# Reducing the impact of contamination in the blue cart.

## A Municipal experience

2022 SWANA Canadian Symposium

**April 5th, 2022**

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# Blue cart Program

The Town of Cochrane launched the Blue Cart recycling program in 2011. Cochranites are enthusiastic participants in the Blue Cart program.

As diversion programs mature over time, program participation and sorting diligence tends to decline.

To maintain the market standards for recycled materials and keep costs low, it is essential that residents put the right materials in the right bins (waste, recycling, organics).

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# Recycling News

Recycling commodities market has dramatically changed over the last 5 years.

After the Chinese National Sword, the market for recyclable materials crashed (as the main destination for curbside recyclables material disappeared) while there has been a struggle in creating a local market for the blue bin content.

# Recycling News

As a result, contamination in loads of recycling can cost up to 3 times what it would cost at the landfill.

This could potentially affect service costs and residential rates.

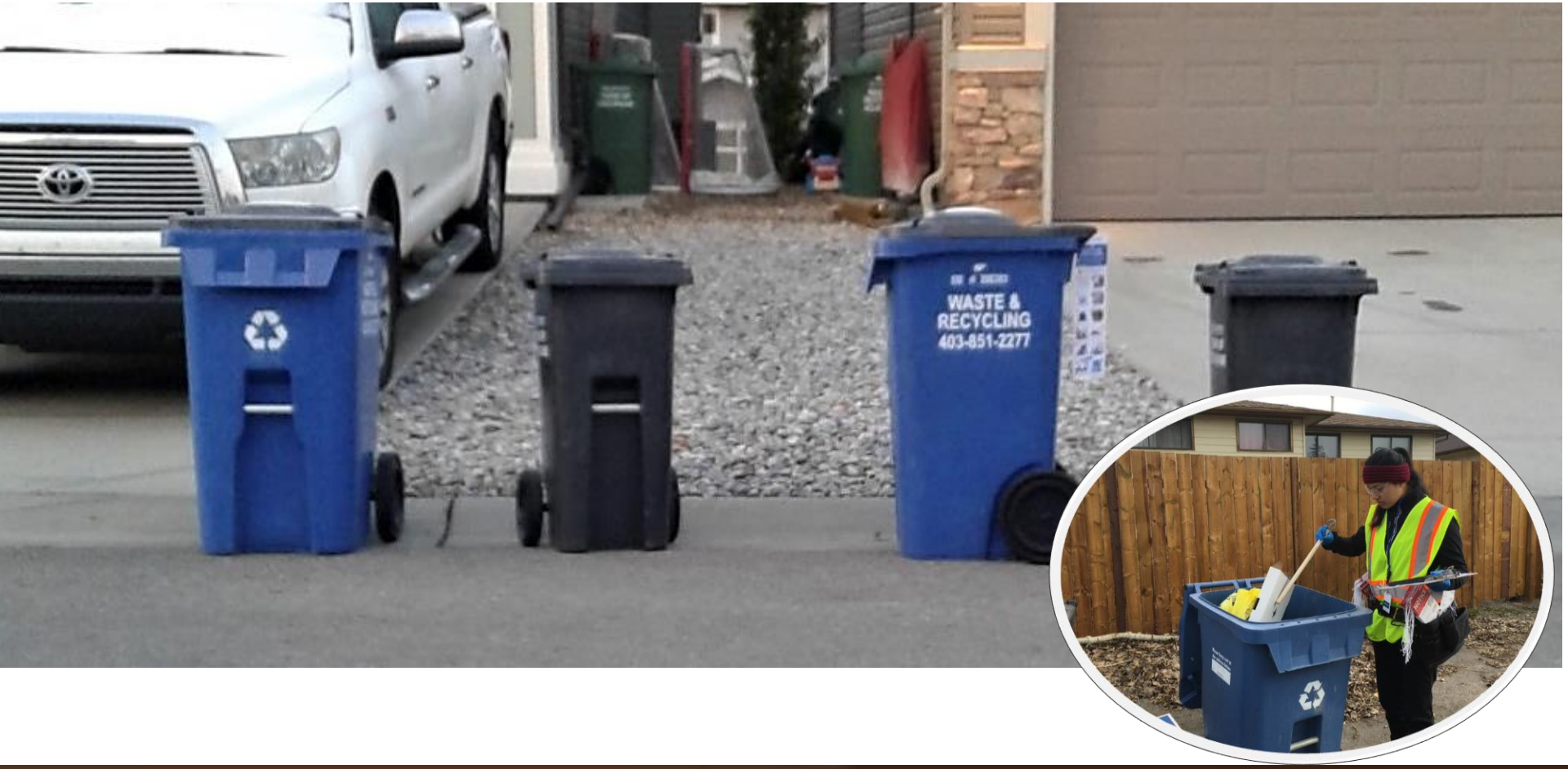
# What to do?

Conventional educational/communication approaches have a limited impact on the community.

It is practically impossible to reach everyone.

There is the need to use different communication tools to reach different personalities throughout the community

# Using Data Analytics for Residential Recycling Spot Checks



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# Spot Check program

Tetra Tech Canada Inc. was retained by the Town of Cochrane to perform contamination spot checks on residential curbside blue carts within the Town.

The initiative was anticipated to residents through local paper, Website, Facebook (Town and Eco Centre) and utility bill insert.

The goal was to spot check the content of approx. 10,000 households' blue carts.

For this study, spot checks were conducted for approximately five (5) weeks starting October 2020

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# Why the Spot Check program?

The main goal for the Spot Check program was to educate residents on what is considered contamination in their recycling blue cart and help to manage program costs.

The Spot Check program would also give the Town indications and info on what our next educational/communicational campaign should be focus on.


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# Residents' privacy and Safety

Spot Checkers only inspected carts when put out for collection, did not remove items and did not record or share personal details.

Spot Checkers followed all Alberta Health guidelines and sanitized all touchpoints of the cart to reduce the potential risk of spreading COVID-19.

The goal was not to link blue cart items with residents, but to note the types of contamination issues that are most prevalent and educate residents on how they can improve their sorting habits.

# Technology

Tetra Tech created a unique application using a Tracker mobile app that was used on tablets to input data for each home

When data was collected, the data point on the map would change color to indicate that data has been inputted for the point

| Data point colour | Data Point Colour |
|---|---|
| Yellow | Cart not spot checked |
| Green | Cart did not have contamination |
| Orange | Cart did have contamination (tagged only) |
| Pink | Cart had excessive contamination (tagged and turned) |

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# Educational tag

An **Educational Tag** was prepared in collaboration with Communication office and the contactor to leave on carts when contamination was found.

If checkers interacted with residents, a brief explanation of the project was provided, and questions were answered. A letter from the Town was also provided to residents that explained the project.

# Spot Check roll-out

- Checkers would lift the cart lid and perform a visual spot check of the materials within the cart.
- If the checkers identified contaminants within the carts in accordance to the "tagging and turning standards" provided by the Town, the checkers would attach a tag onto the cart's handle.
- If the majority of the cart's contents were acceptable based on the "tagging and turning standards", checkers did not tag the cart.


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# Spot Check roll-out

- Checkers would indicate which contaminants were present by checking off the appropriate type of contaminant(s) on the tag.
- When deemed necessary, checkers would also include comments on the tags to provide residents clarification on what contamination was present within the cart.
- If the contaminants exceeded the allowable amount of contamination, the cart was turned 90°, and the appropriate option was checked off at the top of the tag. Turning the cart would notify the collections truck not to collect the cart.

# Results

A total of 11,928 households were spot checked, with approximately 17% of households being spot checked twice (i.e., revisit), over five (5) weeks. In total, this study spot checked 97% of the Town's residential curbside collection program.

The overall participation rate (i.e., carts that were set out of all households visited) during the study was approximately 79%.

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# Results

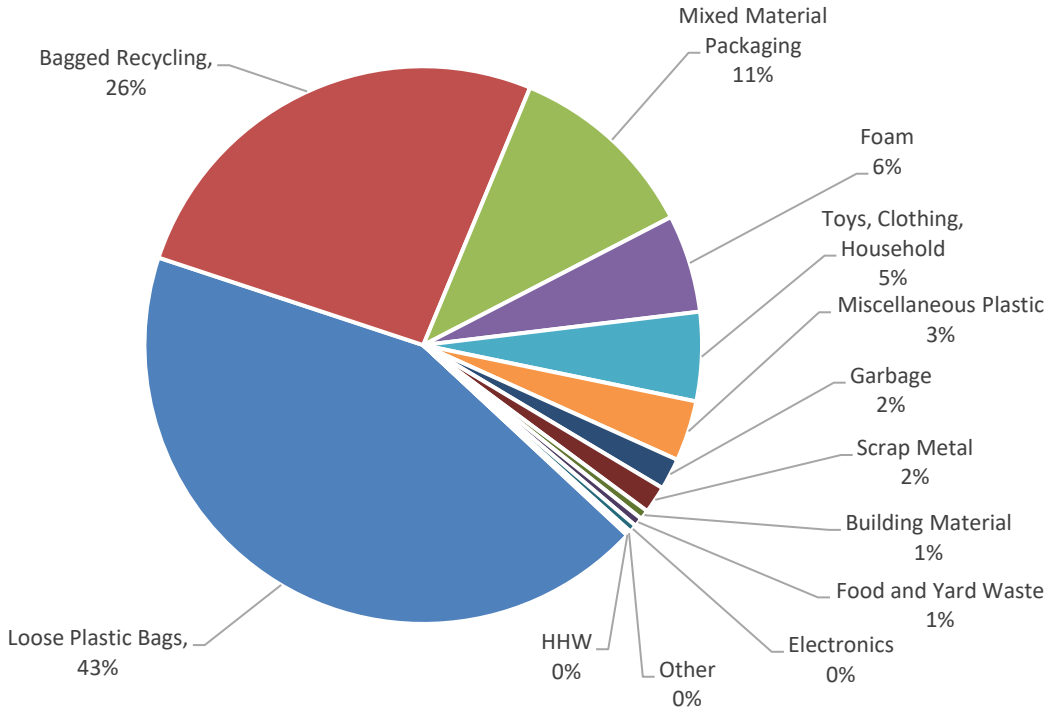
1.6% of carts set out were improperly placed for collections. It was noted that carts were more commonly incorrectly placed within cul-de-sacs.

24% of households were tagged.

Of the 24% of households tagged, 99% of carts were tagged only, and approximately 1% of carts were both tagged and turned (25 carts in total).

# Results

Breakdown by Percentage of Contaminants During First Visits (9,911 houses)



# Results

Photo 1: Bagged recyclables

Photo 2: Loose plastic bags and mixed material packaging

Photo 3: Yard waste

Photo 4: Food waste and building and/or construction material (rocks)

Some examples of contamination found during the visits

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# Results

The top three contaminants were loose plastic bags, bagged recycling, and mixed material packaging. These three types of contaminants in the blue carts accounted for approximately 80% of the contamination.

The revisits suggest tagging and turning carts influences an improvement in recycling separation.

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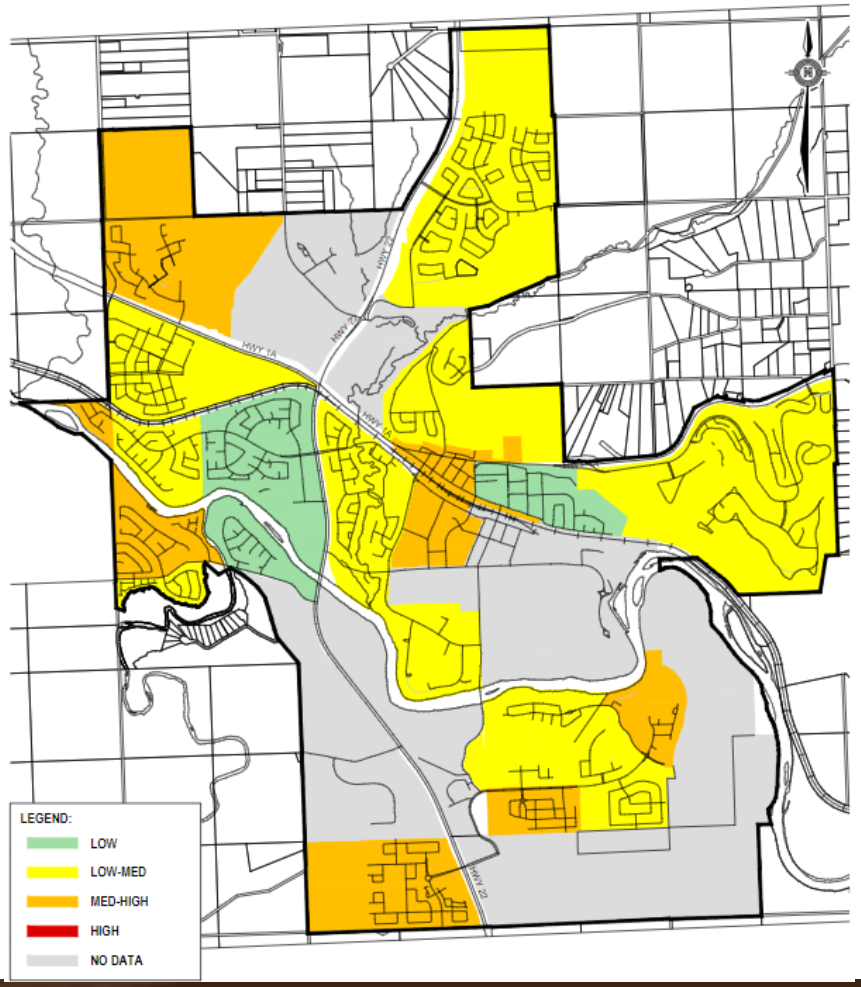
# Community Heat Map

- Overview of contamination rates in various neighbourhoods
- Shows where more resources would be required for education and public outreach

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# Recommendations

**Continue to communicate with residents.** During this study, the Town informed residents prior to the start of the spot-checking program. Residents were aware that spot checkers would visually assess their cart contents and were open to engaging with checkers.

**Continue to turn carts that are heavily contaminated.** By turning the carts, it signals to residents that refusal of collection and possible enforcement action are potential consequences if contaminants were placed in the carts.

# Recommendations

**Future spot-checking studies.** Conducting a spot-checking program similar to this scale every few years would obtain baseline information and provide a better understanding on potential improvements for recycling separation.

**Educational and communication efforts could be focused on a specific contaminant and/or in a particular area**. For example, the Town could focus education/communication for the particular contaminant(s), such as loose plastic bags or mix plastic containers.

# Thank you!

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