

Turning Intention Into Action

**Using Data to Drive Consumer
Education in Sustainable Packaging**

Quad 



How2Recycle[®]

Introduction

100% recycled, biodegradable, compostable, fuel efficient, eco-friendly, green packaging – each of these, and more, are claims that are often found on packaging.

Consumer expectations in sustainability have been polled over and over again, with all results pointing to increasing interest in sustainability and intention to act more sustainable.

But do consumers do what they say? What can retailers and brands do in this space to propel their sustainability goals?

When asked, up to a third of polled respondents did not understand what can and cannot be recycled in their community. Many people stated that this was because the recycling systems in their community were complicated and inconvenient. The main confusion was focused on recycling plastics.

Over the last 5 years, Package InSight by Quad has conducted a series of consumer research studies using state-of-the-art eye tracking technology to understand how consumers view and respond to sustainability messages on packaging.

Consumer perception of packaging claims and labeling around brand identity, food waste, and recycled materials were evaluated to see where consumers believe innovation should live in sustainable packaging.

Quad partnered with How2Recycle to take these findings and apply them to a real life sustainability label.



How2Recycle

How2Recycle is a standardized labeling system that clearly communicates recycling instructions to the public. It involves a coalition of forward thinking brands who want their packaging to be recycled and are empowering consumers through smart packaging labels.



How2Recycle[®]



How to Prep Material for Recycling

Tells you if any additional steps are required before you recycle an item.

For More Information

Visit <https://how2recycle.info/> for information on recycling questions.

Packaging Format

Tells you the specific packaging component that the label is referring to.

Type of Material

Tells you what type of material the packaging is made of.

How2Recycle

This icon tells you whether the item falls into one of four categories—Widely Recyclable, Check Locally, Not Yet Recyclable, Store Drop-off.

Background

In 2018, Quad Packaging and Package InSight conducted a study exploring the impact that sustainability logos and labels have on brand recall and recognition.

This led to our second research study where we focused on educating the consumers prior to shopping for certain grocery items.

The third study continued to explore the role of customer education, and how, when leveraged properly, sustainability can drive consumer purchasing through well-known brands.

According to the eye-tracking technology, 92 percent of the participants did not notice the sustainability logos.

Researchers then determined that educational materials beyond the package will significantly increase a logo's effectiveness.

Consumer recall was higher on brands with sustainability logos, indicating how labels on packaging offer powerful potential for brands to differentiate themselves.



Our Questions

01

Can consumer education through in-store signage at the shelf and at the Store Drop-off bin increase awareness of the How2Recycle label and of the Store Drop-off bin?

02

Could consumer education improve circularity by increasing recycling into the waste stream through Store Drop-off?

LOOK FOR
THE LABEL

How to Recycle

Recycle if
Clean & Dry



PLASTIC
POUCH

how2recycle.info

Material
Type

packaging
mat

RECYCLE
PLASTIC BAGS
& WRAP ONLY

for being a good steward!



Retail Shopping Bags
Produce Bags
Bread Bags
Bread Wraps
Covering Bags
...
ducts

ANY RETAIL SHOPPING BAGS
PRODUCE BAGS
BREAD BAGS
BREAD WRAPS
COVERING BAGS
...
ducts

Our Method



Package InSight by Quad

Research was conducted by Package InSight by Quad, an organization that studies package performance, consumer attention and shelf impact. Package InSight adheres to a strict methodology that has been published in multiple academic journals, reviewed by blind peer-review processes, and trusted by numerous consumer packaged goods companies. They also incorporate the latest in biometric technology, such as mobile eye-tracking.

Project Setup

Package InSight conducted the research at its state-of-the-art Main Street Retail Laboratory. This research focused on the breakfast category, specifically bagged granola.

This type of research needs at least 30 participants to validate an analysis based upon the normal distribution test – above this threshold, the sample size is no longer considered “small.” This research included 67 participants split into Groups A and B. Both qualitative and quantitative data were collected during this research.

In order for participants to qualify for this research they were asked the following questions:

Think about sustainability and how it affects your purchasing decisions. On a scale from 1-5 (with 1 being very unimportant and 5 being very important) how important is sustainability to you?

Based on your shopping habits, which of the products below have you purchased in store in the last 6 months? (7 options were given)

Participants who selected 3-5 and who had purchased granola in the last 6 months were accepted into the study.

Test Variables

A Store Drop-off bin was placed by the entrance of the retail laboratory for both groups. Group A shopped the granola aisle with no in-store signage (Figure 1) and Group B shopped with the in-store signage (Figure 2).



Figure 1



Figure 2

Project Setup

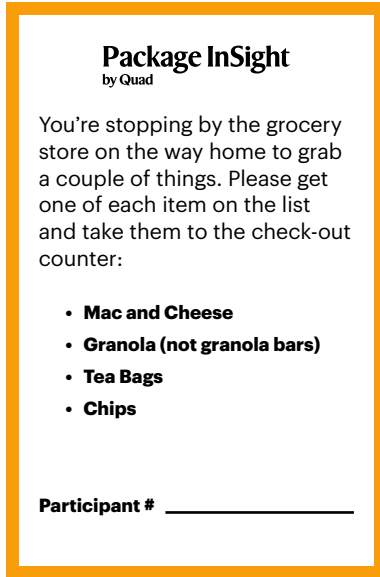


Figure 3



Figure 4



Figure 5

Shopping List

All participants were given the same shopping list and were asked to shop as they normally would (Figure 3).

Store Drop-off Bin

A Store Drop-off bin was placed by the entrance of the retail laboratory for both groups (Figure 4).

Aisle Blade/Violator

A sign perpendicularly attached to the shelf thereby sticking out into the aisle which is utilized to draw shopper attention to a specific section of an aisle (Figure 5).



Figure 6

Shelf Strip

A sign affixed to a shelf edge utilized to communicate messaging, temporary promotions or new product introductions (Figure 6).

Eye-Tracking Technology

“Eye-tracking” describes the techniques that measure a person’s point of gaze, providing insight into what attracts an observer’s attention and cognitive processes. The technology follows the subject’s eye, tracking their exact eye movements while looking at an object or area. It precisely identifies where a person looks on packages.

Even though the subject may not be aware of how their gaze moves about and focuses on different areas, researchers collect eye-tracking information and draw conclusions about different areas of interest on the package, even when the subject isn’t aware of how their gaze moves and focuses. Data analysts aggregate the data to show which areas of the package attract the most attention and, of equal importance, where attention is void.

Eye-tracking is critical because 90 percent of consumers will make their purchase decision after looking at only the front of a package. And 85 percent of these consumers will purchase an item without picking up any competitive products. People buy with their eyes. This indicates that visual stimuli at the point of sale will influence the consumer’s decision to purchase.



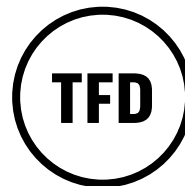
In order to differentiate and maintain relevancy with market demands, designers and product developers use eye-tracking to analyze how consumers shop within the grocery store.

Research findings will reference the metrics below:



Purchase Decision

Measures how many participants chose to buy the item. The higher the number, the better the package performed.



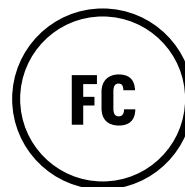
Total Fixation Duration

The average time, in seconds, spent by participants fixating on this item. The higher the number, the better the package performed.



Time to First Fixation

The average time, in seconds, from when a product first enters a participant’s field of view until they fixate on it. The lower the number, the better the package performed.



Fixation Count

The total number of times a participant’s scan of the planogram crossed into a particular area. The higher the number, the better the package performed.

*A fixation lasts between 50-600 milliseconds (ms). A "glance" or a saccade is between 20-40ms and is not counted as a fixation.

Findings | In-store Signage

Quantitative

This study found that shoppers were more visually aware of the shelf strips versus the aisle blades / violators. Only 30 percent of participants in Group B saw the aisle blades / violators versus the 90 percent of participants who saw the shelf strips. The heat maps shown below demonstrate the intensity of visual attention of participants with green being the least intense and red being the most intense.

Takeaway: Participants in Group B saw the shelf strips 60 percent more than the aisle invaders, making the shelf strips more effective in communicating with consumers.

Intensity of Visual Attention



Group A | Planogram



Group B | Planogram



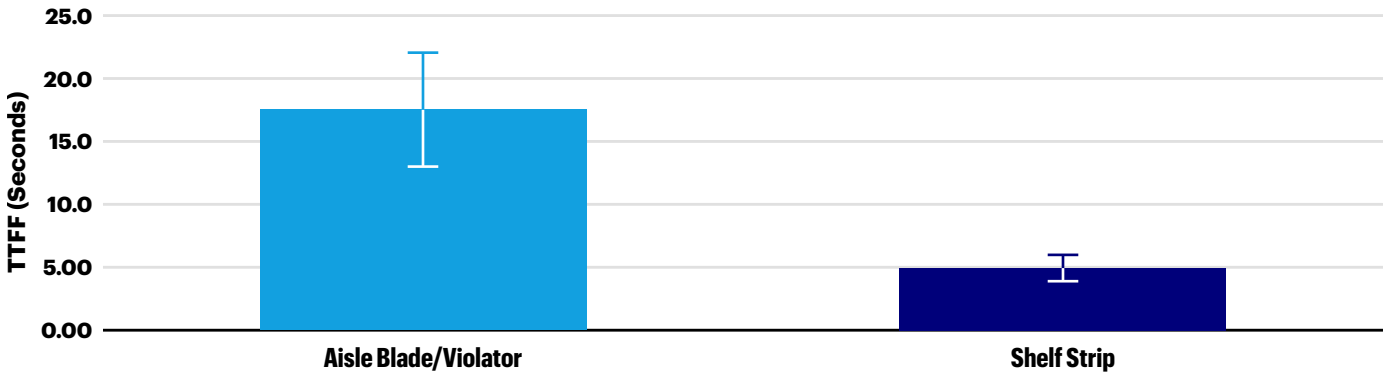
Group B | Attention on Signage

AOIs	TFD (Seconds)	TTF (Seconds)	FC (Count)	How many people have seen it?
Aisle Blade/Violator	0.08	17.51	0.52	N = 10 Percentage = 30.3%
Shelf Strip	1.72	4.92	5.91	N = 30 Percentage = 90.9%

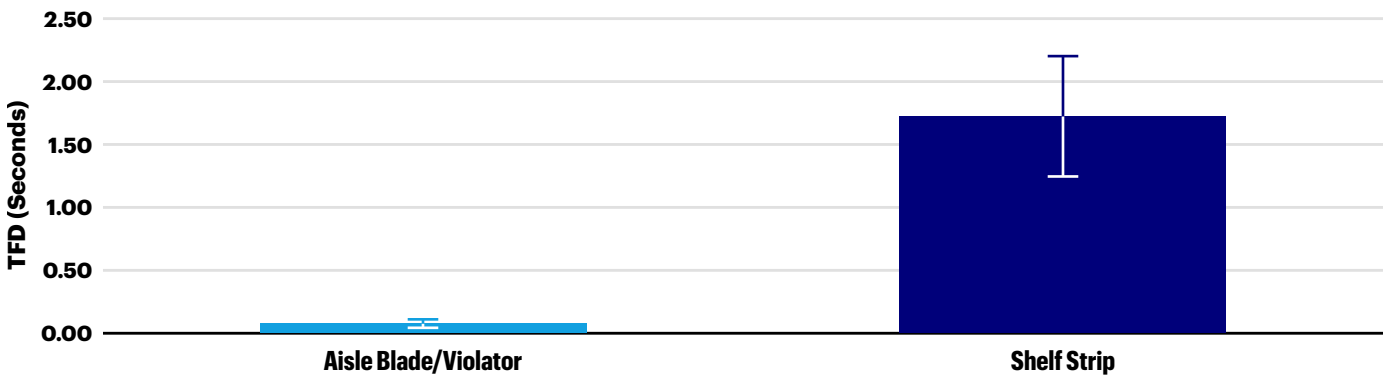
*The “How many people have seen it?” metric is calculated based on eye-tracking results. Results that contain a value greater than 0 are considered as “have seen.”

Findings | In-store Signage

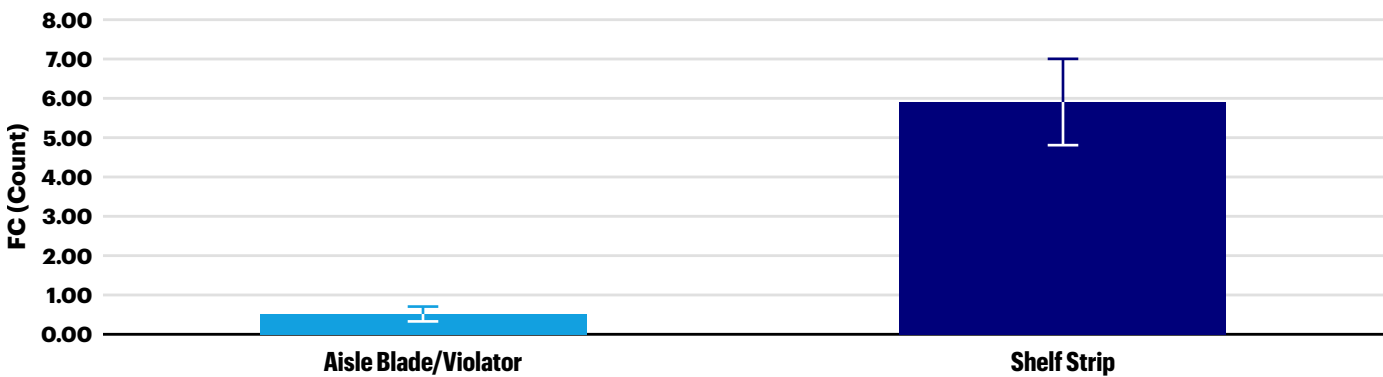
Group B | TTF for In-store Signage | The lower the number, the better



Group B | TFD for In-store Signage | The higher the number, the better



Group B | FC for In-store Signage | The higher the number, the better



Findings | Store Drop-off Bin

Quantitative

The in-store signage at the shelf did result in an increase in visual attention of the Store Drop-off bin. Group B had significantly higher ($p < 0.05$) Total Fixation Duration and Fixation Count than Group A for the claim of “Recycle Plastic Bags & Wraps” on the Drop-off Bin at a 95% confidence level. 72 percent of the participants in Group B saw the Store Drop-off bin as they were exiting the store compared to the 43 percent of participants in Group A. This resulted in a 29 percent increase in visual attention between the two groups. The Store Drop-off call out and the recycle plastic bags and wraps call out received the highest visual attention between Group A and B.

Takeaway: There is a 29 percent increase in visual attention of the Store Drop-off bin from Group A to Group B.

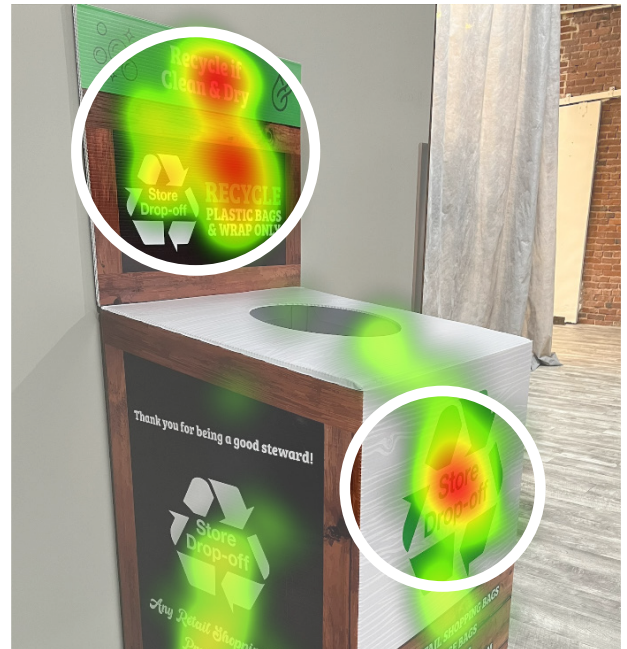
Intensity of Visual Attention



Group A | Store Drop-off Bin



Group B | Store Drop-off Bin



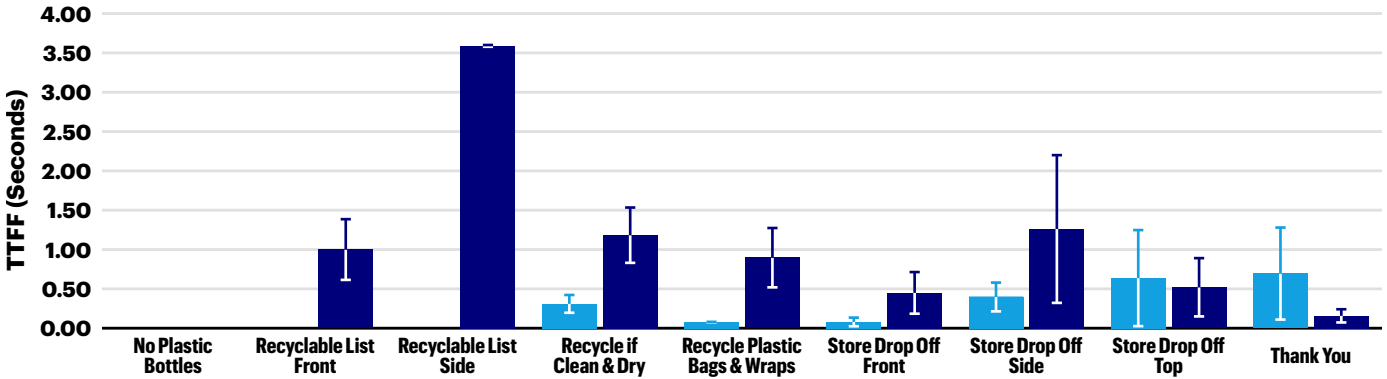
Group A vs. B | Recycle Bin

AOIs	TFD (Seconds)	TTFF (Seconds)	FC (Count)	How many people have seen it?
Group A	0.38	0.12	1.88	N = 13 Percentage = 43.3%
Group B	0.81	0.12	3.56	N = 24 Percentage = 72.7%

Findings | Store Drop-off Bin

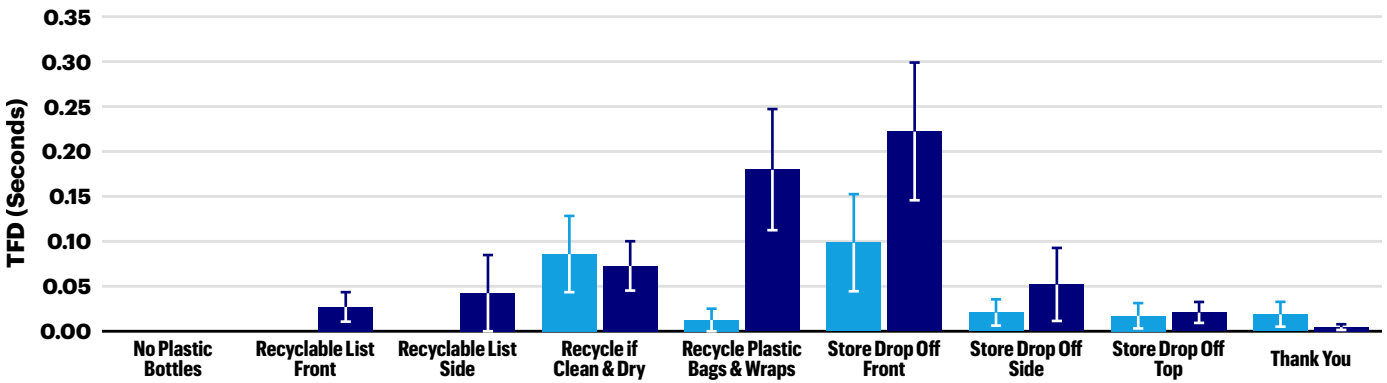
Group A vs. B | TTF for Recycle Bin Elements | The lower the number, the better

Group A ■ Group B ■



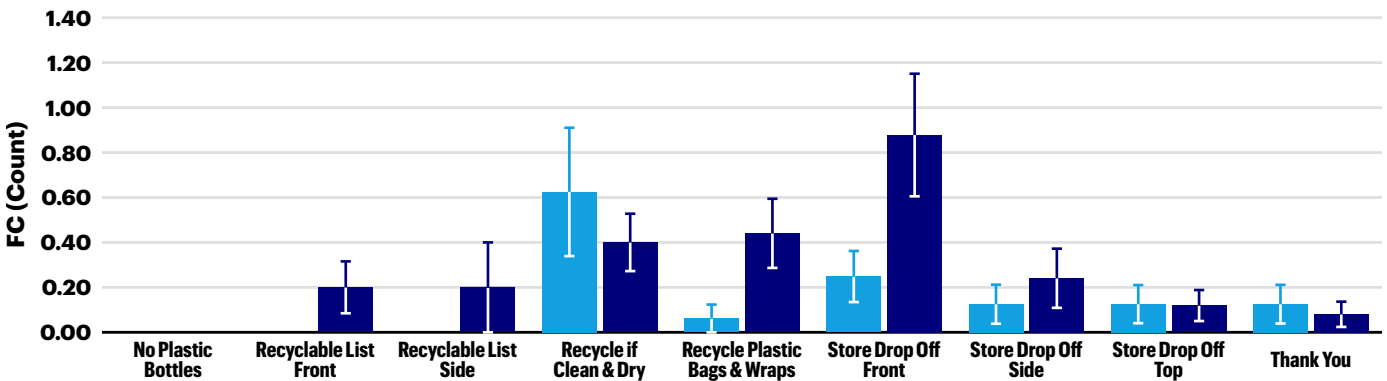
Group A vs. B | TFD for Recycle Bin Elements | The higher the number, the better

Group A ■ Group B ■



Group A vs. B | FC for Recycle Bin Elements | The higher the number, the better

Group A ■ Group B ■



Findings | Qualitative

Did the signage at shelf increase your knowledge of the recyclability of plastic pouches?

Participants from both groups were asked a series of questions after they completed their shopping. These questions were focused around plastic packaging recyclability, personal usage of the Store Drop-off bin, and general opinions on recycling.

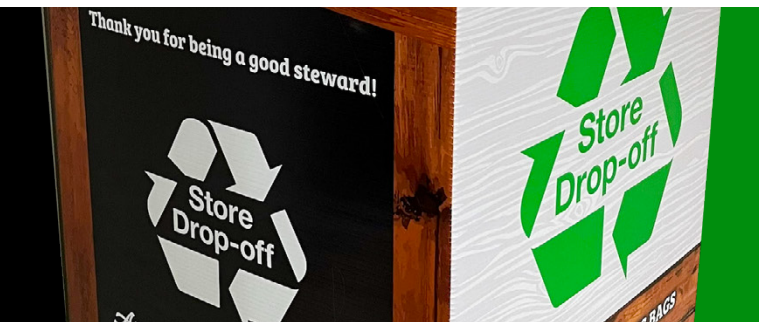
53 percent of group B agreed that seeing the signage on shelf increased their awareness of the drop-off bin and the H2R program, as well as their knowledge of the recyclability of plastic pouches.

19 percent of group A and 32 percent of group B did not understand what can and cannot be recycled in their community. Participants stated that this was because recycling systems in their community were too complicated and inconvenient. The main confusion was focused on recycling plastics.

When participants were asked what types of materials they could recycle at the Store Drop-off bin, 100 percent of participants answered "retail bags" in both groups.



“The ‘Look for the Label’ and the granola call out caught my attention.”



“I was not at all aware of this type of material had special recycling places in the US.”



“Brought to my attention when deciding on which product to purchase. Made me a little more mindful of my choices.”

Our Recommendations

Based on our study results, we recommend the following:

01

In-store signage increases consumer knowledge of the How2Recycle label and Store Drop-off bin. Be specific and consistent with your messaging across the signage. Signage that is placed in front of the consumer, like a shelf strip, should be used when communicating with shoppers due to its effectiveness.

02

Consumers are willing to use the Store Drop-off bin but need better direction. We need to give consumers more explicit recycling instructions and bring more awareness of what is recyclable in the bin using a multi-prong marketing approach that includes In-store signage, marketing campaigns, How2Recycle label, and the Store Drop-off bin itself.

What's Next?

We will continue our research around how to effectively educate and communicate with consumers.

Possible next areas of studies could include the following:

Would the How2Recycle label be more effective on the front of the packaging rather than the back?

Do we test shoppers in an in-home environment to see how they dispose of packaging at the end of life?

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How2Recycle[®]