overall contamination with a basic "Plastic" message instead of "Plastic Bottles #1 and #2." Specific messages that work in one



Extra signage can help limit confusion.

location may not in another, which is why it is good to test different messages in a pilot program before committing to a standard decal on all bins.

Use clear language

Avoid ambiguous words or ones that aren't obvious to non-recycling professionals. "Commingled" or "Single Stream" conveys information to a recycling

coordinator, but “Mixed Recycling” is likely to be more recognizable to a layperson. Don’t go too simplistic, either. Just listing “Recycle” or placing the recycling triangle by itself without indicating a material type might cause some to assume anything is allowed, or others to ignore it rather than guess.

Pictures are best

An image of a can or piece of paper instantly conveys what’s accepted to native and non-language speakers alike. This is especially important in areas with multi-lingual populations or tourist locations frequented by foreign visitors. Simplicity applies here as well, though two or three images work better than a crowded sign with too many.

Avoid listing the “don’ts”

Listing out prohibited materials risks too much information and might cause people to tune out. The important message is what you do want them to recycle. The exception to this is where you have high volumes of a persistent contaminant such as coffee cups. Even in this situation, consider an image with a strike-through as opposed to additional words like “No Coffee Cups” that can compete with “Cans & Bottles” for the user’s attention.

Put the label where it will be seen

Don’t put messages on the side of a bin if the opening is on the top. Place your message at eye level or immediately next to the opening. Make sure people will see labels or signage as they approach from multiple directions.

Blue is the most common color for recycling bins

6 CHOOSE THE RIGHT BIN

There are compelling aesthetic reasons to have recycling and trash bins match each other, but it is also critically important to make sure people can tell them apart with a casual glance. You can strike that balance by choosing bins with common architectural features while using color, additional signage or other modifications to distinguish them.

Use a different color

Whether it is the entire bin or just the lid, make sure the recycling bin is a different color than the trash bin. While there is not a uniform standard in the United States, blue is the most commonly used color used to indicate recycling. Except where there is already a strong standard around a different color locally, blue should be considered a default to reinforce the recycling association wherever a person goes. Ideally, the entire recycling bin is a different color from trash, but changing the color of the lid has also been shown to work even where the body color is the same.



Bins with wide openings and separated from trash invite contamination.

Openings

There is no clear consensus on whether an opening on the side works better to encourage correct usage than an opening on the top that faces up. Similar to the choice between single versus multiple openings on a bin, convenient access to the opening increases the likelihood they'll be used, correctly or not. Other considerations such as the height of the bin, ability to access it from multiple directions, etc., will likely influence their use as much as the placement of the opening. You should be conscious to match the same pattern for both trash and recycling. If the recycling bin has openings on all sides, or on the top, and trash only has it on the front, you risk contamination from people approaching from behind or the side.

Use a special lid or signage

Some bin manufacturers offers special accessories such as dome lids or a cap to block rain and snow from entering top-facing openings, and special sign boards on the backside of the bin with space to add additional messaging. Aside from the direct utility of these accessories, they can also help to distinguish recycling from trash. Other features such as a special band with messaging around the middle of recycling bins can similarly help set them apart from trash.



Consistent looking bins and message reinforces user familiarity.

Clear bins can reduce contamination

Seeing cans and bottles already inside the bin communicates that it is meant for recyclables.

Clear bins are especially effective for special event settings. But beware. In some cases an empty bin or one that initially collects contaminants could inadvertently signal not to put anything in it or cause it to be mistaken for trash. Where possible, consider “seeding” bins with clean recyclables when setting them out.



Clear bins can reduce contamination.

Bin Shape

To select the right bin, you must evaluate required capacity, usage, and aesthetic concerns. A square receptacle typically can hold more waste than a round one. Square receptacles also have the advantage of creating recycling stations since the bins fit snugly and easily side-by-side. Since round bins don't have corners that may snag on garbage bags when being changed, an advantage to the round shape would be ease of servicing. Although there are no studies to indicate that behavior in general is influenced by the shape, special bins such as those shaped like large

plastic bottles have been shown to reinforce the recycling association and reduce contamination.

7 BE CONSISTENT

Pick a uniform bin style, color scheme and label message and stick to it. In the same way a person comes to recognize and associate particular qualities and characteristics with a consumer product brand, applying a standard look for recycling bins helps to “brand” them in people’s minds. As they walk across a park or other facility, seeing the same blue color and distinctive shape to a bin reduces the need to learn from scratch what a particular waste receptacle is supposed to collect.

Use standard messaging

Once you’ve found an effective sign or label message, use it consistently. Avoid labels that refer to “Plastic Bottles #1 - #7” on one bin but then say “Plastics” on another 20 feet away. This leads to confusion. Confusion leads to items going in the wrong bin.

Standard bins and color scheme.

Different bins may be warranted at a particular location for aesthetic or operational reasons, but an effort should be made to limit these to as few uniform styles as possible. Even where multiple styles are necessary, make an effort to apply a uniform color or even a particular color tint to extend as much of a common look as possible.

Coordinate across settings and jurisdictions

Standardizing a recycling program to match the recycling experience at work, home and in public facilities is one of the most important initiatives to improve public recycling programs. Where possible, coordinate with the residential curbside program or other local jurisdictions to standardize what can be recycled and implement consistent messaging and color schemes.

8 KEEP BINS CLEAN AND WELL MAINTAINED

Use of labels, color schemes, special lids and other tricks to get people to see recycling and trash as more than simply interchangeable “waste” bins is important. That distinction is quickly swept away when someone walks up to a bin caked in grime or with cigarette stub marks and torn labels. Whether they understand that a bin is for recycling, there is a certain emotional reaction that can influence that split second of attention given. Recycling has a good or wholesome association that separates it from trash. Gross recycling bins can lose that wholesome edge and feed an unconscious reaction that it is “all trash anyway.” Overflowing or badly contaminated recycling bins will also lead to people treating them as trash. Regular collection and cleaning service is crucial to a program’s long-term success. Replacing worn decals and banged up lids is also important. Bins that are cared for help motivate people to in turn care about how they are used.



Look for creative opportunities for signage and other outreach.

9 EDUCATIONAL OUTREACH

Recycling programs and other activities that require people to change long ingrained habits will benefit from educational outreach to communicate both the “how” of what they’re being asked to do, and the “why.” With workplace or residential recycling programs you typically know who your audience is and how to reach them. More importantly, these settings allow people to develop a rhythm around the specifics of what and how to recycle over time. Public space locations face unique challenges that make education more difficult. An individual’s fleeting relationship to a location like a shopping mall food court or unfamiliar street corner combined with the lack of standard messaging, color coding system or list of what is accepted from one place to the next, make it challenging to develop that same kind of rhythm. Just as challenging, many public spaces provide few opportunities to actually engage people. Some opportunities do exist, however:

Take advantage of the bin

Aside from the label that goes next to the opening, some recycling bins come with accessory signage that can be bolted to the backside, providing both a beacon to recognize recycling bins from a distance and offering a chance to expand your message beyond the label. Messaging still has to be simple and not everyone will look at it, but special signage can help reach some people.

Target frequent visitors

It’s not feasible to place staff or volunteers on site to educate people all the time, but at special events or when first introducing recycling in a neighborhood park or sporting venue consider setting up an education display, tabling or even planning a kickoff event to engage people. Certain locations with transient one-time visitors like an airport are not worth such an effort, but locations that people return to with some regularity can be worth the investment of time. Even if you only interact with a small

percentage of users, those you do reach can help set the norm that others will hopefully follow over time.

Cultivate recycling ambassadors

Identify the people or organizations that interact with users of a targeted space and ask them to help with your outreach efforts. Reach out to the coaches and sports leagues that use athletic fields and ask them to pass on the word about a new recycling program. Get the attendant at a community center to remind folks where the bins are located. If there are hotels surrounding a large urban park, see if they will include program information with their in-room area guide. In a downtown commercial district go door-to-door introducing the program to proprietors, both to get their input on the design and to enlist their support raising awareness with their customers. Consult with custodians or groundskeepers to get their input on evaluating the program’s success or to enlist them in passing the word to the people they interact with.

Beyond communicating direct how-to recycling information, these ambassadors can help reinforce recycling as an accepted part of the normal behavior at that location.



Communication Strategy

Develop a plan to communicate the introduction and ongoing success of a program. When launching it, issue a press release to the local media. Plan a ribbon-cutting ceremony or other type of kickoff event to provide media with a “visual” to go with the story. Going forward, communicate the success of the program to generate additional media and reach out to your ambassadors with details about how much recycling has been collected and other positive impacts of the program. For street-side recycling bins in a commercial area, ask the Chamber of Commerce or business improvement district to publish a feature

in the newsletter they send to area businesses. Take pride in the program and look for creative ways to communicate this on an ongoing basis to user groups and other stakeholders.

10 BE PREPARED AND BE READY TO IMPROVE

This guide offers general guidelines that apply to most situations, but ultimately what works in one place can miss the mark in another. Even following all the tips in this guide does not mean you can put out bins and assume everything will go smoothly.

Start with a pilot

Before rolling out a large recycling program and potentially investing tens of thousands of dollars or more in bins and equipment, run a pilot program in a few test areas for six months or so. See if a blue lid is enough to distinguish the recycling bins or if the entire bin really needs to be a different color to work. Find out what wording on the bin labels best works to keep out the unwanted items. Can you get by with larger 45-gallon bins to reduce collection frequency, or do you find odor issues require frequent collection anyway when the bins are only half full? Knowing what actually works and making the upfront modifications can save a tremendous amount of headache once the full program is implemented.

Evaluate and Adjust

It is difficult if not impossible to anticipate all the issues that might come up. During the first year after a program is implemented pay close attention to how it is working. Which locations consistently end up with more cans and bottles in the trash? Can switching the position of the trash and recycling or moving them closer to an entranceway improve the situation? Note seasonal trends such as the need for additional bins at certain locations during especially busy times of the year. Be prepared to monitor and make adjustments

over time, but also be patient and allow immediate problems to demonstrate they're more than just short-term kinks that will work out over time. In some cases, issues like high levels of contamination will resolve themselves without the need to change signage or move bins around simply by allowing a few months for users to become familiar with the program.

Benchmark and track quantities

How do you know if your program is a success? Develop a system for recording how much recycling and trash is collected over time. Start even before recycling is implemented to get a baseline of how much trash is collected so that you can document the resulting drop in trash volumes. If possible, plan a follow-up waste audit after the program has settled in to see which recyclables are still ending up in the trash as well as to find out the contamination rate of the recycling bins. This information helps you to know where further adjustments or education is needed, and documents the impact of the program that can be used to justify future expansions. In a perfect world materials are tracked by weight. Where that isn't possible, come up with a system to track the volume by counting the number of bags or how full bins are on average or the frequency of collection can allow you to estimate the weight.

Have realistic expectations and be patient

Some level of contamination is inevitable. If you can keep it to less than 10% you should count this a great success. When contamination consistently runs more than 25% of a recycling bin's contents over an extended period of time is when you need to consider changes. At the same time, however, don't be discouraged if contamination is high at the outset. Especially where there has been no recycling in the past. It can take months for people to adapt to a new system. In some cases contamination issues take care of themselves over time.