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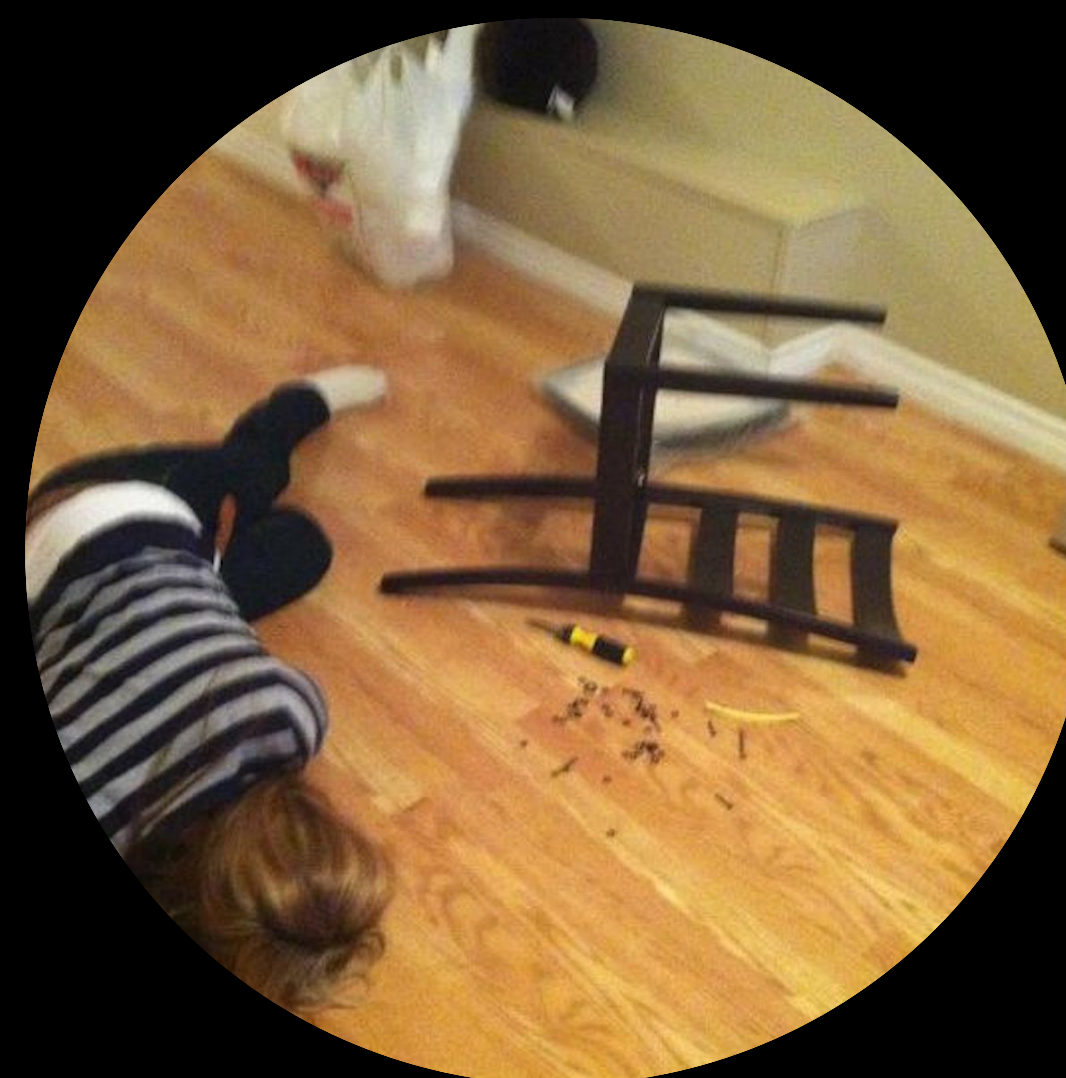




Recycling Contamination & Machine Learning

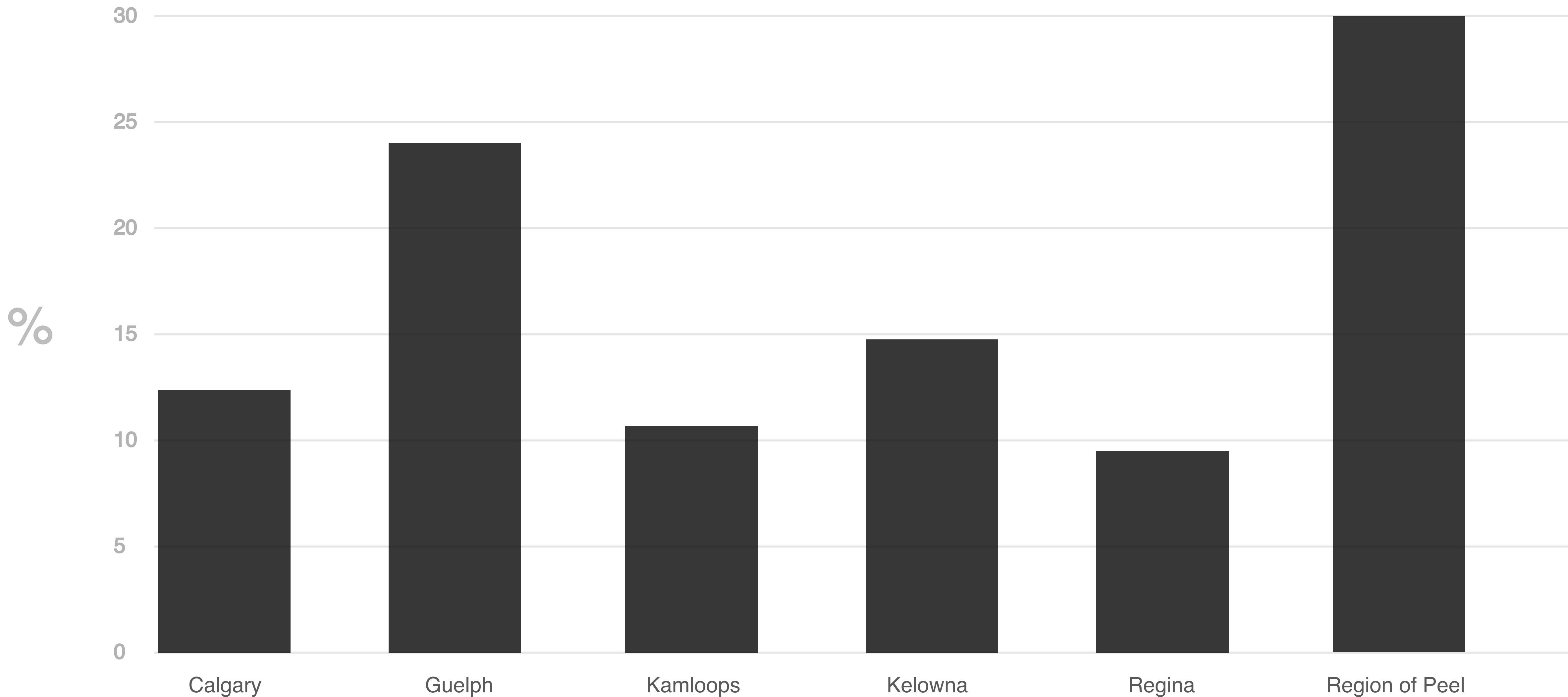


9 / 10 Citizens
find recycling
more
confusing
than





Contamination Varies By Region





Manual Cart Audits





Manual Cart Audits - Approach

Project Worksheet THE RECYCLING PARTNERSHIP

Use this Project Worksheet and Menu of Options to identify key aspects of your work plan. Ideally complete these forms during a planning meeting that includes all critical stakeholders: your MRF, hauler, front line staff and other key decision makers.

PRIMARY GOAL

TOP 5 CONTAMINANTS

1. _____ 4. _____
2. _____ 5. _____
3. _____

TOP 1 CONTAMINANT

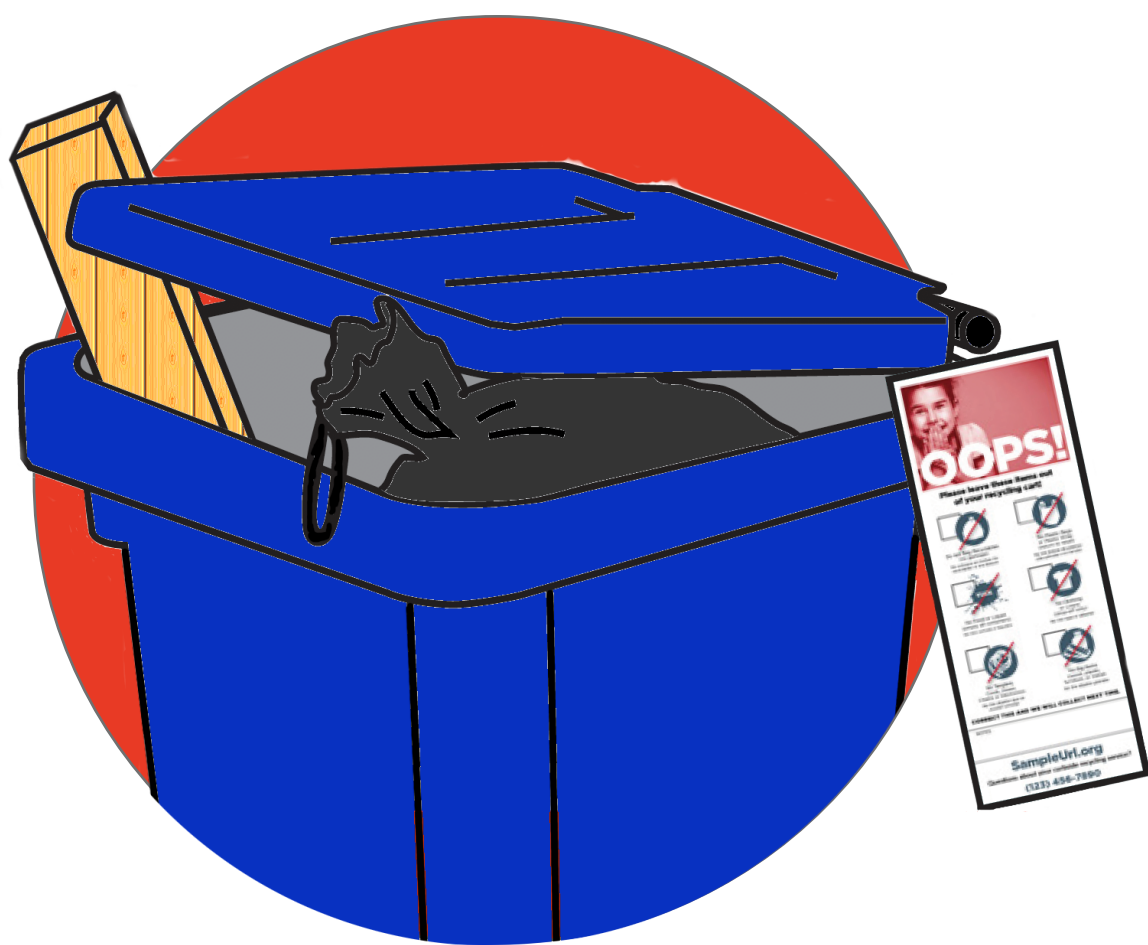
TARGET ROUTES (NOTE: You will need the address list for mailings.)

TRACKING

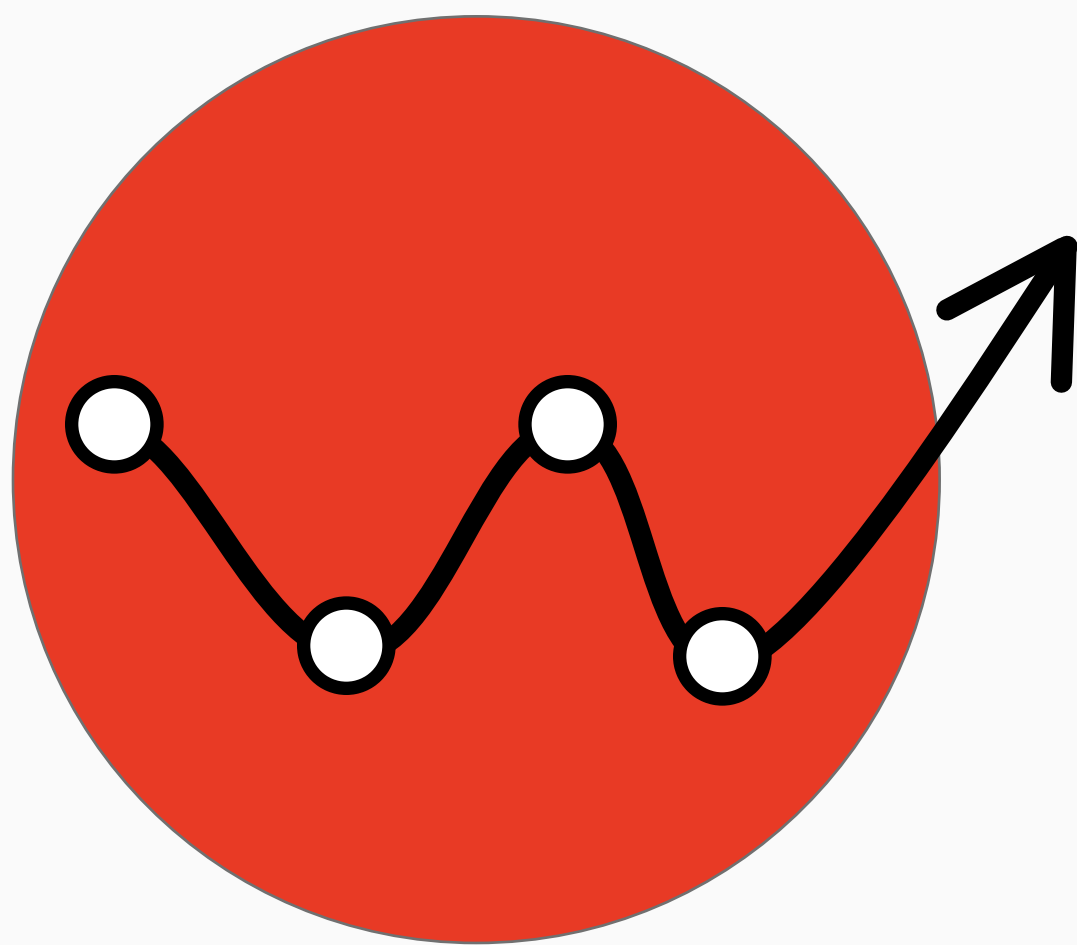
	BASELINE	DURING PROJECT	POST-PROJECT
MRF FORM			
SET-OUT			
TAGGING RATE			
TAGGING LOCATION			

CH PLAYER _____ MRF _____

**Project
Development**



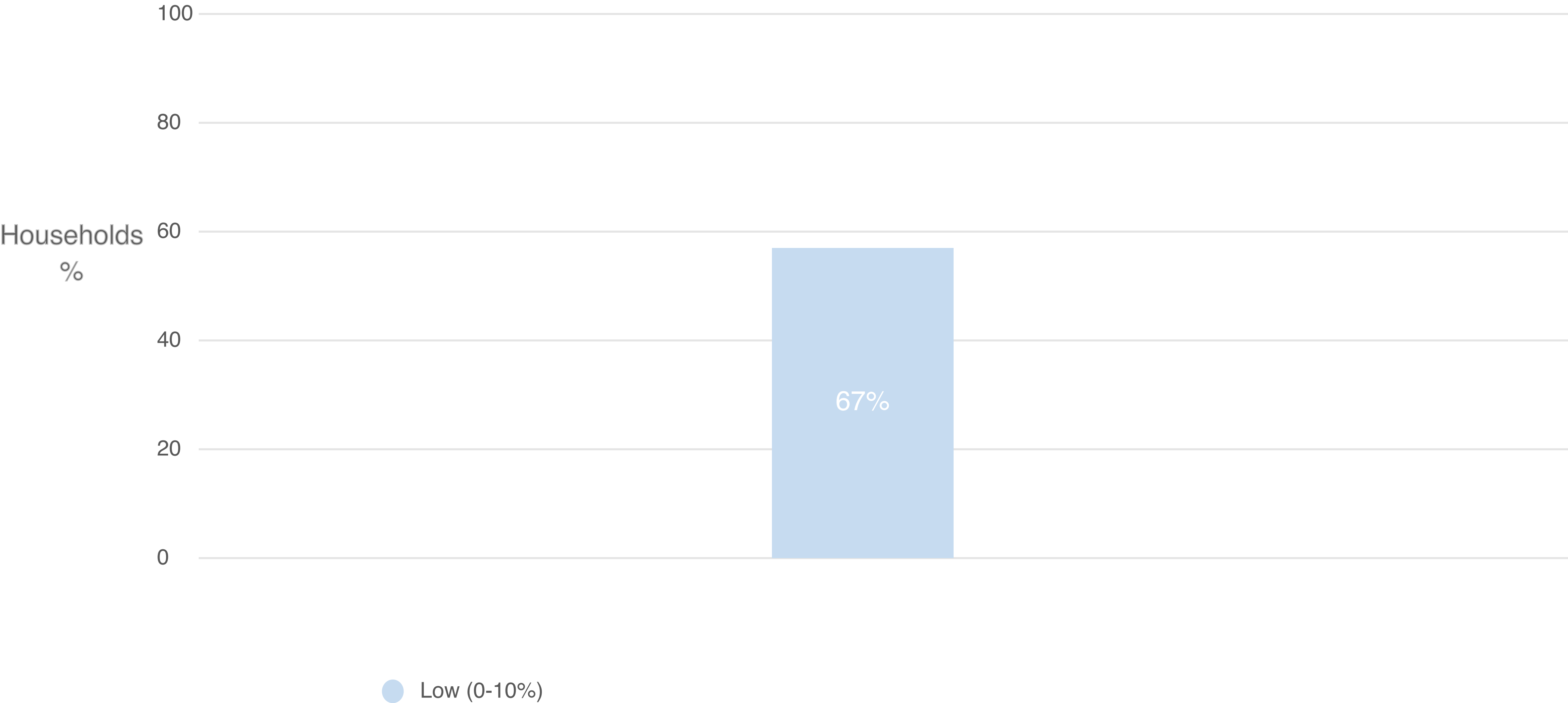
Audit



Evaluation

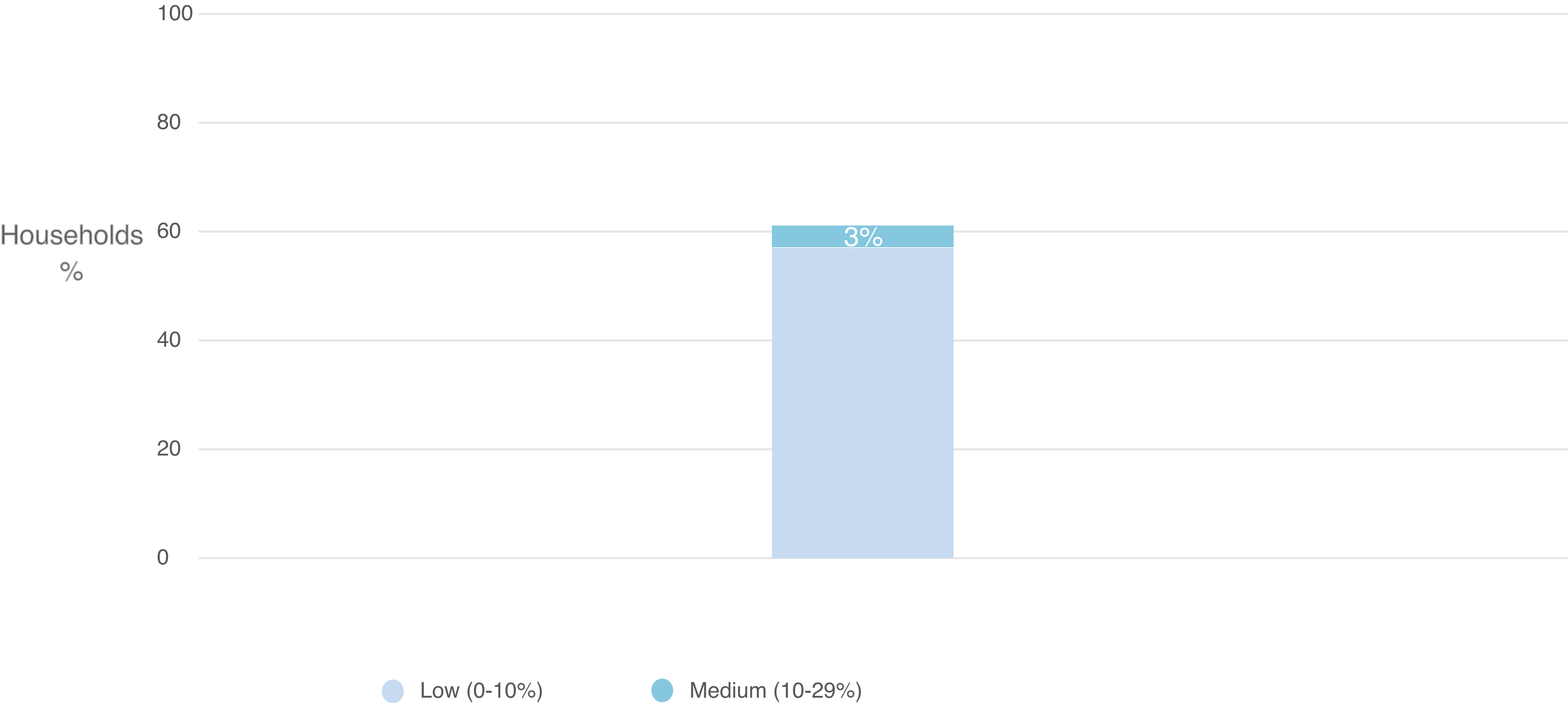


Region of Peel Curbside Pilot - Before



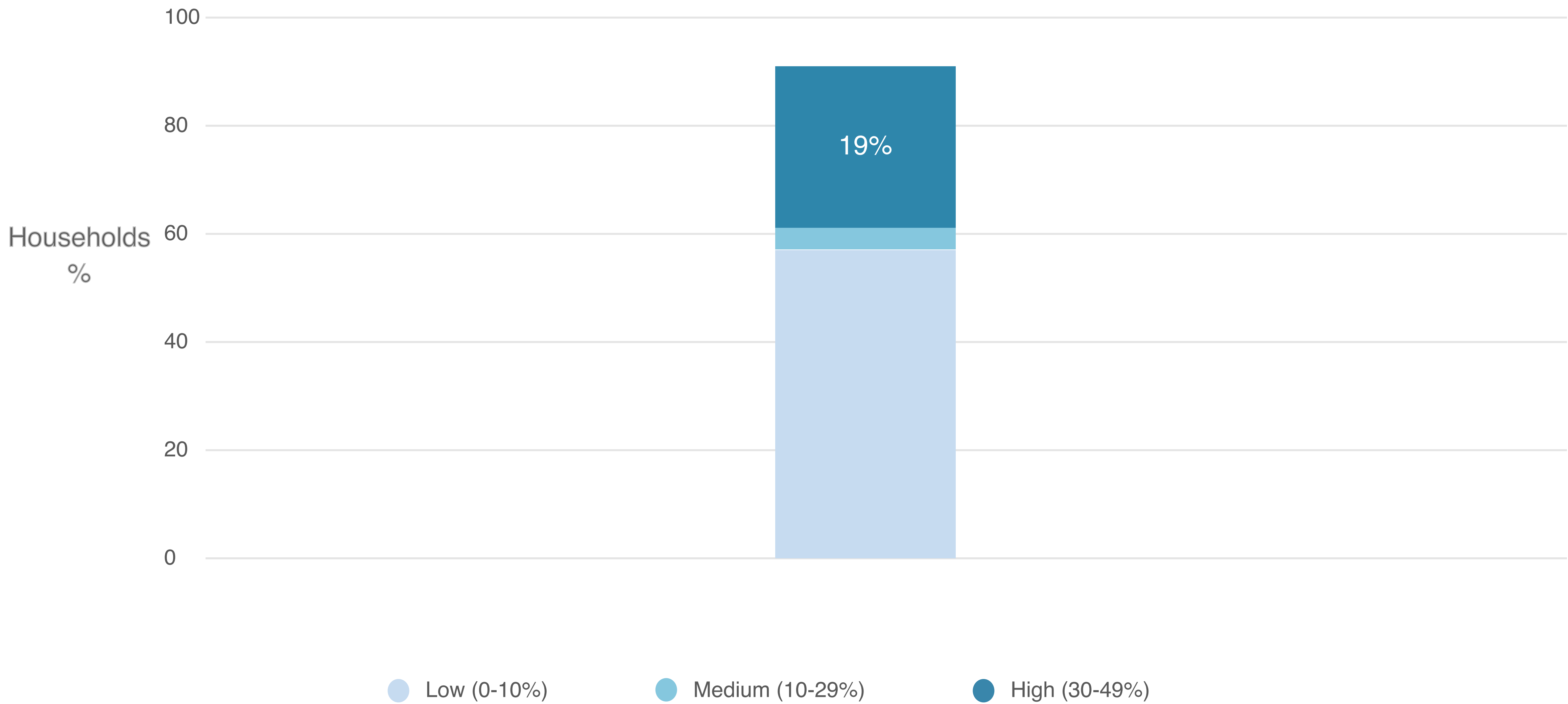


Region of Peel Curbside Pilot - Before



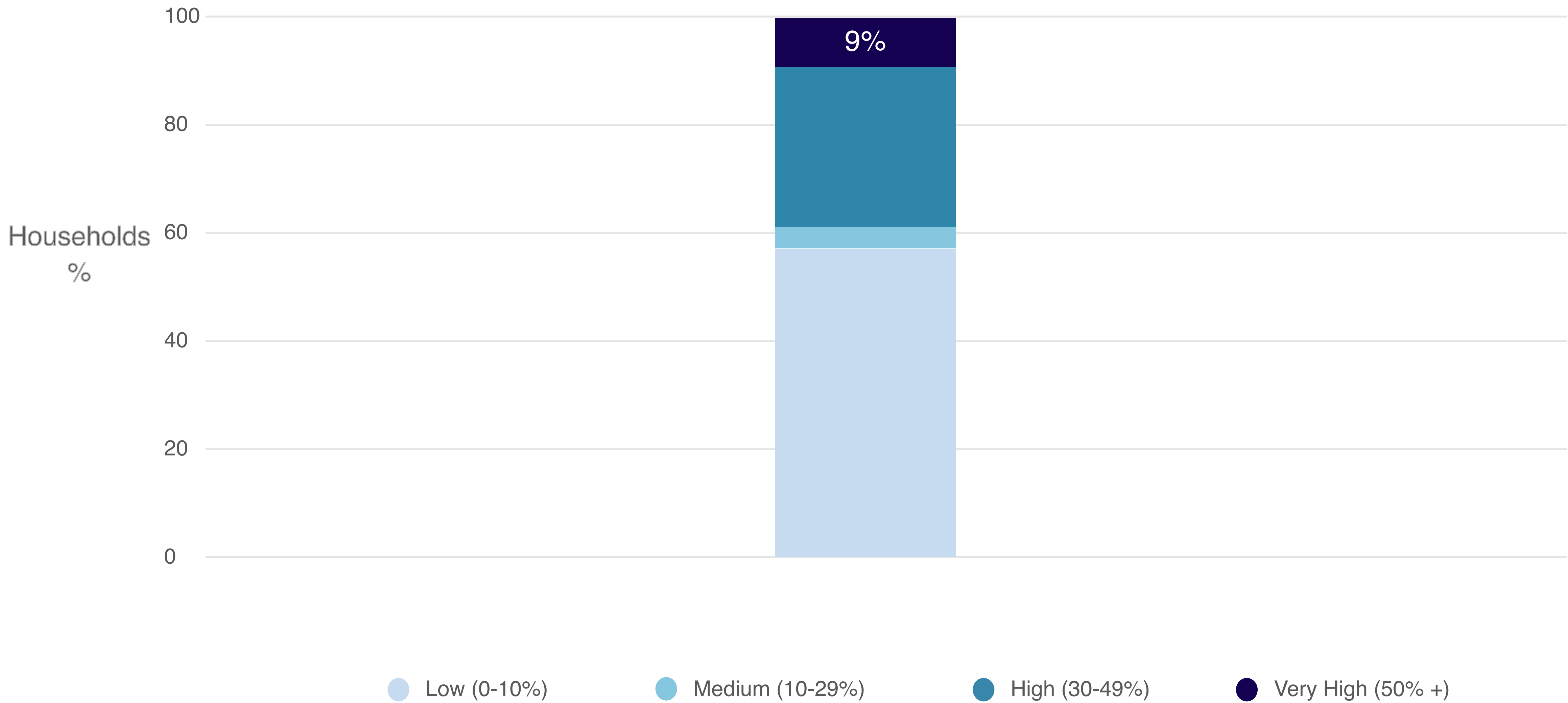


Region of Peel Curbside Pilot - Before



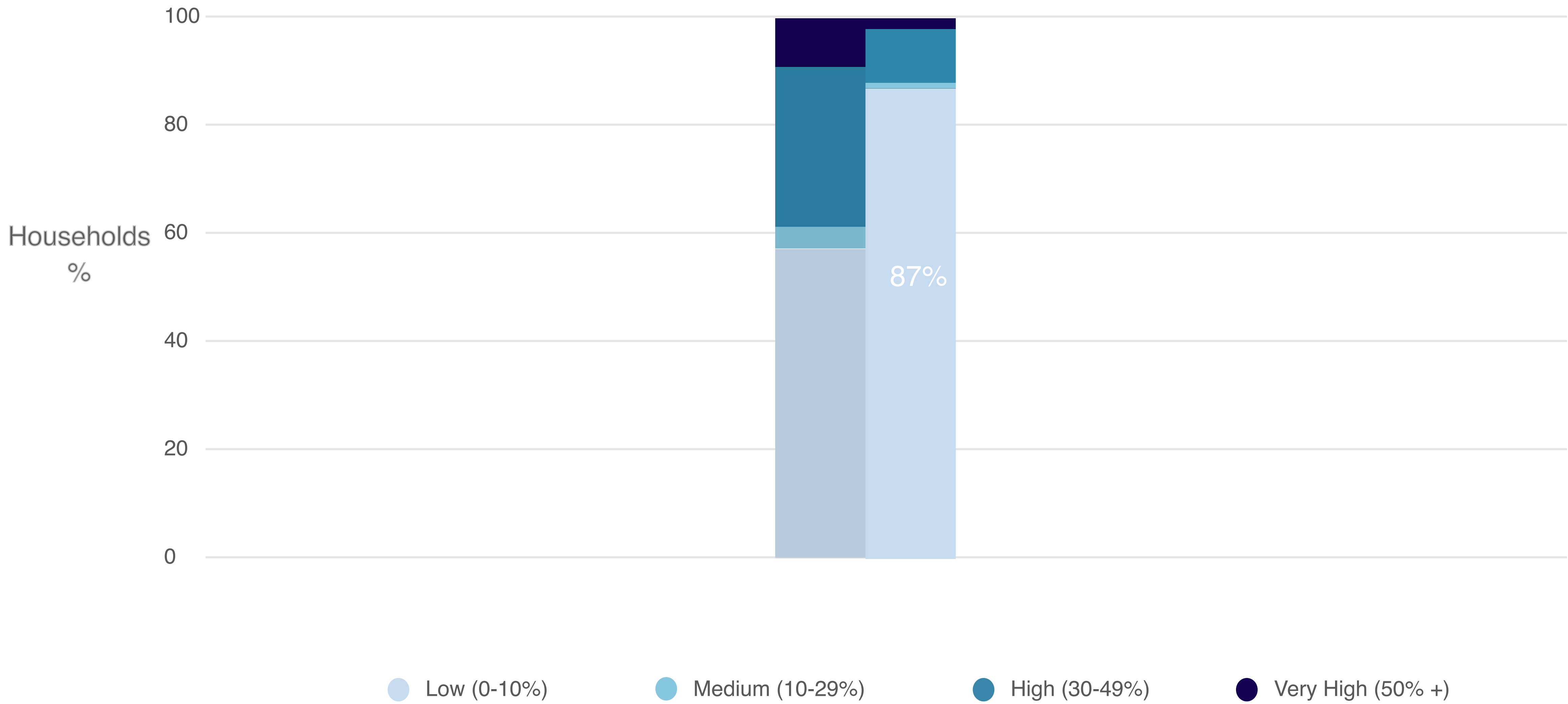


Region of Peel Curbside Pilot - Before





Region of Peel Curbside Pilot - After



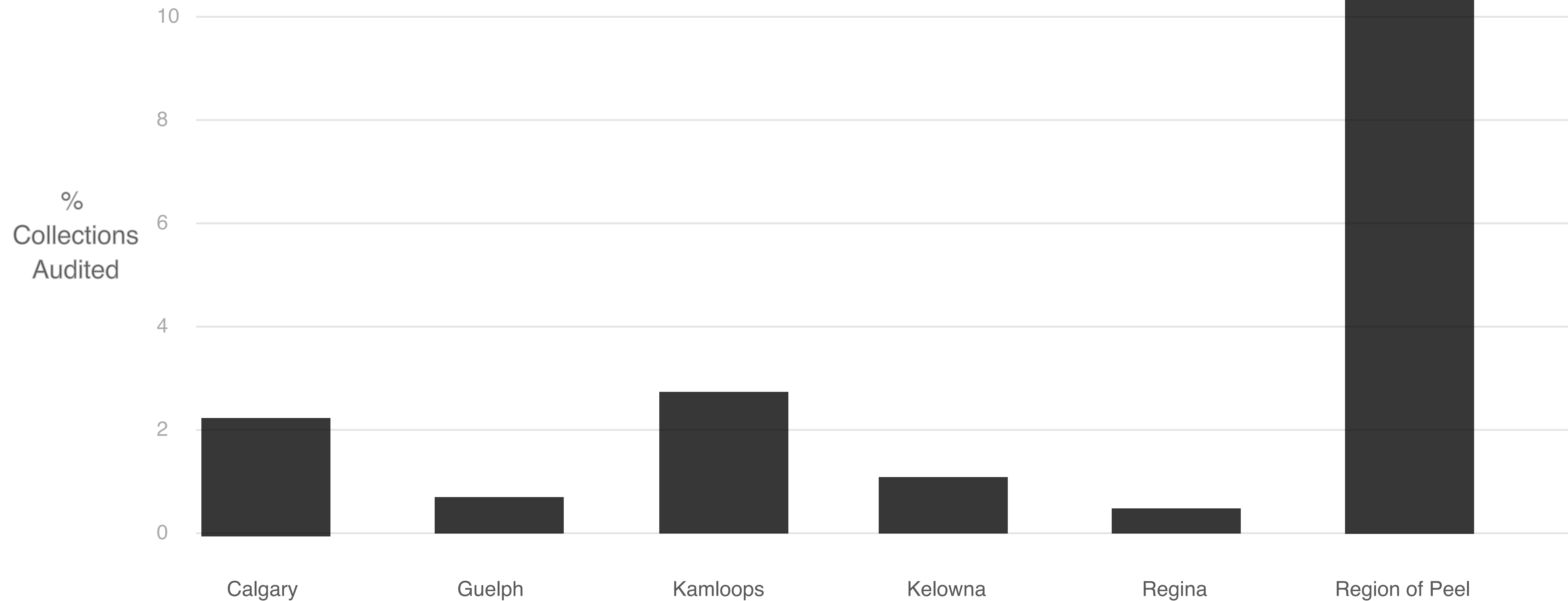


Manual Cart Audits - Impact

- **Improvement seen across all groups**
- **Residents below 30% contamination improve with education alone**
- **Residents above 30% contamination sustained improvements when carts weren't collected**



Manual Cart Audits - Minimal Reach





Robotics & Recycling

- MRF Sorting Robots:
 - AMP Robotics
 - MachineX
 - Waste Robotics
 - RecycleEye

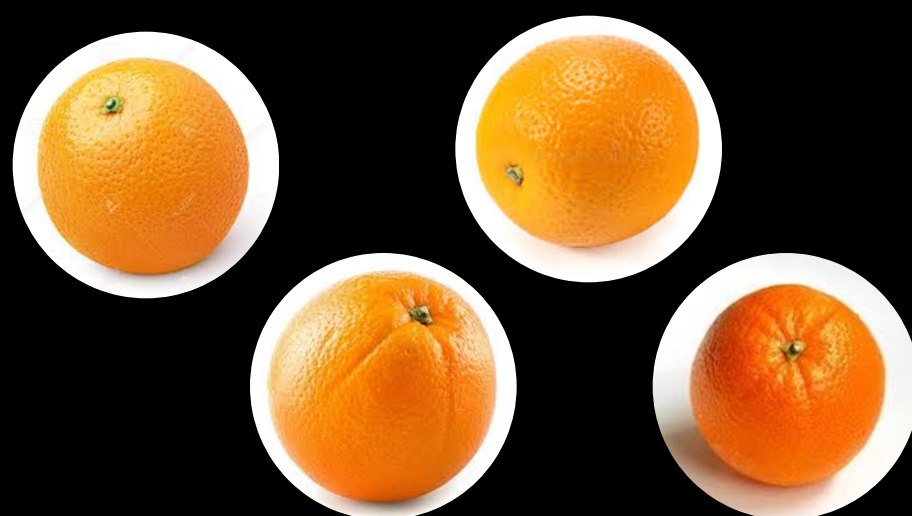


Machine Learning

involves computers discovering how they can perform tasks without being explicitly programmed to do so.



Apple



Orange

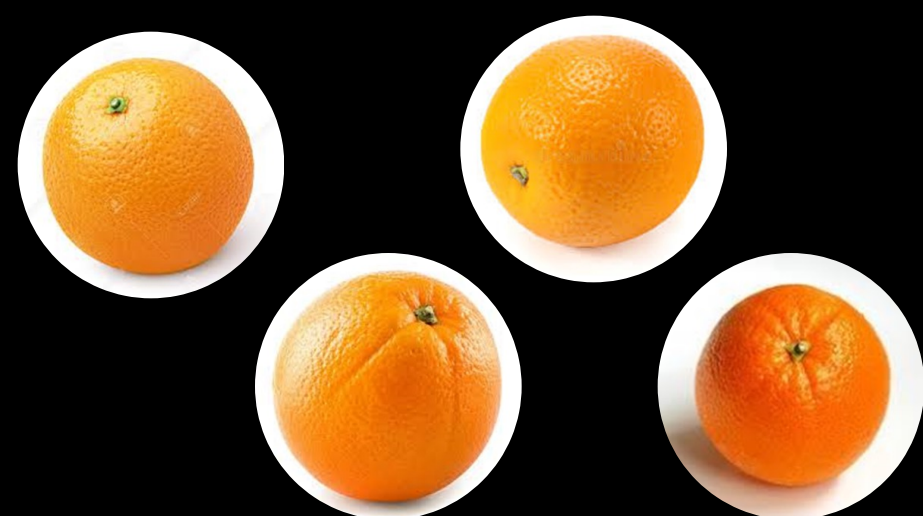


Machine Learning

involves computers discovering how they can perform tasks without being explicitly programmed to do so.



Apple



Orange





Machine Learning

involves computers discovering how they can perform tasks without being explicitly programmed to do so.





Machine Learning

involves computers discovering how they can perform tasks without being explicitly programmed to do so.



Recycling Contamination

Targeted Education Strategies

Recycle Right

To better understand recycling trends
TJ Recycle is starting an audit of
recycling containers. Please check
the website to make sure you're
recycling right!

tjdisposals.com/recycling

Thanks for your continued
recycling participation





Recycle Right

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Pre-Education



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GPS



Recycle Right

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TJ
RECYCLE



Hopper Camera





Recycle Right

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Contamination Analysis



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TJ
RECYCLE



Street Camera





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Map Lookup



Recycle Right

To better understand recycling trends TJ Recycle is starting an audit of recycling containers. Please check the website to make sure you're recycling right!

tjdisposals.com/recycling


Thanks for your continued recycling participation

TJ
RECYCLE



Our community strives to create a clean, green environment. It is important that we all do our part and properly recycle.

We love that you're recycling items! However, on **February 15**, we noticed you accidentally placed the following item(s) in your blue bin:

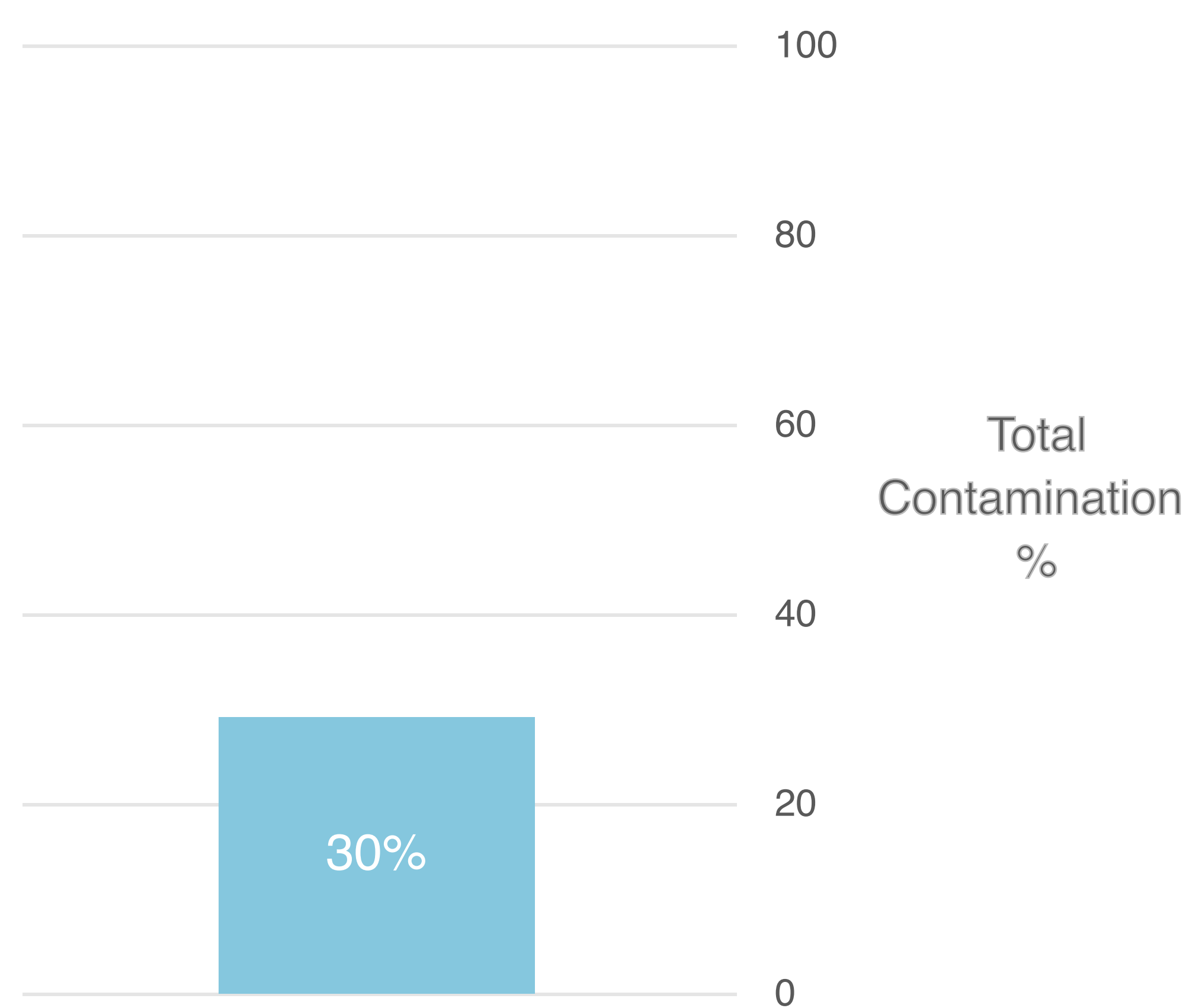
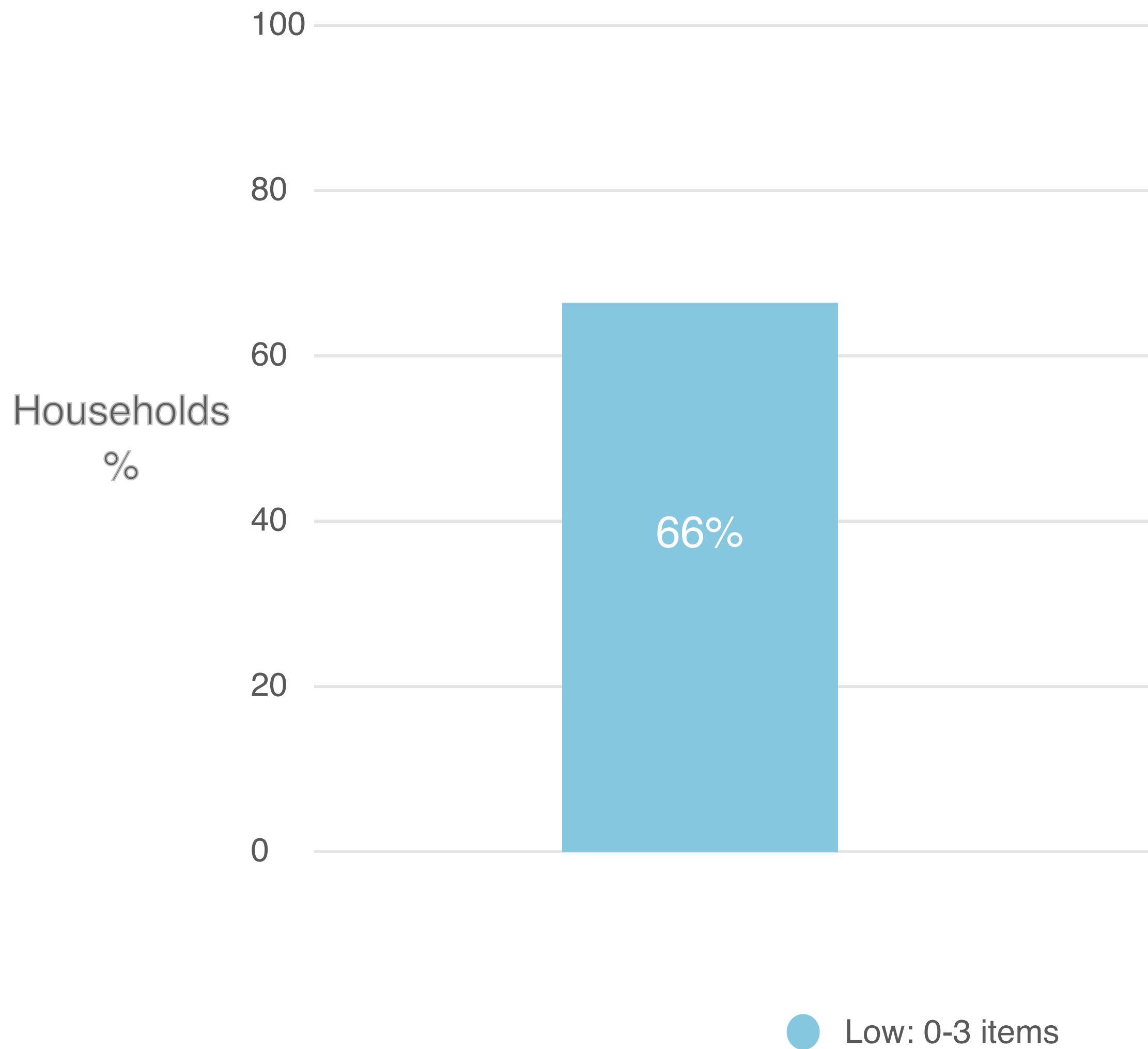

Black Garbage Bag

Targeted Education



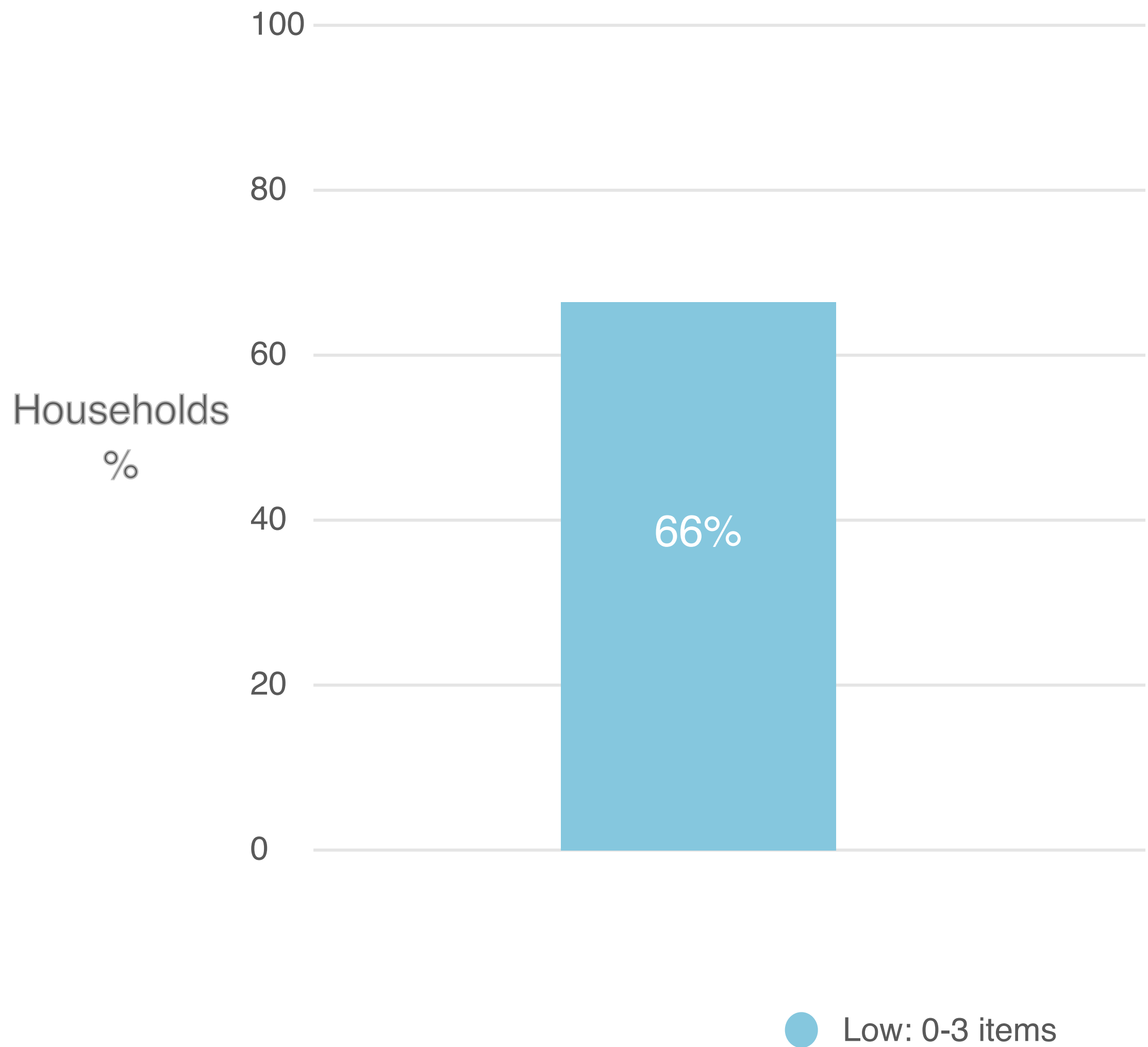


TJ Recycle



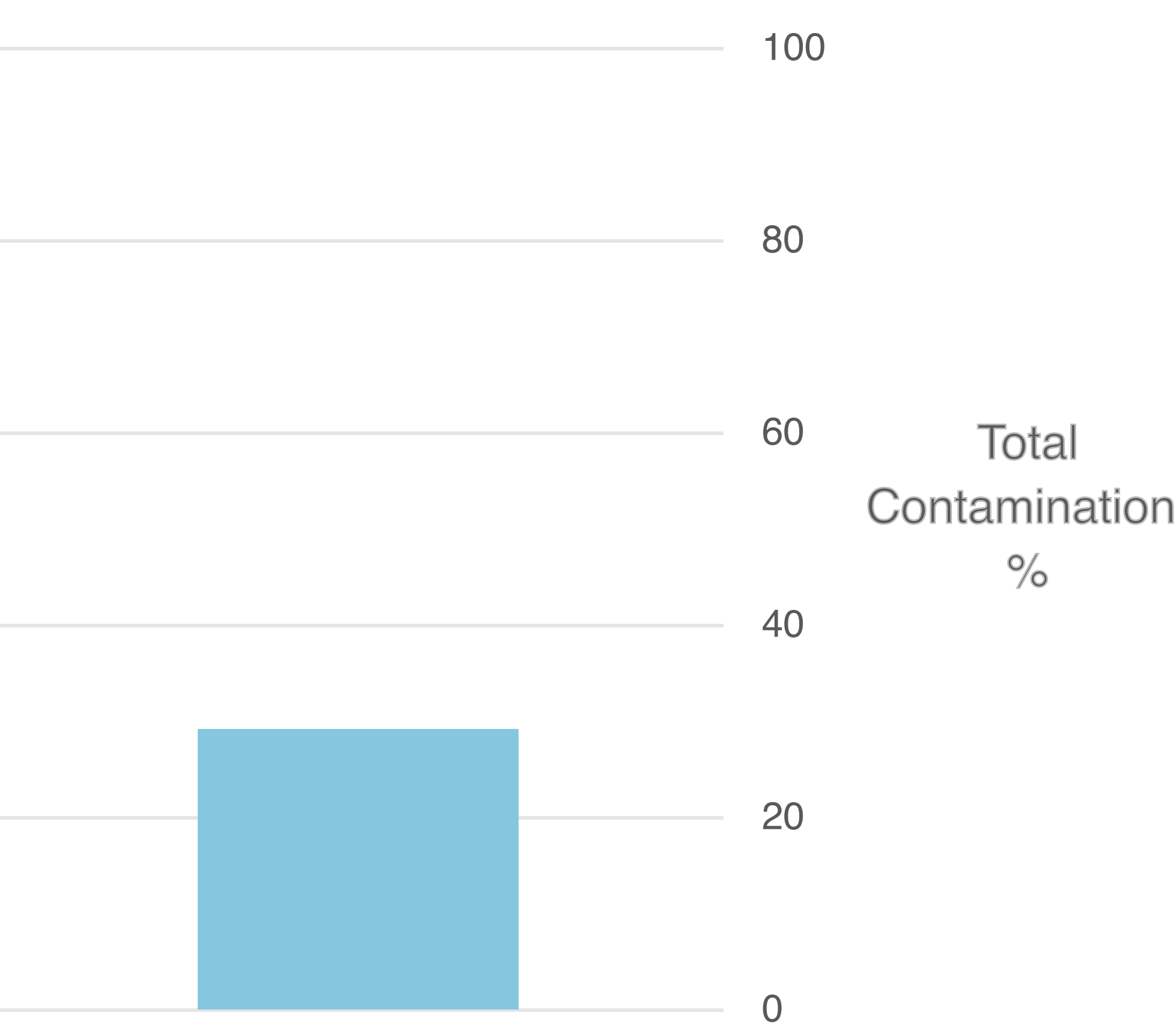
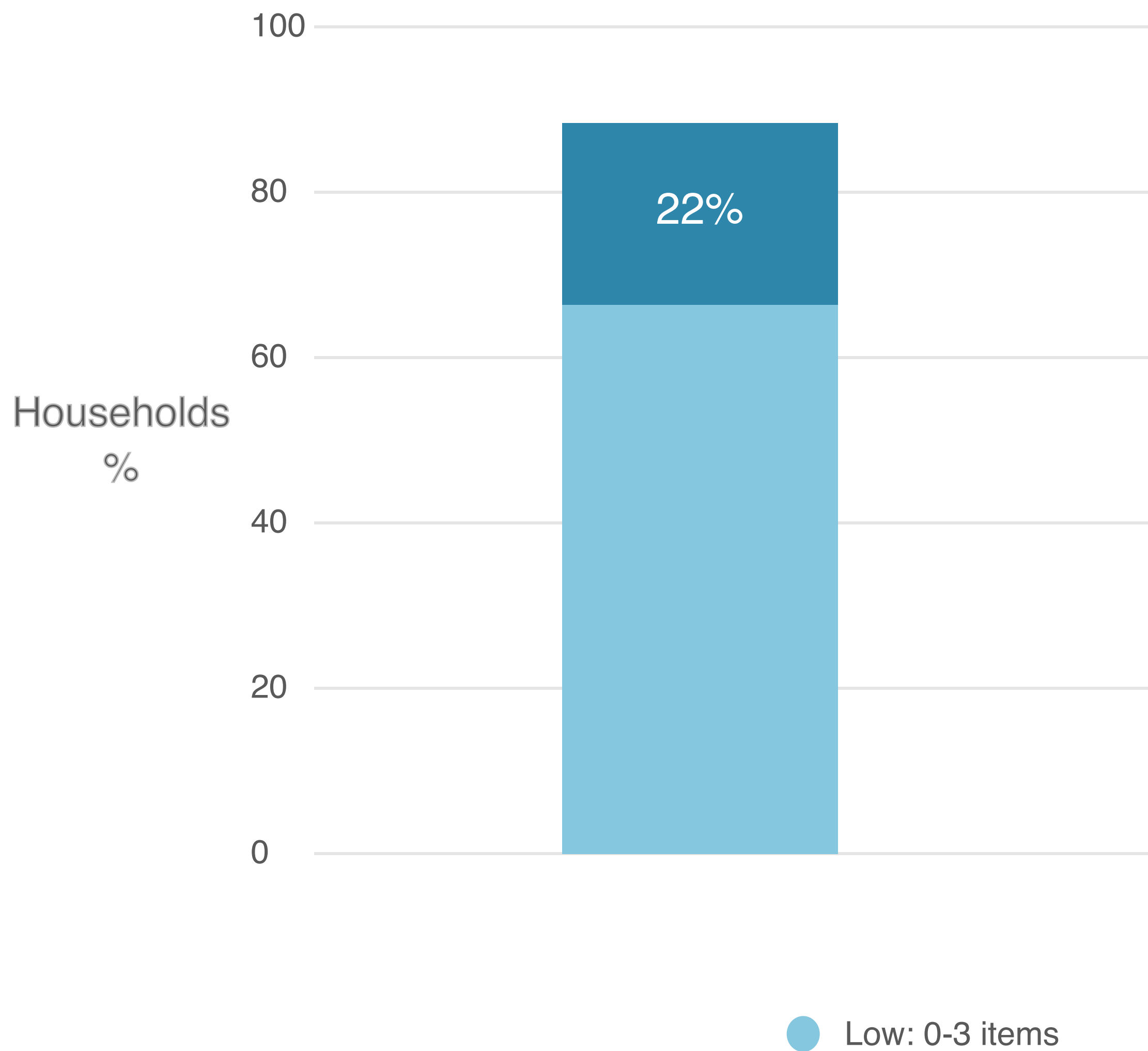


TJ Recycle



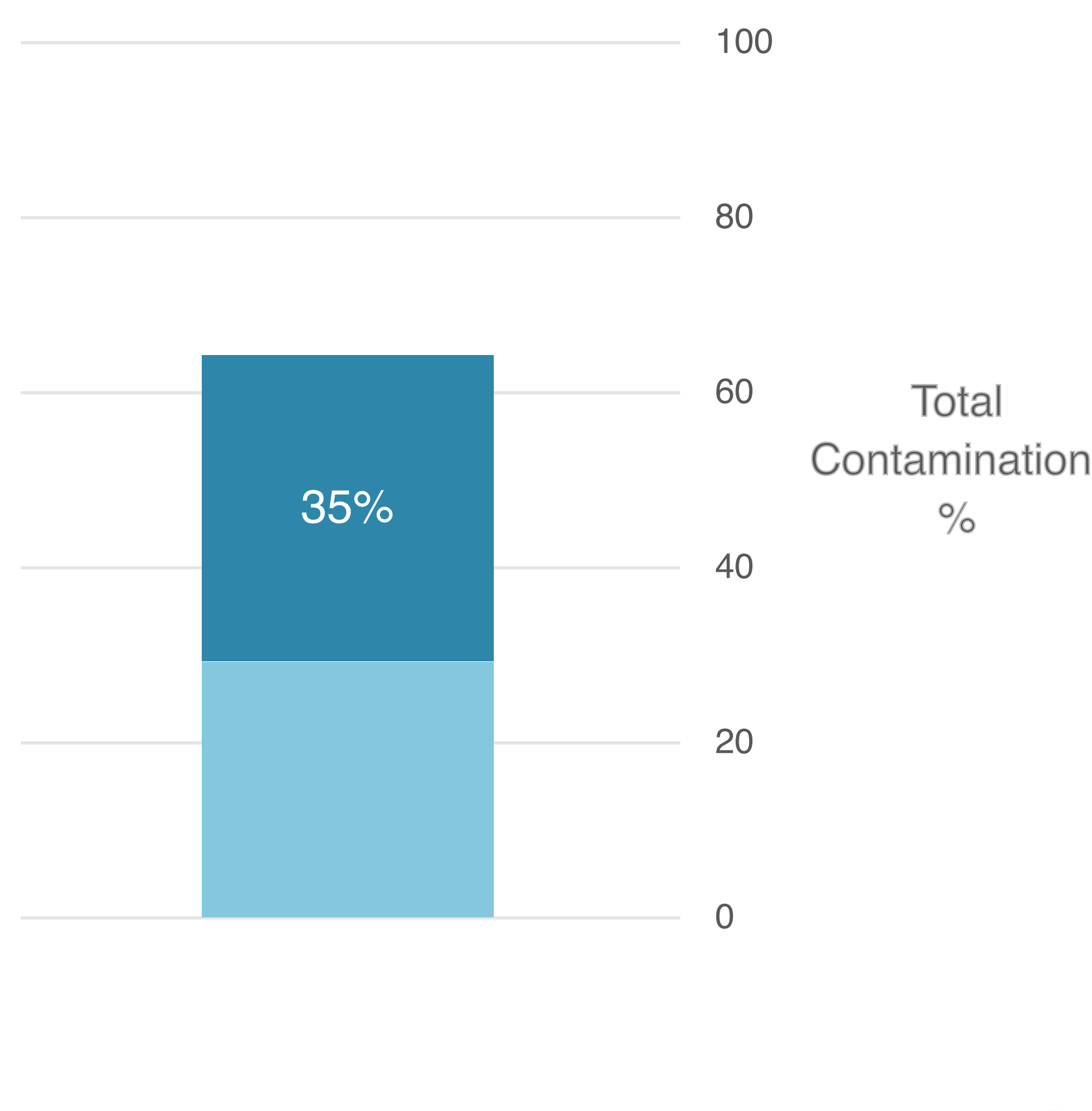
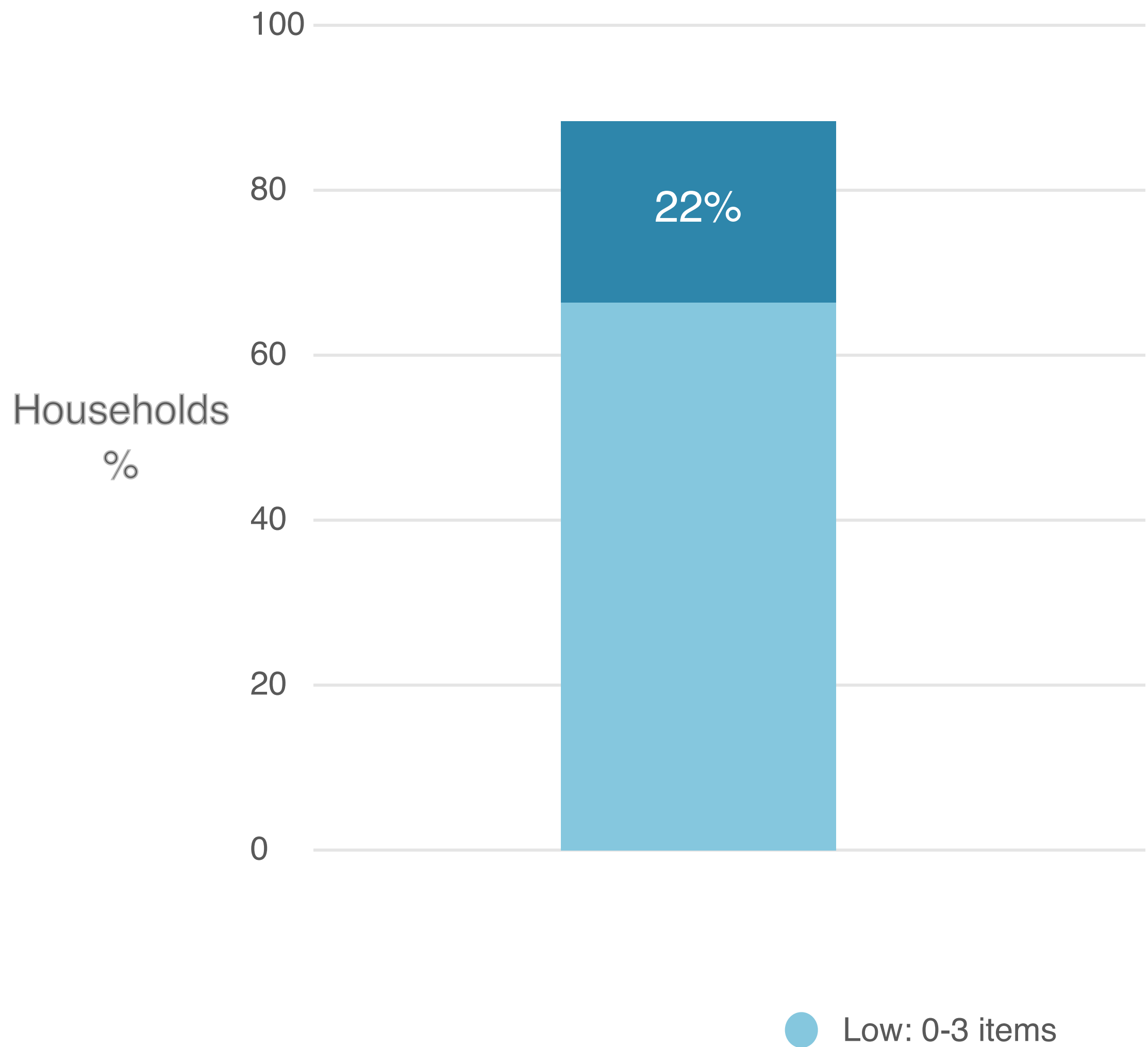


TJ Recycle



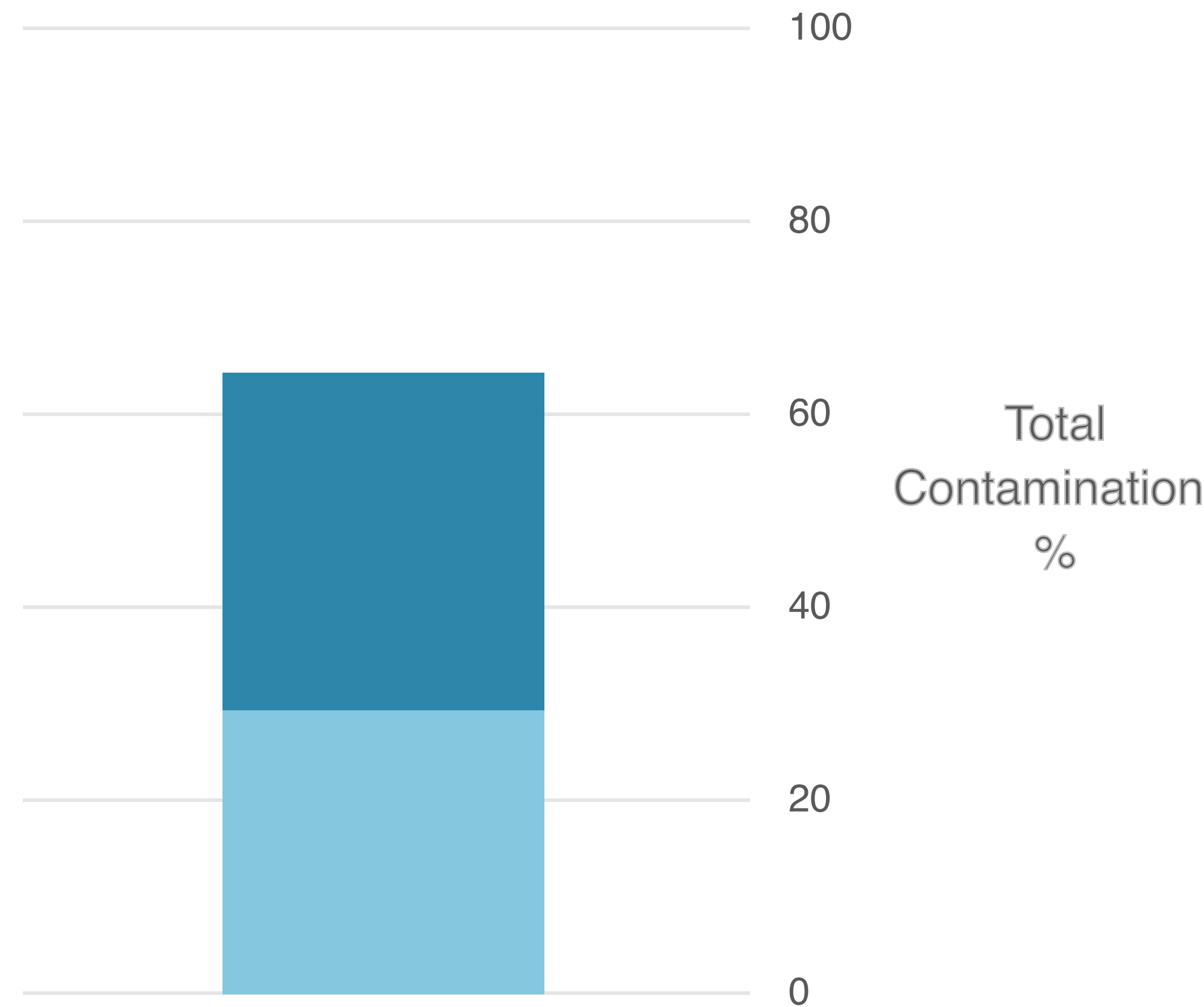
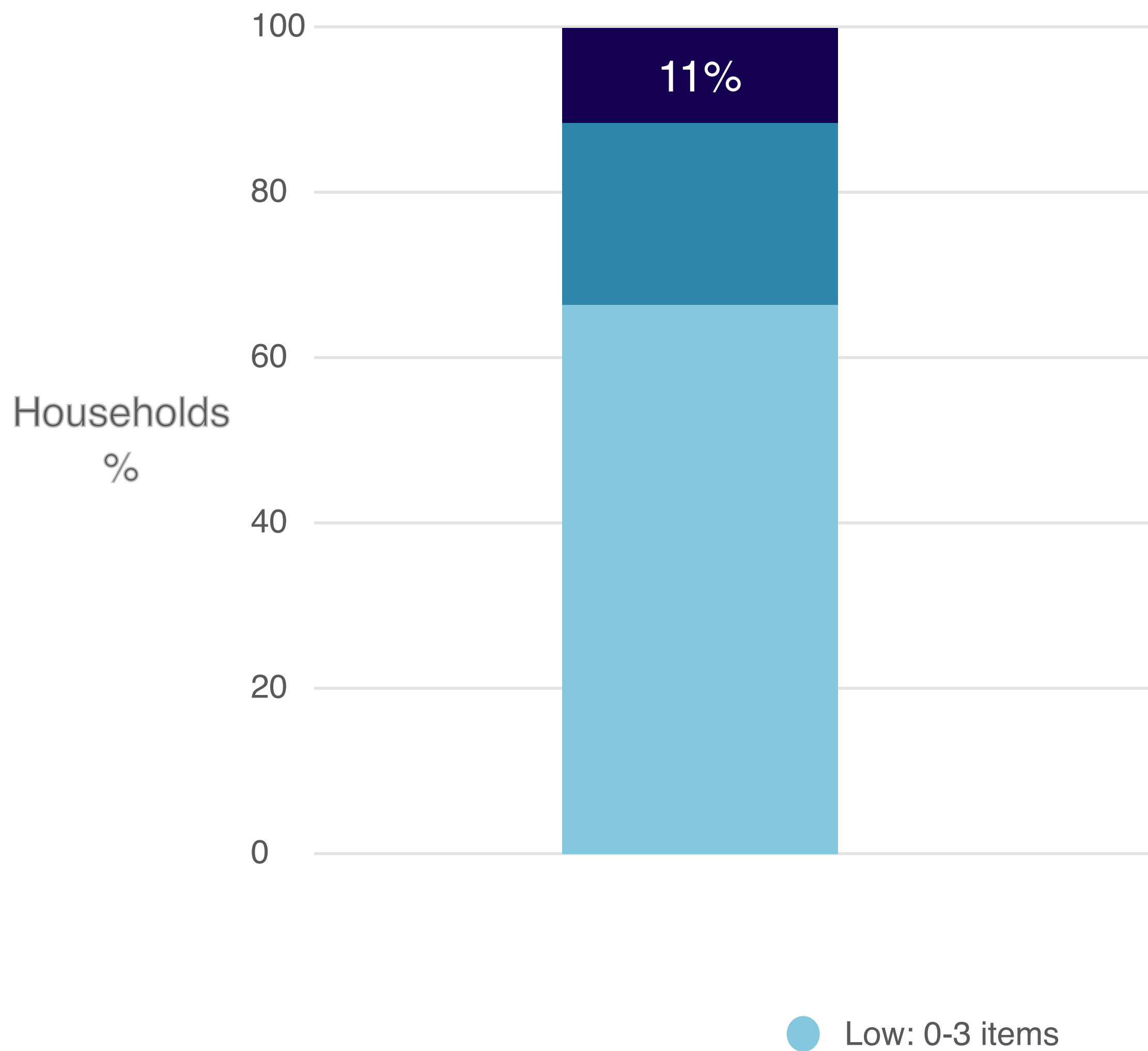


TJ Recycle



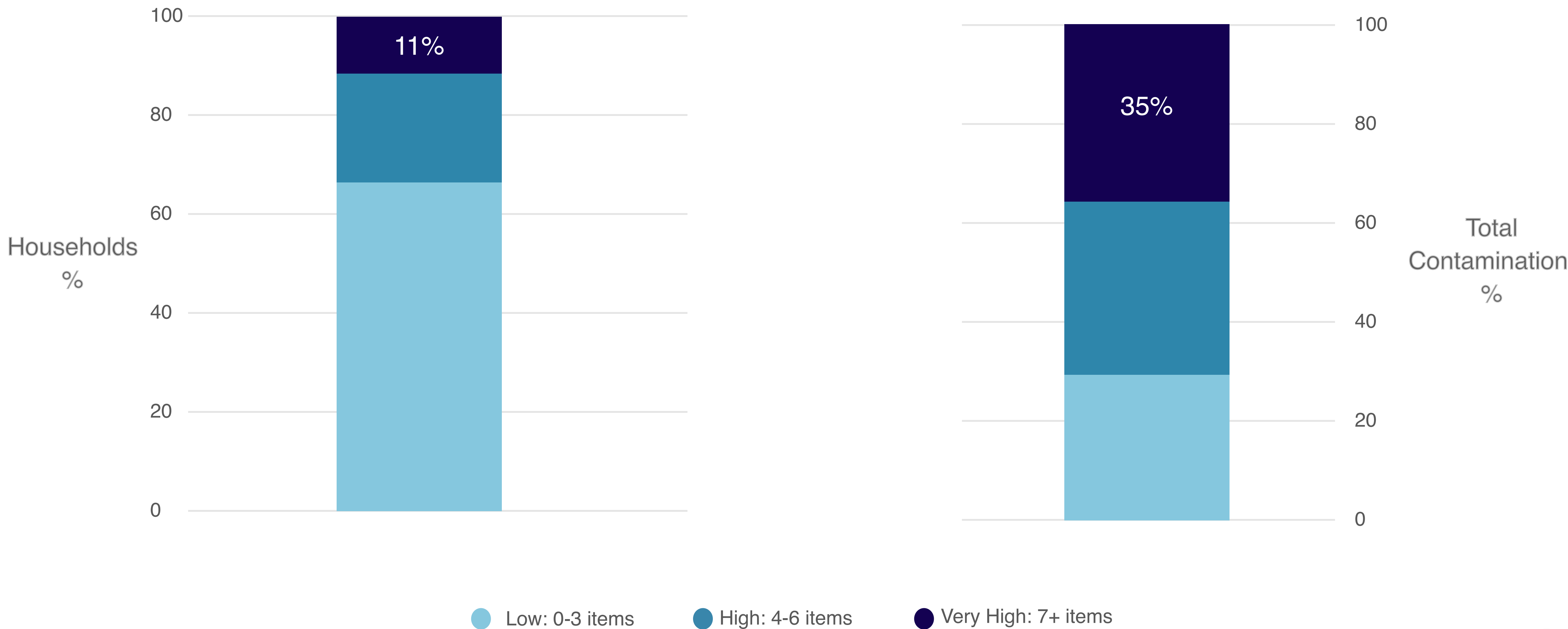


TJ Recycle



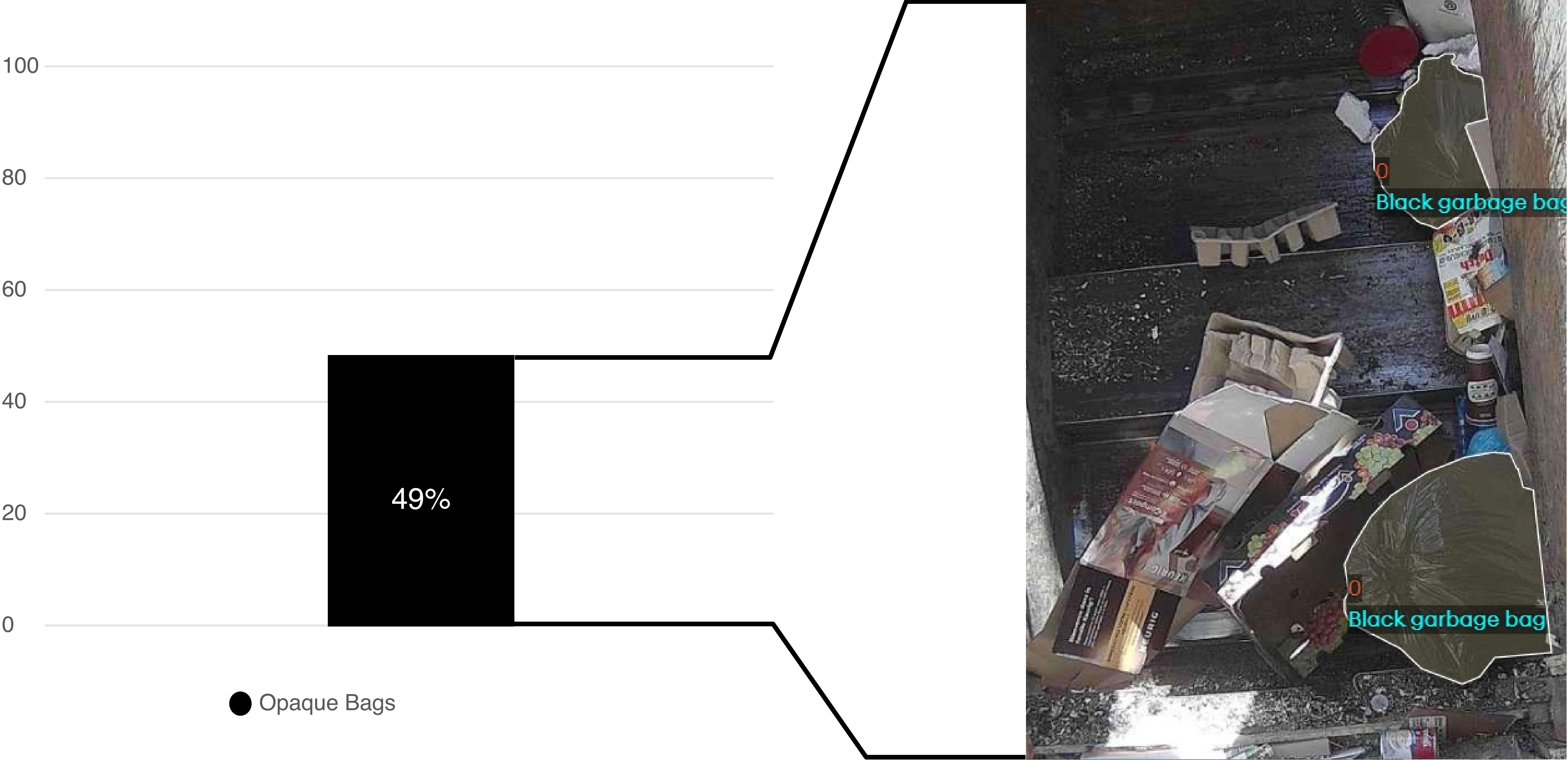


TJ Recycle



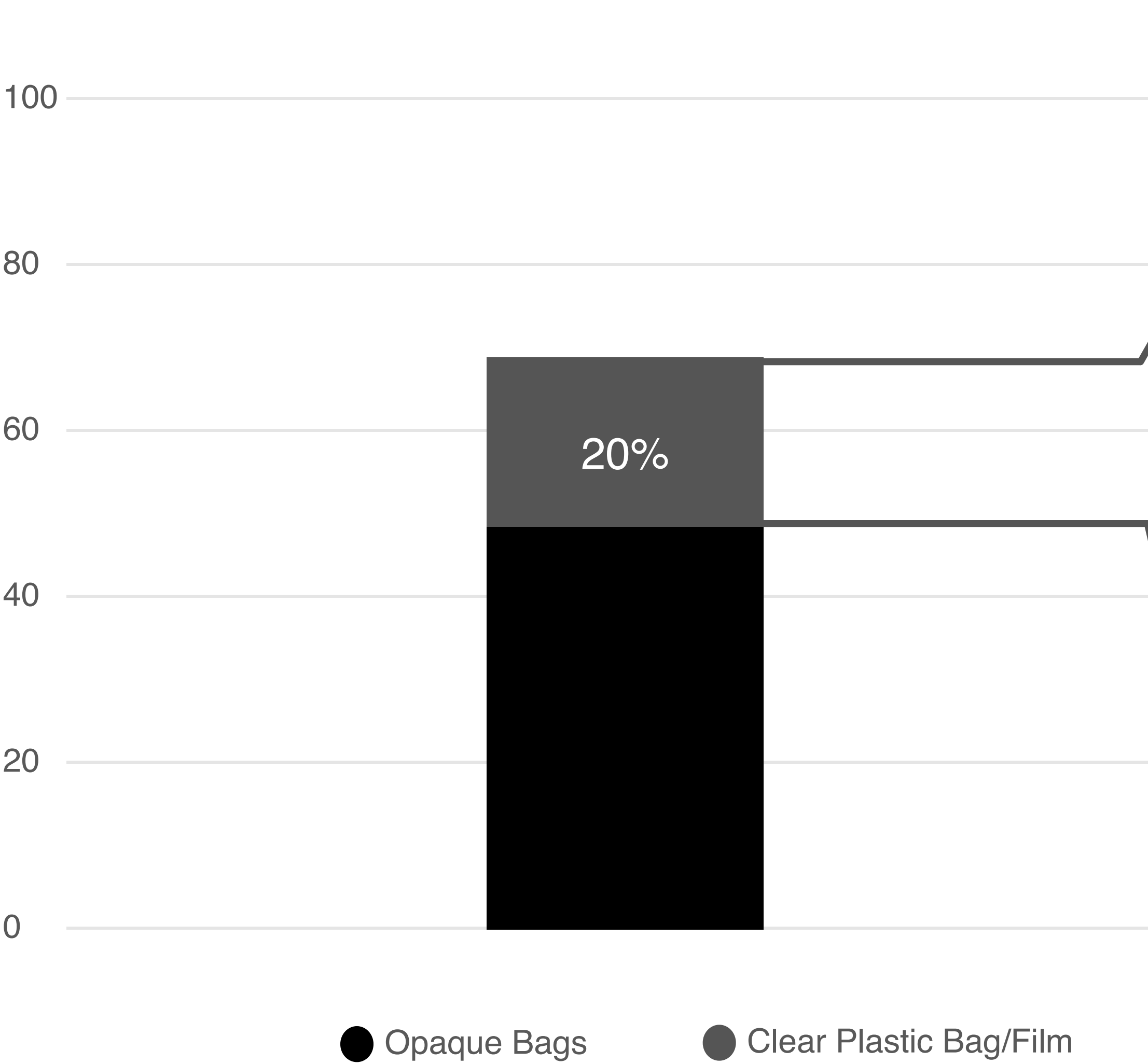


TJ Recycle



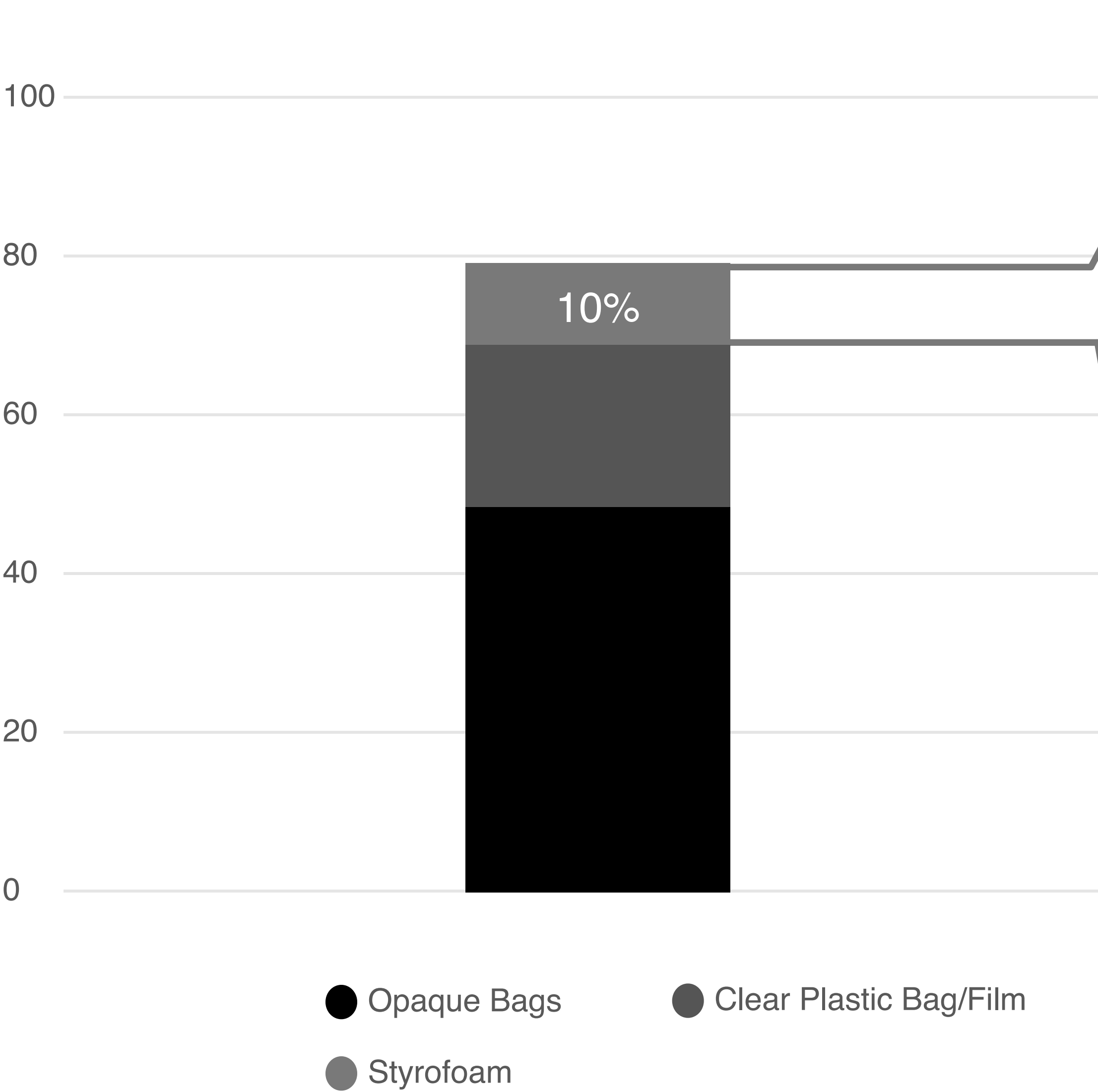


TJ Recycle



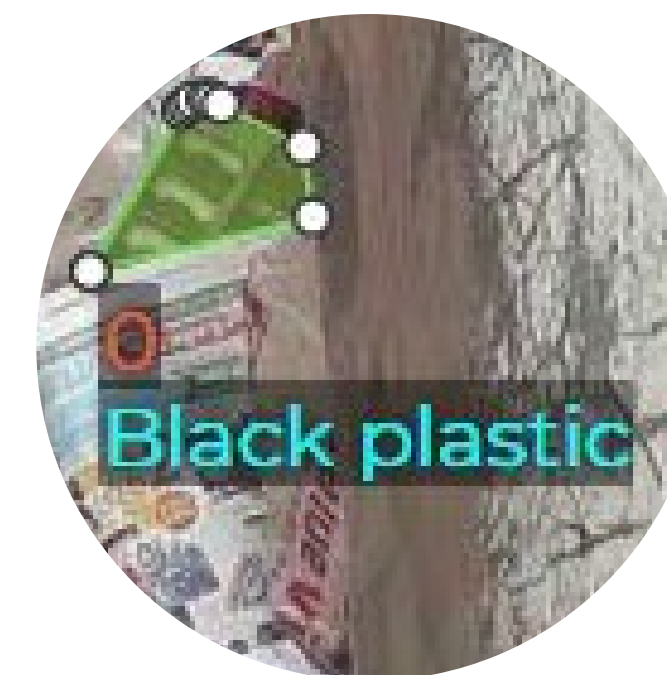
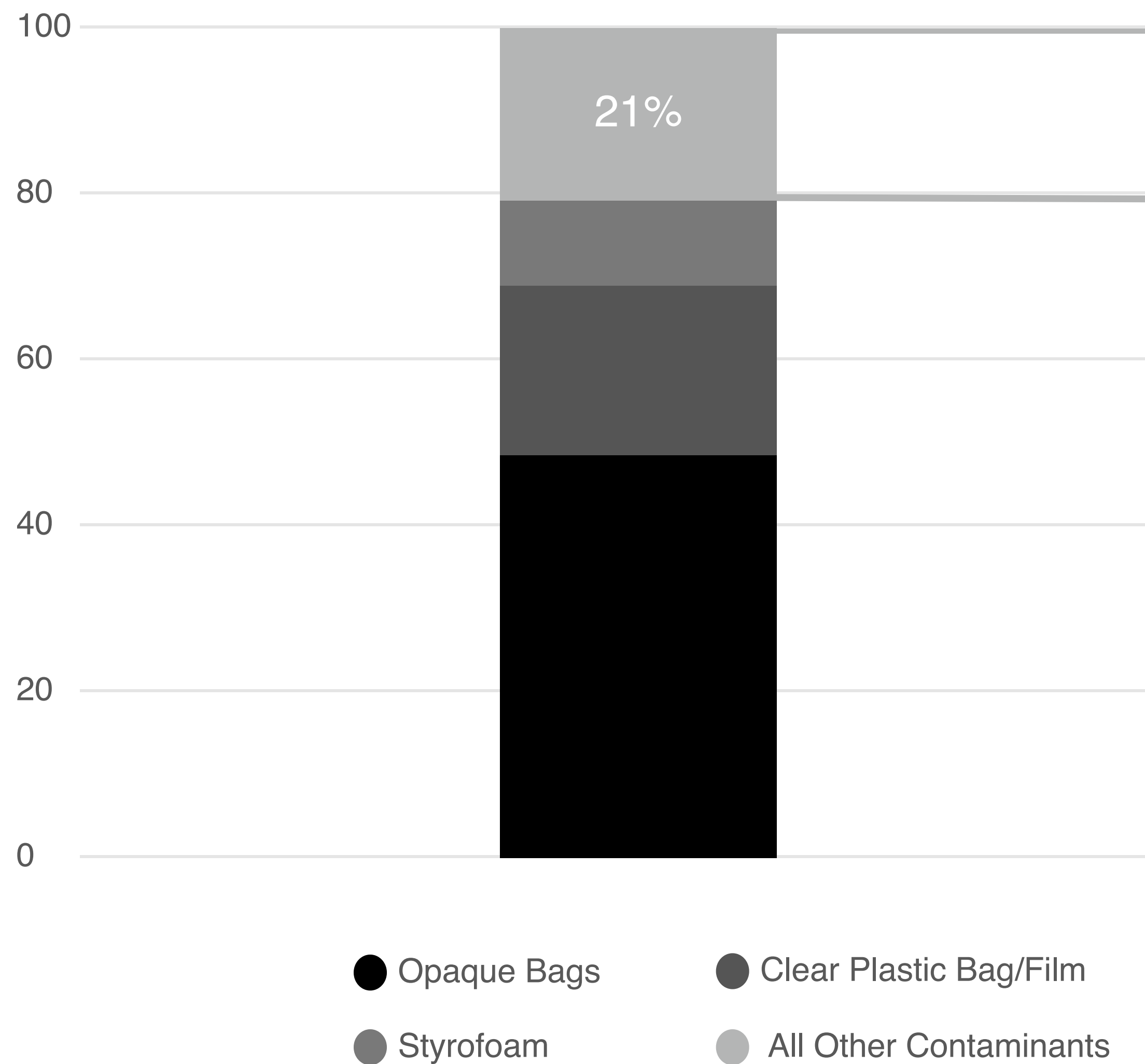


TJ Recycle





TJ Recycle





Targeted Education

1234 Main Sreet,
Riderville,
Saskatchewan, S0J 0G0

As our community strives to create a clean, green future,
it's important that we all do our part and properly recycle.

We love that you're recycling items! However, on February 15, we noticed you accidentally placed the following item(s) in your blue bin:

Black Garbage Bag

The item(s) seen below
can't be recycled. Instead,
place them in your black
bin for disposal.

We know that recycling can
be confusing. For tips on how
to properly recycle items,
please check out the back of
this card for a recycling guide
and a link to our website.

Thanks for helping make our
community better!



Targeted Education

1234 Main Sreet,
Riderville,
Saskatchewan, S0J 0G0



As our community strives to create a clean, green future,
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We love that you're recycling items! However, on
February 15, we noticed you accidentally placed the
following item(s) in your blue bin:



The item(s) highlighted
in the images can't be
recycled. Instead place
them in your black bin
for disposal

We know that recycling can
be confusing. For tips on how
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this card for a recycling guide
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We love that you're recycling items! However, on
February 15, we noticed you accidentally placed the
following item(s) in your blue bin:



Your recycling at a glance



Other homes in your
neighbourhood recycled

90%

fewer black garbage bags



Targeted Audit

Route Map

Earliest Service Date

01/25/2021

Latest Service Date

04/29/2021

Contamination

Black Garbage Bag

Outreach Strategy

Christopher Lake

Generate Map

Map

Satellite

Google

Yellow Fender Catering

Map data ©2021

Terms of Use

Report a map error

OOPS!

We were in your neighbourhood to check recycling carts & we discovered a few items that do not belong:

☐

Garbage Bag

☐

Black Plastic
(Coffee Cup Lids, Takeout Containers)

☐

Clamshell packaging

☐

Clear plastic bag/film

☐

Grocery bag

☐

Pizza box

☐

Polycoated cup
(Coffee Cup, Fountain Drinks)

☐

Soiled Food Containers

☐

Squeezable tube
(Toothpaste Tubes, Medical Ointments)

☐

Stand-up pouch
(Food Pouches, Pet Food pouches)

☐

Styrofoam

☐

Other: _____

See acceptable items on the back
tjdisposals.com/recycling

Recycle More of These:

Cans

Aluminum & Steel Cans

Empty & Rinse

Cartons

Food & Beverage

Empty & Remove Cap

Paper

Mixed Paper, Newspaper, Magazine, & Flattened Cardboard

Plastics #1 - #7

Kitchen, Laundry, Bath: Bottles & Containers

Empty & Remove Cap

Show your progress on Instagram & Twitter with #TJRecycleRight2021

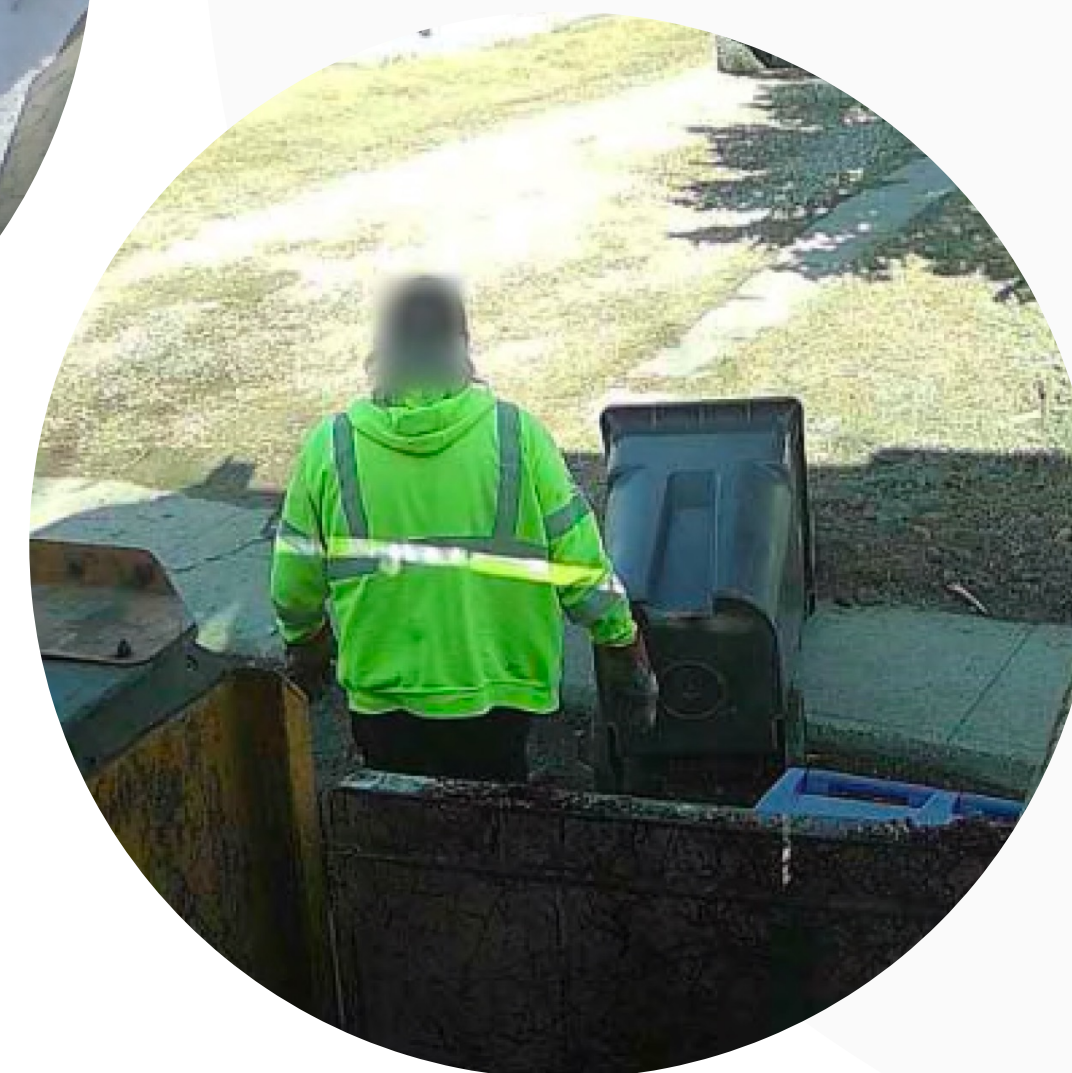


Privacy



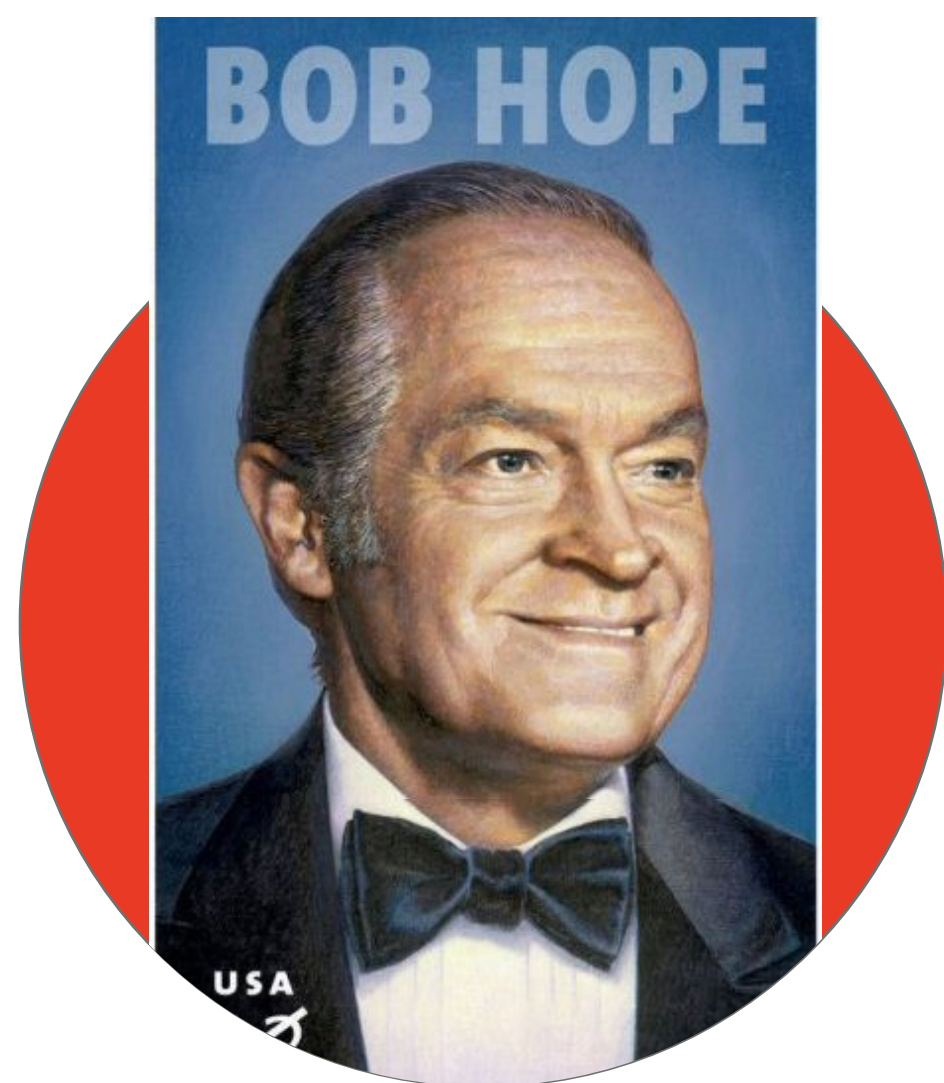


Privacy





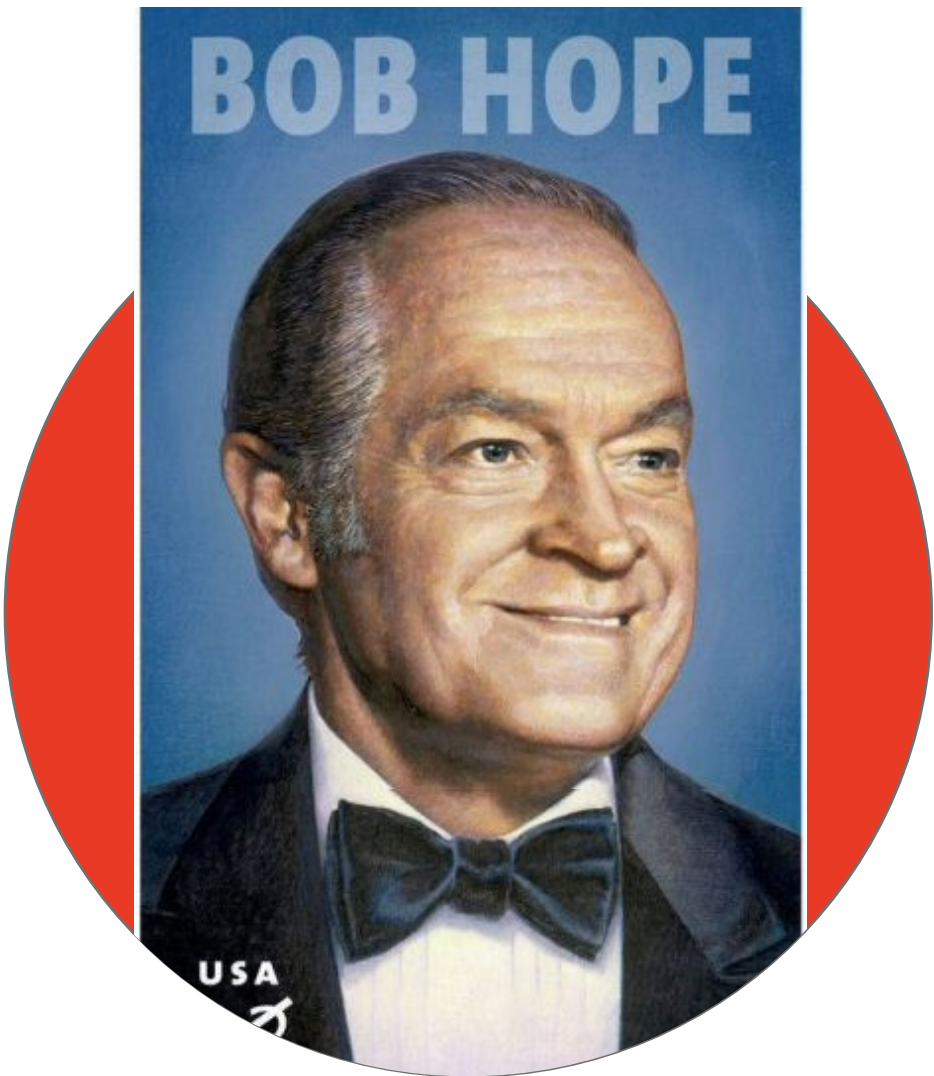
Summary



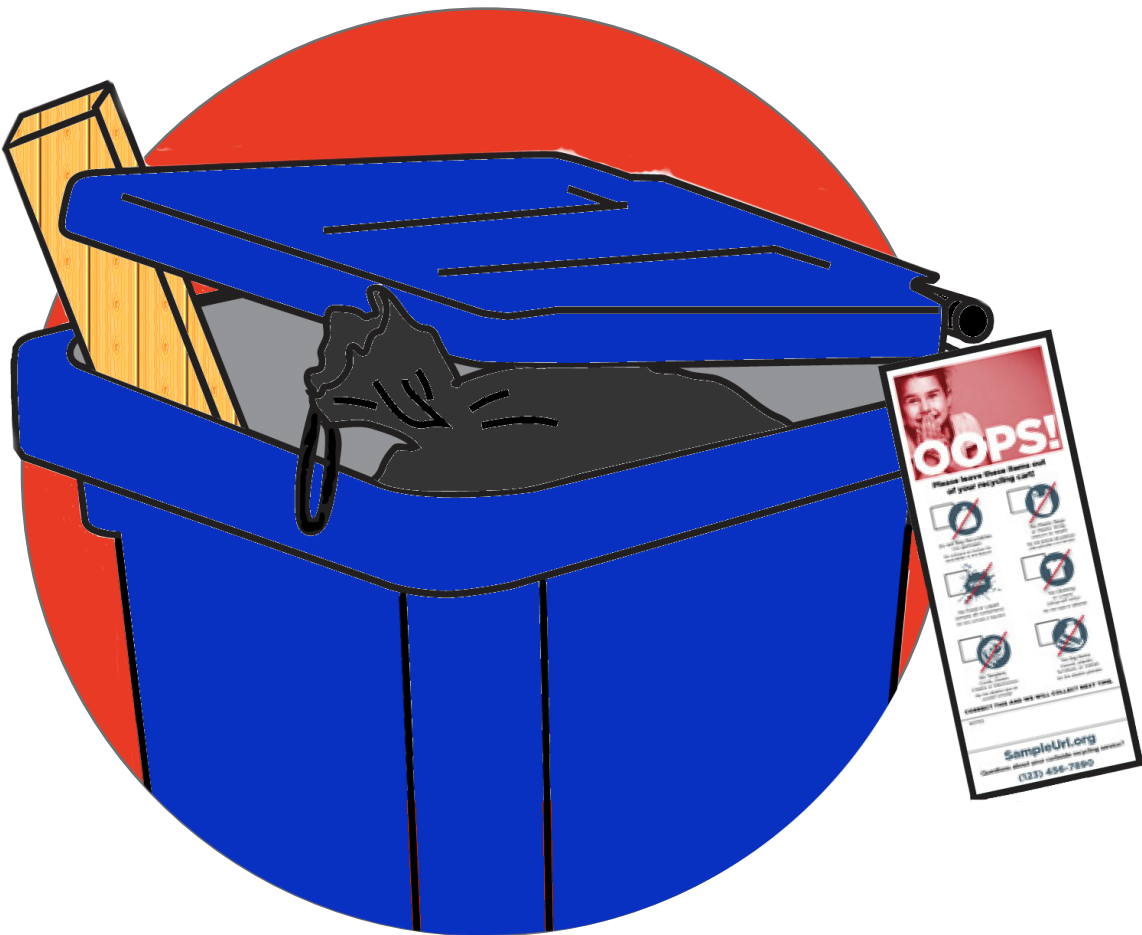
Hope



Summary



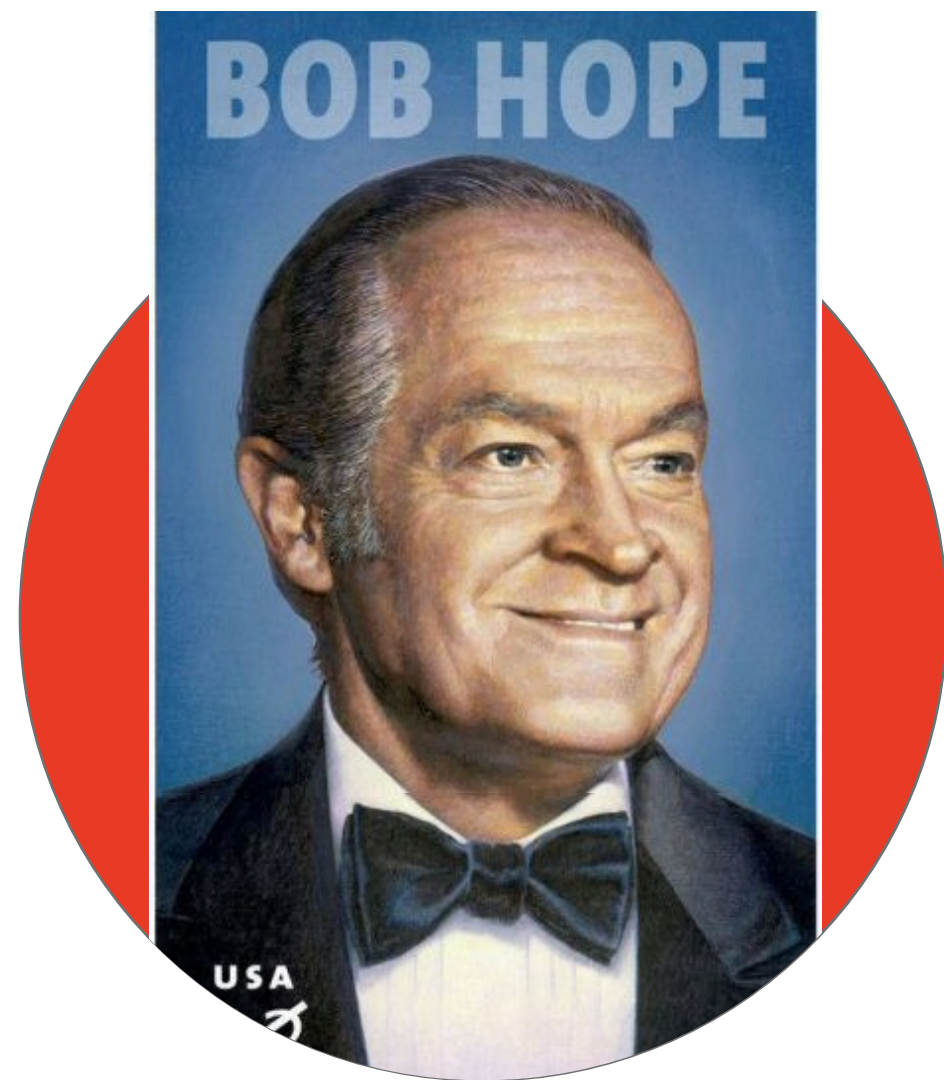
Hope



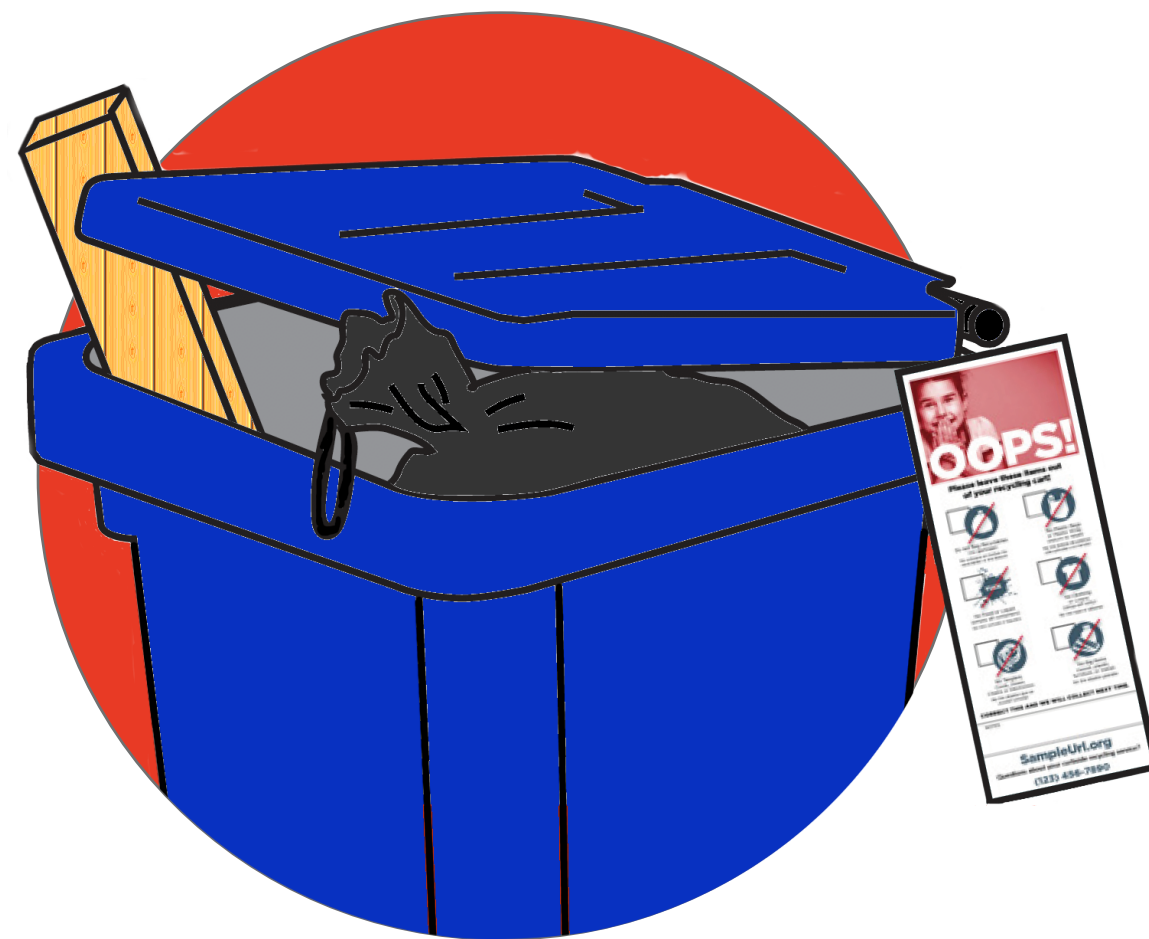
Education



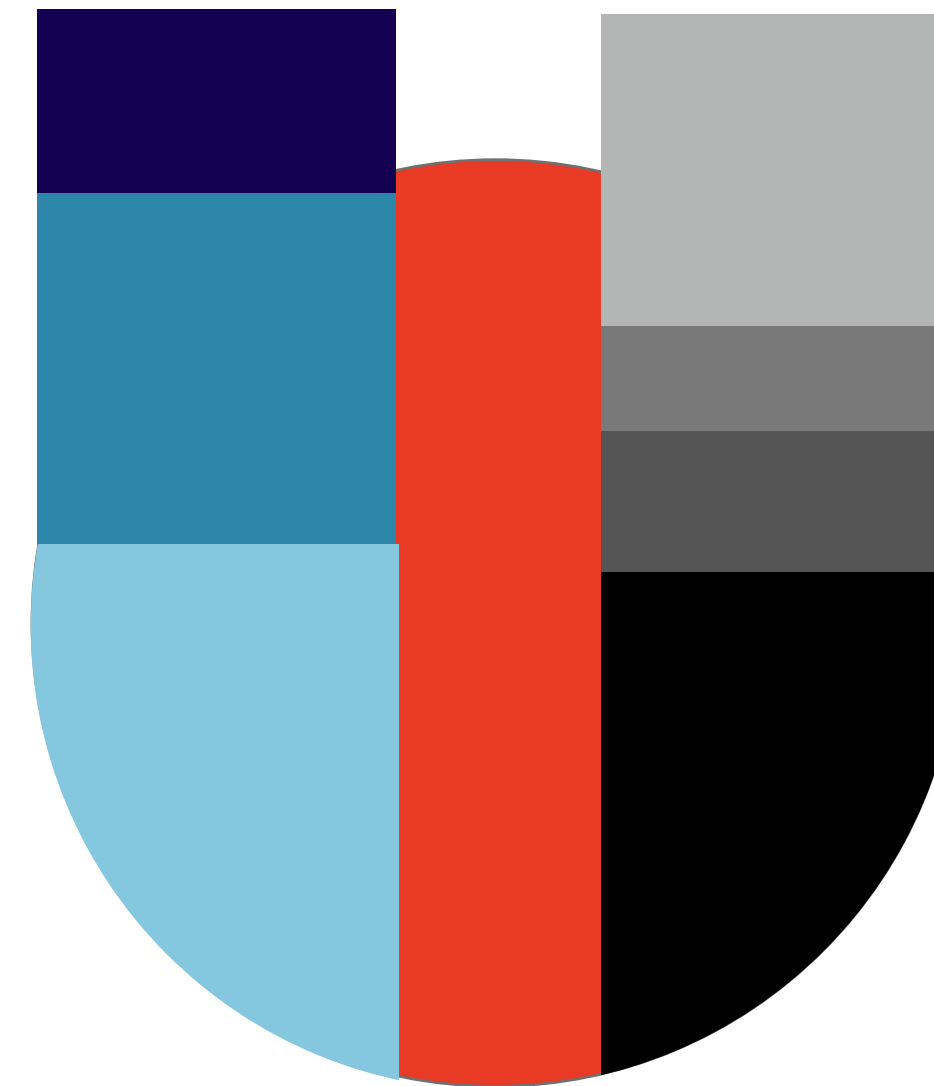
Summary



Hope



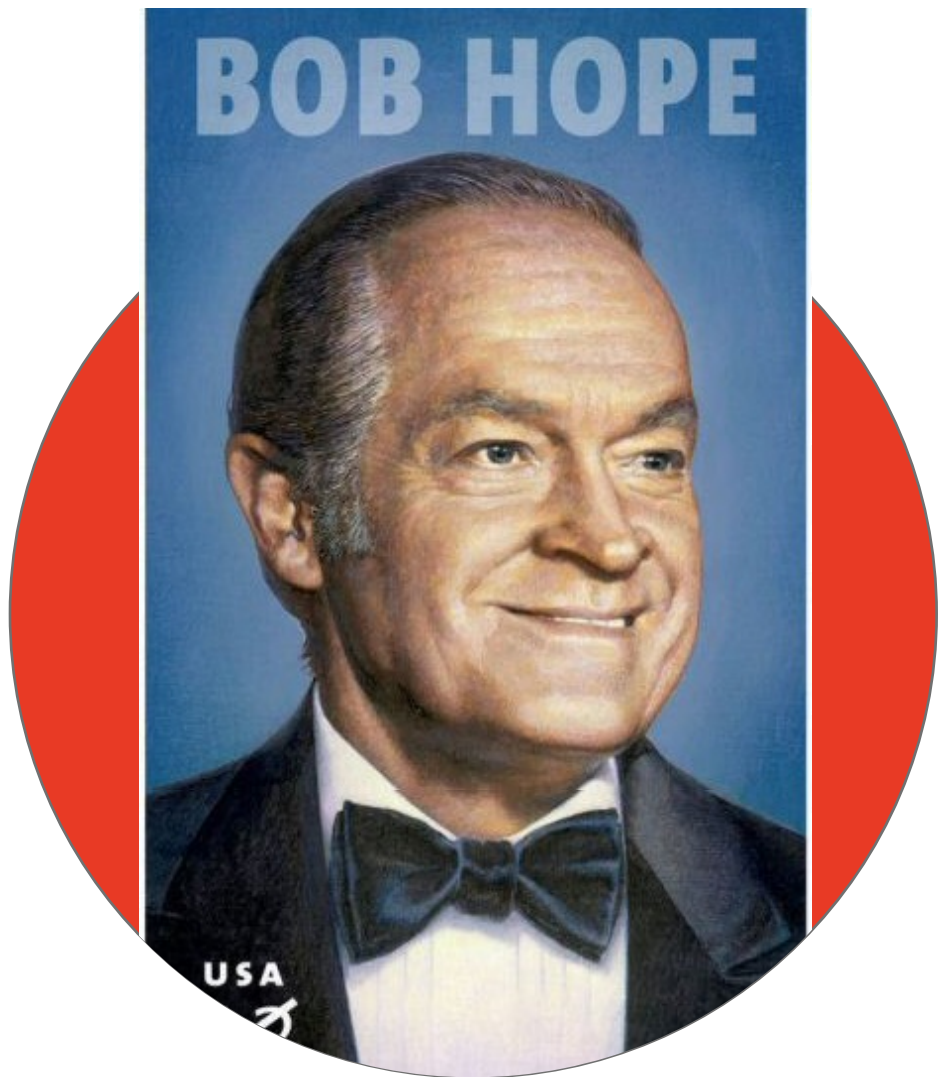
Education



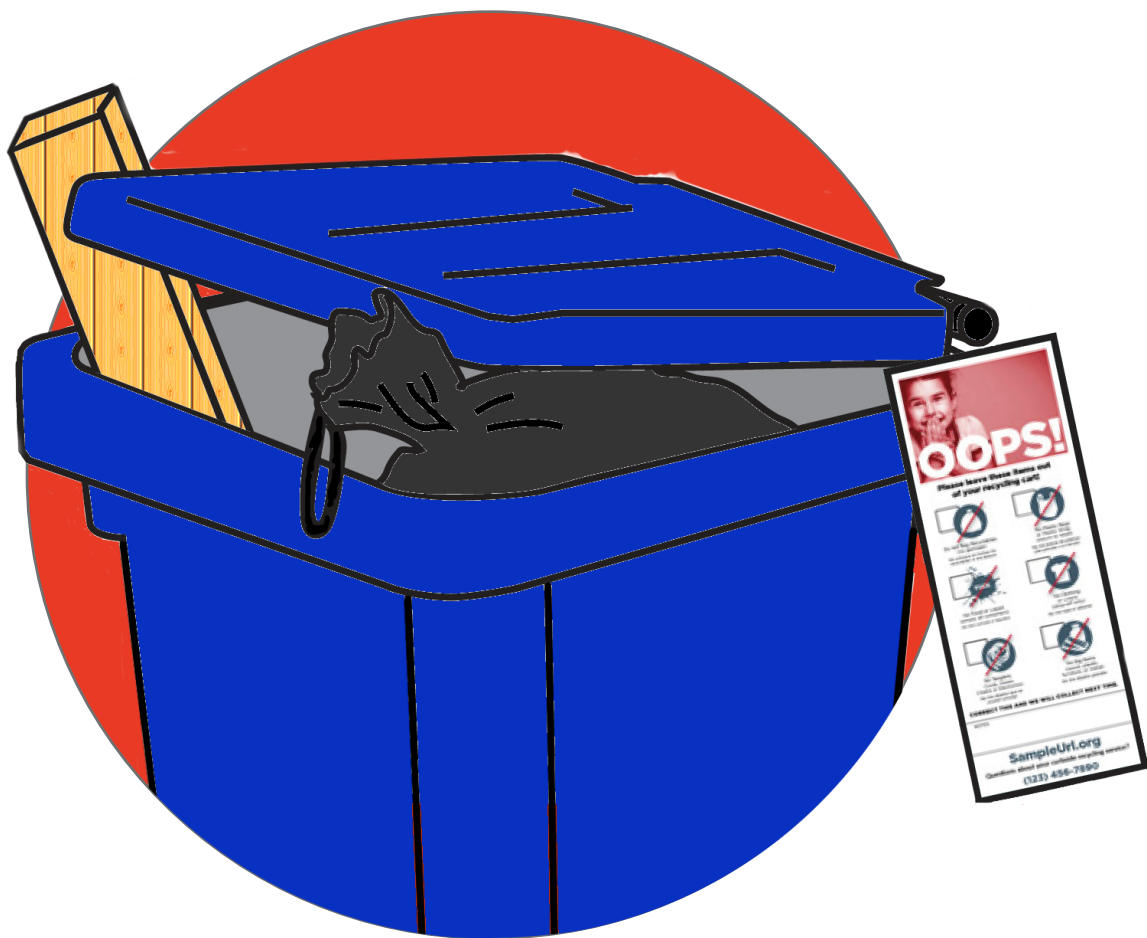
80/20 Rule



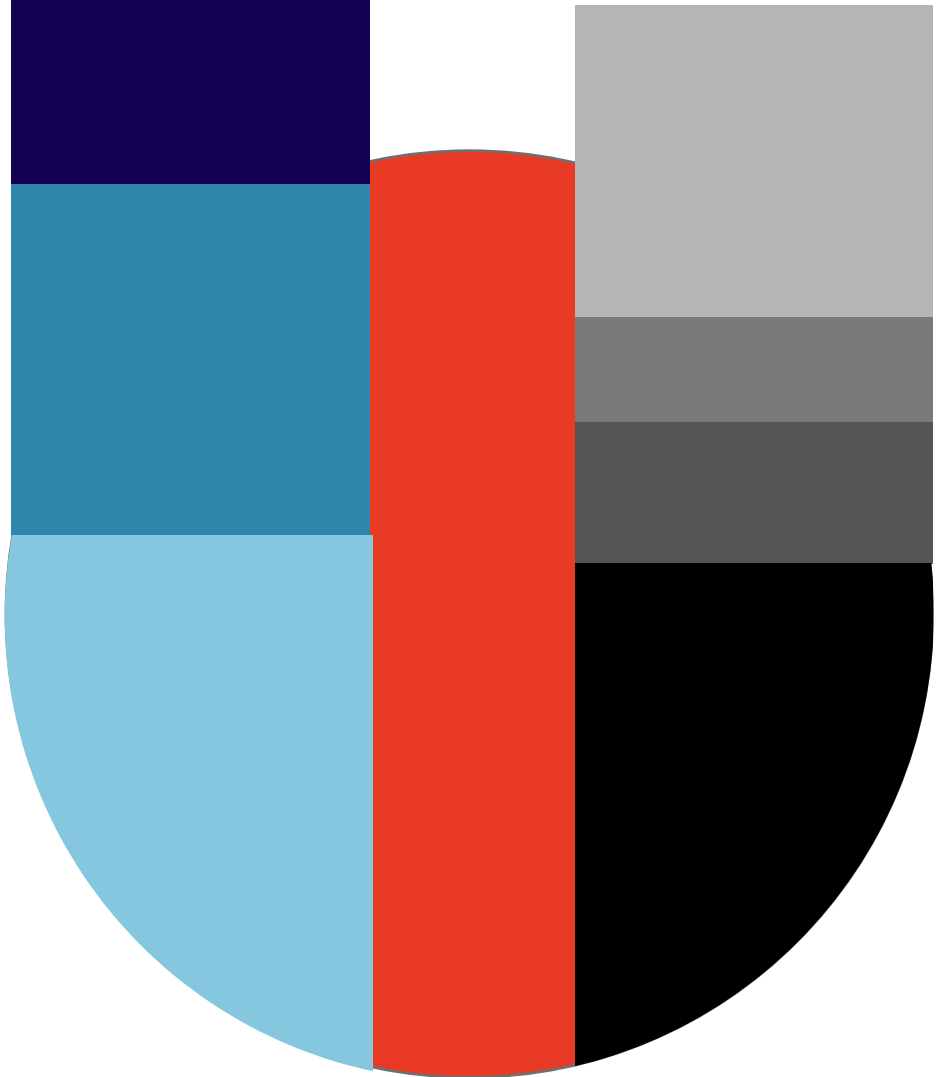
Summary



Hope



Education



80/20 Rule



Machine Learning



Recycling Contamination & Machine Learning

Sam@PrairieRobotics.com

