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Designing Successful Public Space Recycling Programs

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Keep America Beautiful

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President
Recycle Away

Who We Are



Keep America Beautiful is the nation's leading nonprofit that brings people together to build and sustain vibrant communities.

- With our strong affiliate and partnership network, including state recycling organizations, we engage millions of volunteers who take action in their communities through programs that deliver positive and lasting impact
- We offer solutions that:
 - Create clean, beautiful public places
 - Reduce waste and increase recycling
 - Inspire generations of environmental stewards
 - Generate positive impact on the local economy

Our Mission

Engaging individuals to take greater responsibility for improving their community's environment

KAB Recycling Programs

Building Awareness and Activation

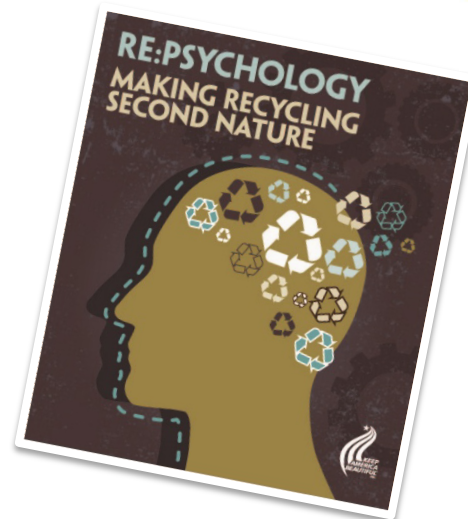
- RecycleMania
- Recycle-Bowl
- America Recycles Day
- National Advertising Campaign
- Give and Go: Campus Move Out



Public Space Recycling

Thought Leadership

- Symposium
- Ongoing Webinar series
- CURC professional training
- Research Agenda



Who We Are

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Recycle Away is a recycling container distributor and designer based in Brattleboro, Vermont. We specialize in:



Custom recycling containers for corporations



Color-coded recycle bins for colleges and universities



Outdoor recycling stations for parks and downtowns



Office recycling bins for businesses



Fun and effective recycling containers for school



Recycled-content containers for LEED certified facilities

Recycling is Easy, Right?



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Do People Care Enough to Recycle?

Naïve planning assumption:
people support recycling, all
you have to do is put a bin
out and they will use it

Jaded view:
people don't care. No
matter what you do they'll
just trash bins

Both views are one
dimensional. It's necessary
to better understand what
drives behavior



Behavior Fundamentals

- **Environmental Attitudes**
 - 15% “Super Greens”
 - 15% Eco-Skeptics
 - 70% “Sometimes” Recyclers

- **The Best Target:**
70% “Sometimes Recyclers”
in the middle



Getting People To Recycle

1. Motivating behavior:

Primary Goal needs to be not to make them care or be fluent, but to remove barriers. It is less important to make them care than to make recycling easy.

2. Making recycling a habit:

- **Remove barriers:**

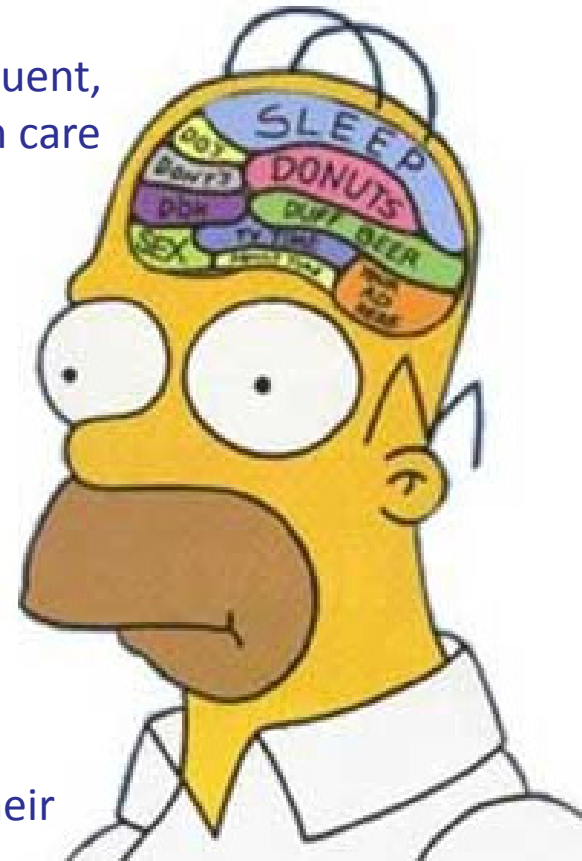
- Lack of convenience
- Confusion about what to do

- **The Homer Principle:**

- Homer embodies the 70%
- Recycling isn't focus of their attention
- All bins are "waste" bins at first glance
- A successful program is achieved by understanding their needs as much as making them understand yours

- **Program managers must design bins to anticipate this.**

- Bins must clearly identify what they are for



Experience With Public Space Recycling

- How many people have implemented a recycling program?
- What were your goals for the recycling program?
 - Environmental?
 - Economic?
 - Greening your image?
 - Other?
- Do you consider recycling efforts a success?
 - Strong success
 - Partial success
 - Failed

Key Factor #1: Choosing the Right Bin

**Standardize
the Look of All
Material Streams**

**Aesthetics are
good, but must be
balanced with
functionality at
the start**



Key Factor #1: Choosing the Right Bin

Use Different Colors / Features To Distinguish Recycling From Trash



Key Factor #1: Choosing the Right Bin

Employ Restrictive Lids to Prevent Contamination



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Key Factor #1: Choosing the Right Bin

Select Containers for Ease of Servicing



Key Factor #1: Choosing the Right Bin

What Research tells Us:

Use Restrictive lids

Duffy, Verges -2008

- Indoor bins – College academic building
- Recycling increased 34%
- Trash decreased 95%
- Suggested lids helped identify recycling



Key Factor #1: Choosing the Right Bin

What Research tells Us:

Bin Color Impacts Recycling Behavior

Montazeri, Gonzalez, Yoon, Papalambros -2012

- Study conducted at Univ. of Michigan
- 52% recycled correctly with grey recycling & grey trash
- 88% recycled correctly with green recycling & grey trash



Key Factor #1: Choosing the Right Bin

What Research tells Us:

2013 Survey of 750 people

George Washington University – 2013

What do people associate with recycling: shape, color, wording?

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Public Space: Recycling, Composting and Trash Bin Design and Signage

Abstract
While recycling is considered one of the easiest environmental behaviors for the general public to perform, those seeking to implement recycling programs often find that the most effective design is the one that is least obvious. This poster begins to answer some of the questions about designing the most effective program. This poster begins to answer some questions about designing the most effective program. This poster begins to answer some questions about designing the most effective program.

Bin Shape
To rate bin shapes, photos of each bin shape were displayed in a uniform color, and respondents were allowed to select as many bin shapes as they associated with the type of bin in question (trash, recycling, composting).
• Trash - 56% of the respondents identified a round bin as a trash bin.
• Recycling - The rectangular shaped bin was most frequently identified as a recycling bin (58%); however, 1/3 of the audience identified the wireframe (37%) of square (35%) bin shapes as recycling containers as well.
• Composting - Bin shape is not an identifying factor for composting bins, as no shape was recognized by more than 1/3 of the audience.

Key Takeaway: Recycling bins should be square or rectangular in shape.

Bin Color
Earlier research suggests that for trash, recycling, and composting bins, colors can be used to communicate the intended use of a bin. If there were one or more colors associated with each type of disposal, survey respondents could select as many colors as they associated with the given bin type (trash, recycling, composting).
• Survey results indicate that respondents identified the following:
• Trash - gray bin (78%).
• Recycling - blue bins (79%), followed by green (39%).
• Composting - respondents were less certain what color the bin should be, but nearly half the audience selected the brown (51%) or green (41%) bins, indicating that these may be good colors to use for this purpose.
Key Takeaway: Recycling bins should be blue. Trash cans should be gray. Compost is not strongly associated with color.

Bin Lid Cutoff Types
To evaluate the understanding of different bin lid cutoffs, respondents were presented with a series of pictures of bin lids, each with a different cutoff shape (e.g. circular hole, slit, no cut out [i.e. intended to be closed], etc.). For each bin lid cutoff type, respondents were asked to choose which lid should be used to dispose of a set of materials: plastic water bottle, newspaper, banana peel, glass beer bottle, and candy wrapper with plastic wrap. Respondents were also asked to choose which lid should be used to dispose of a set of materials: plastic water bottle, newspaper, banana peel, glass beer bottle, and candy wrapper with plastic wrap. Respondents were also asked to choose which lid should be used to dispose of a set of materials: plastic water bottle, newspaper, banana peel, glass beer bottle, and candy wrapper with plastic wrap.

Key Takeaway: A circle cutoff is best for cans and bottles, a slit should be used for paper and a slit and circle cutoff should be used for a mixture of recyclable material.

Signage
In order to examine whether signage performed differently on each bin, there is a variety of terminology for material types, as well as different colors and shapes. This poster begins to answer some questions about designing the most effective program. This poster begins to answer some questions about designing the most effective program.

Introduction
Since the 1960s, many communities have provided curbside recycling for their residents. The number of such communities grew exponentially in the 2000s, along with the number of drop-off centers. Surveys indicate that nearly 90% of households have access to recycling options (American Forest and Paper Association Community Survey, 2010). Recycling in the commercial sector has also been growing, as businesses realize that it often can reduce costs or even generate revenue. However, unlike in some cases, businesses, recycling options are not always readily available in public spaces, including parks, malls, and streetscapes. To name a few, recycling bins are often found in public spaces, including parks, malls, and streetscapes. To name a few, recycling bins are often found in public spaces, including parks, malls, and streetscapes.

Methods
This survey was designed in partnership with Dr. Monique Turner at The George Washington University (GWU), and it was distributed to multiple audiences: a random sample of Purdue students and faculty, a snowball sample of GWU students and faculty, and a sample of Purdue students and faculty. The sample size varied from n=697 to n=489, as not all questions were asked of all audiences due to time constraints. These data were analyzed to identify recommendations for effective public space recycling bin infrastructure.

For more information contact:
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• Dr. Monique Turner at The George Washington University
• Kelley Dennings, now with the American Forest Foundation
• Kaitlin Phelps, now with Action Research

Key Factor #1: Choosing the Right Bin

What Research tells Us: 2013 Survey of 750 people

George Washington University - 2013

Key take aways:

- Blue = recycling
- Square bin = recycling,
Round bin = trash
- Round opening = recycling
- Messaging:
 - "Mixed Recycling" works
 - "Single Stream" Doesn't
- Icons + words work best



Key Factor #2: Placement of Bins

Place Recycling Immediately Next to Trash for Parity



Windsor Park, KS
- the unused bin
on the left in the
back is recycling

Key Factor #2: Placement of Bins

Consider Orientation To Foot Traffic & Surrounding Area



Bin openings
should face the
same direction

Key Factor #2: Placement of Bins

Know Where Waste Is Generated

An example of a well designed and well placed bin



Key Factor #2: Placement of Bins

What Research tells Us:

A Study of Number & Locations of Bins in Hallways and Classrooms of Academic Buildings in College/University Settings

O'Connor, Lerman & Fritz -2010

- Adding bins to classrooms increased bottle recycling 128%



Key Factor #3: Engaging Employees & Visitors

Label Bins with Clear Consistent Language,
Using Just a Few Words



Key Factor #3: Engaging Employees & Visitors

Use Signage to Help Identify Bins



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Key Factor #3: Engaging Employees & Visitors

Look For Creative Opportunities For Education



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Key Factor #3: Engaging Employees & Visitors

What Research Tells Us

How Recycling Behavior is effected by Bin Placement in Office Settings

1. Little trash bin with normal-sized recycling bin
2. Equal size trash and recycling bins
3. Recycling bin only
4. Information only



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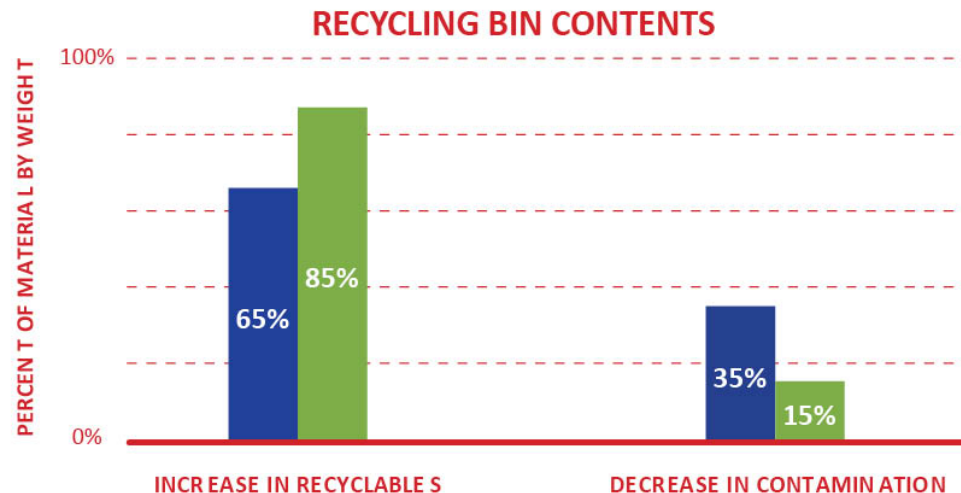
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Key Factor #3: Engaging Employees & Visitors

What Research Tells Us

The Little Trash Bin is Most Successful

- Increased correct disposals
- Decreased recyclables in the trash from 29% to 13%
- Decreased recycling bin contamination by 20%



Key Factor #3: Engaging Employees & Visitors

What Research Tells Us

Informational Flyer And Bins Signage Helps



RECYCLING

These are some common recyclable items in your office.

Please put these items in a *recycling* bin:

- Plastic Beverage Bottles
- Aluminum Beverage Cans
- Office Paper
- Soup Cans
- Frozen Dinner Boxes

**Please note that these are some common items. For a more comprehensive list of recyclable and non-recyclable items see your building manager, or your waste hauler's website.



RECYCLING

These are some common recyclable items in your office.

Please put these items in a *recycling* bin:

- Office Paper
- Plastic Beverage Bottles
- Aluminum Beverage Cans
- Frozen Dinner Boxes
- Soup Cans

LANDFILL

These are some common non-recyclable items in your office.

Please put these items in a *landfill* bin:

- Food Scraps
- Bubble Wrap
- Plastic Eating Utensils
- Used Paper Plates
- Paper Towels

**Please note that these are some common items. For a more comprehensive list of recyclable and non-recyclable items see your building manager, or your waste hauler's website.

Key Factor #4: Track, Monitor & Improve

Recycling Programs Don't Improve By Themselves

- Start with a pilot project
- Track performance
 - Watch recovery & contamination trends
- Monitor & adjust
 - Move bins to optimize use
- Refresh bins
 - Peeling decals, grungy bins discourage recycling
- Document success



A Winning Public Space Recycling Program



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Resources for “Away from Home” Recycling

Public Space Resources

- BMP guides & case studies
- Academic research papers
- Webinar archive
- State Fair tools & templates
- Event Recycling toolkit

<http://americarecyclesday.org>



Recycling @ Work

<http://recyclingatwork.org>

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Questions?



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