

# Getting the Garbage out of Big Blue:

## Results of a cart tagging study to reduce recycling contamination in curbside collection

### Rationale for 2020 study:

Contamination in the recycling stream has been a growing issue of concern in Spokane County since single-stream recycling was implemented in 2012. In 2018, China implemented stricter contamination requirements on imported recyclables, essentially closing that market and depressing the value of those materials. In 2018, the City of Spokane spent nearly \$500,000 to address contamination in the recycling stream. The City had an average percentage of contamination of 13% in early 2020, with a goal to reduce contamination to 5% by 2021.

### Study funding/goals:

Spokane County received funding from *The Recycling Partnership*, a national non-profit, to conduct a cart tagging study June-September of 2020. The goals for the study were to reduce contamination in curbside recycling, compare the effectiveness of two different tagging methods, and provide consistent anti-contamination messaging to all households that receive curbside recycling service in Spokane County. Cart tagging was just one piece of a larger outreach campaign to reduce contamination in the region.

### Study methods:

- 30 routes were tagged in Spokane County, covering 29,844 households (30% of households).
- 15 City routes were lid-lifted—they received individualized feedback about their recycling carts and received an “oops” tag if any contamination was seen.
- 15 County routes received a single message, “no plastic bags” tag, and contents of the cart were not checked.
- All routes were tagged 4 times, 4 consecutive service days.
- 18 of these 30 routes received a truck audit at the SMaRT Center to determine how much of the load was trash. Audits were done both before and after tagging to see how effective this method of outreach was at reducing cart contamination.
- The number and type of “oops” tags were tracked to see if those decreased over the course of the study.
- An “infocard” or informational postcard on what you can recycle was mailed to 84,120 addresses in Spokane County before tagging began. Three routes served as “control routes” that only received the infocard and were not tagged. These routes received a truck audit before and after the postcard was mailed, to see if the infocard alone had any effect on reducing contamination.



### Study results:

- Routes that had their recycling cart contents checked and received customized “oops” tags had an average 12.9 percentage point reduction in contamination from the before-tagging audit to the post-tagging audit. Routes that received a generic “no plastic bag” informational tag had an average 10.9 percentage point reduction, and the control routes that had no tagging had an average 3.4 percentage point reduction.

- Over the course of the study, an average of 50-60% of households set out their recycling cart at the curb on any given week.
- The percentage of households that received an “oops” tag decreased over the 4 weeks of tagging, from over 40% of households to about 30% of households.
- Plastic bags and bagged recyclables (either in paper or plastic bags, or cardboard boxes) were the most common contaminants. Food/food-soiled paper and yard waste, padded envelopes and packing material, food packaging like take-out containers and cartons, and bulk items like buckets, clothing, kitchen items, or furniture were other common contaminants.
- Plastic bags were the most problematic contaminant due to their high numbers in the recycling cart. The plastic bag “oops” tag rate decreased from 21.1% to 16.7% of households with recycling carts out over the 4 weeks of the study, while the bagged recyclable “oops” tag rate decreased from 13.6% to 6.8% of households.
- The rate of households that cleaned up their carts after receiving an “oops” tag varied from route to route. It seemed that in some neighborhoods, tagging was more effective at increasing the rate of these “learners” than in other neighborhoods.



#### Next steps:

- Further cart tagging would help to spread the “Recycle Right” messaging and increase recycling knowledge in the community. Lid lifts or information only tags were found to have similar results.
- A standard enforcement process for clean-up of recycling carts (such as 3 strikes and you get your cart taken away, personal outreach, or higher fines for rejected carts) would help to create a stronger incentive to not put trash in recycling.
- More research could be done on which outreach methods are more effective at reducing contamination for different neighborhoods/members of the community.
- More signage could be placed throughout the community to help residents know how to recycle right.
- Efforts such as social media campaigns, website development, mailings, etc. could be continued/expanded to help educate residents on how to recycle right. Regularly sending residents an updated list of what is recyclable, and encouraging correct recycling behaviors, would be beneficial.
- The City should continue to work with partners like Spokane County and *The Recycling Partnership* on new recycling initiatives.

**RECYCLE** THANK YOU FOR RECYCLING THESE:

<p><b>Paper</b></p>  <p>Newspapers, Mail, Cereal Boxes, Magazines and Flattened Cardboard</p>	<p><b>Metal</b></p>  <p>Aluminum and Steel Cans (no lids, empty &amp; rinse)</p>	<p><b>Plastic</b></p>  <p>Kitchen, Laundry, Bath: Bottles and Containers (no lids, empty &amp; rinse)</p>	<p><b>Glass</b></p>  <p>Bottles and Jars (no lids, empty &amp; rinse)</p>
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**NO!**

No Plastic Bags or Plastic Wrap (return to retail)	No Cords, Hoses or Chains	No Food or Liquid (empty & dry)	No Batteries or Electronics	No Needles

For full list of what to recycle, visit [myspokane.org](http://myspokane.org) or call **My Spokane 311** call for city services