

2024

Morinville Environmental Audit



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Morinville, AB

April 2024

Program: Waste, Organics and Recycle curbside audit

Throughout this report there will be a breakdown between the locations visited and how many bins and bags were out for collection. As well as which of those locations may have infractions, what the infractions were and what needed to be stickered. There will also be many pie charts, tables and percentages to show the differences as well as comparisons within each area of the programs. As each area of the audit is broken down, a significant increase in totals will be shown in the tables below. As our team discovered a very low number of participation during some of the collection days, we then as a team decided to redo certain areas in hopes to give the audit overall a better chance to showcase the strengths as well as what areas needed improvement in Morinville.

Waste program:

During this spring audit, our team visited 5,334 homes. 4,552 of those homes were recorded to have bins out for collection and 143 bins were marked down for having infractions such as hazardous materials, recycling and organic matter.

Data Summary: Waste collection

Locations Visited	5,334
Waste Carts Out for Collection	4,552
Locations with No Bins	782
Waste Carts with Infractions	143
Containing Recycling Material	55
Containing Organic Matters	83
Containing Hazardous Material	5
Waste Carts Overfilled	97

Not Severe: Containing small amounts of infractions; Such as one piece of cardboard or small amounts of food matter [*These bins are not stickered*]

Mildly Severe: Containing decent amounts of infractions; Such as multiple pieces of recycle or a small bag of yard waste. [*These can be stickered, depending on the level/type of infraction*]

Very Severe: Containing large amounts of infractions; Such as full bags of recycle, multiple or big cardboard boxes, as well as large amounts of organic matter like full bags of yard waste or food waste. [*These bin are stickered and refused collection*]

Infraction Severity	Number of Bins	Percentage of Bins
Not Severe [0-35%]	116	2.55%
Mildly Severe [35- 65%]	19	0.42%
Very Severe [65-100%]	5	0.11%

Fill Percentile	Number of Homes	Percentage of Bins
0-25%	396	8.70%
26-50%	923	20.28%
51-75%	1,025	22.51%
76-100%	2,111	46.38%
Overfilled	97	2.13%

Figures:Waste Program

Figure 1. This pie chart represents the comparison between the houses that had bins out for collection and the houses with no bins out.

Carts Out For Collection

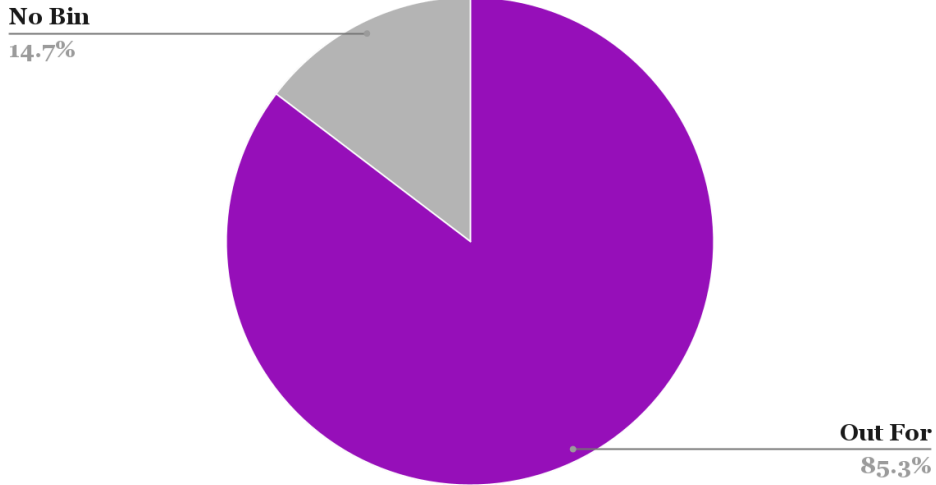


Figure 2. This represents the fill percentage for the waste carts out for collection.

Fill Percentile

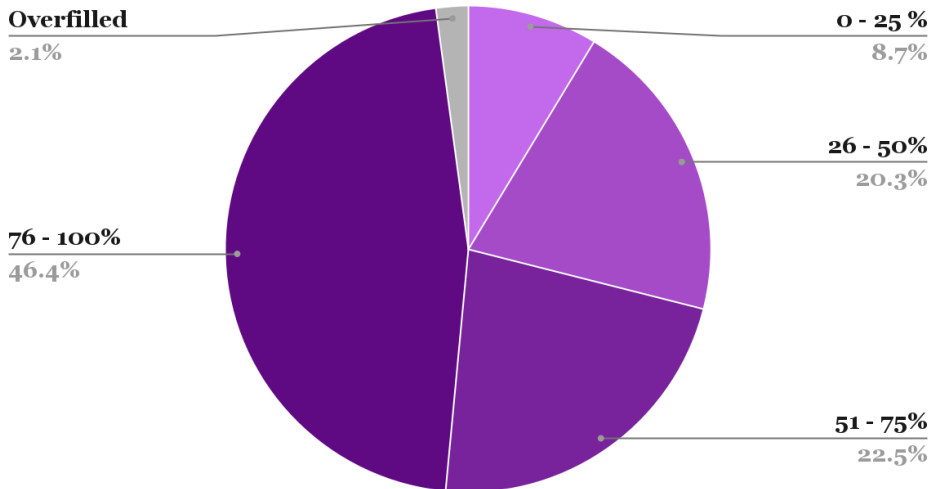


Figure 3. This represents the comparison in severity levels in the waste bins that contain any infractions.

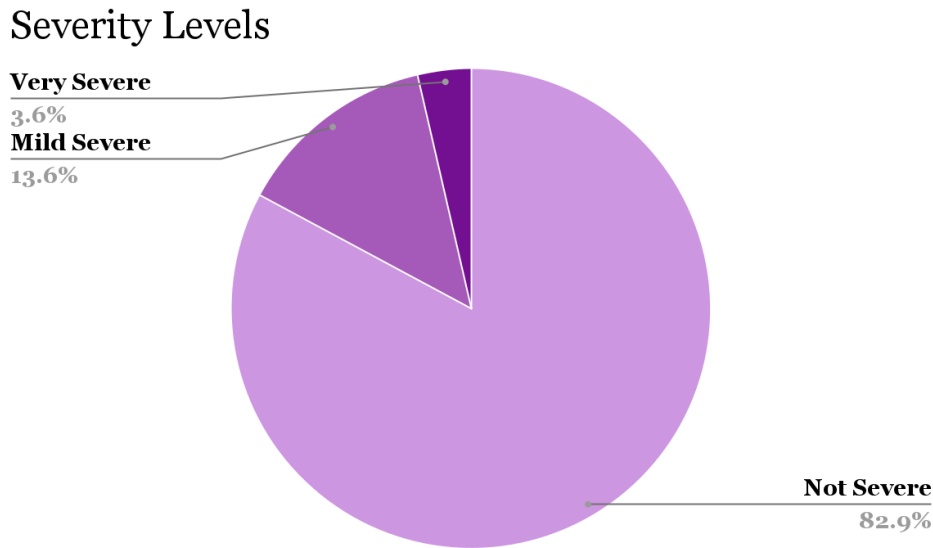


Figure 4. This represents the waste bin fill percentile, while comparing the severity of the infractions in the different percentile levels.

Percentile Vs Infractions

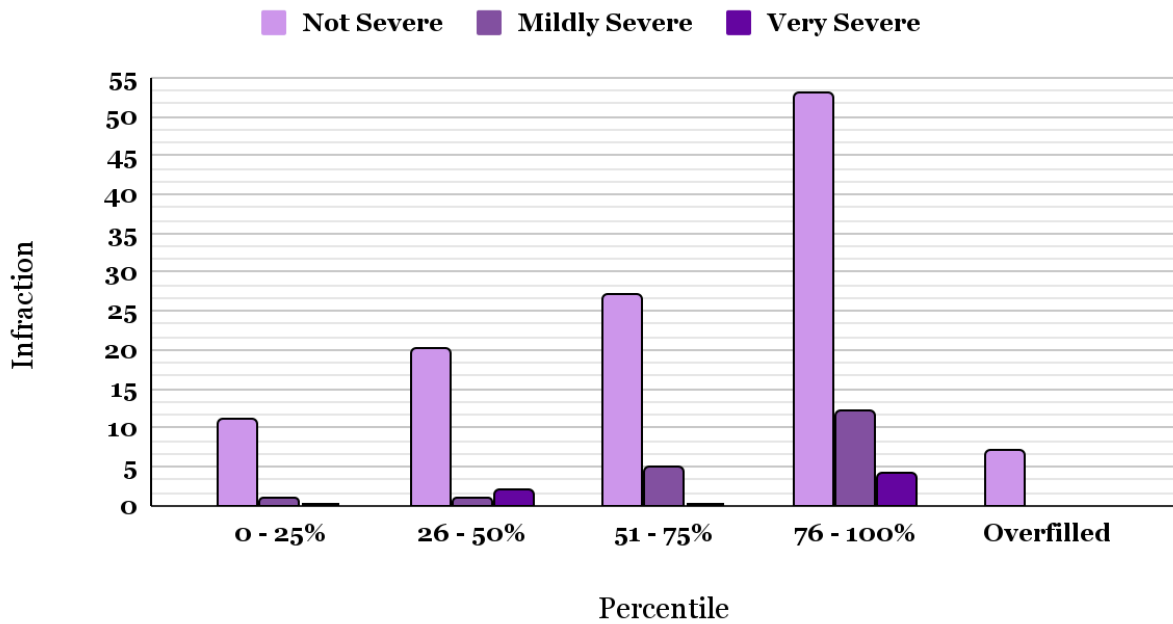
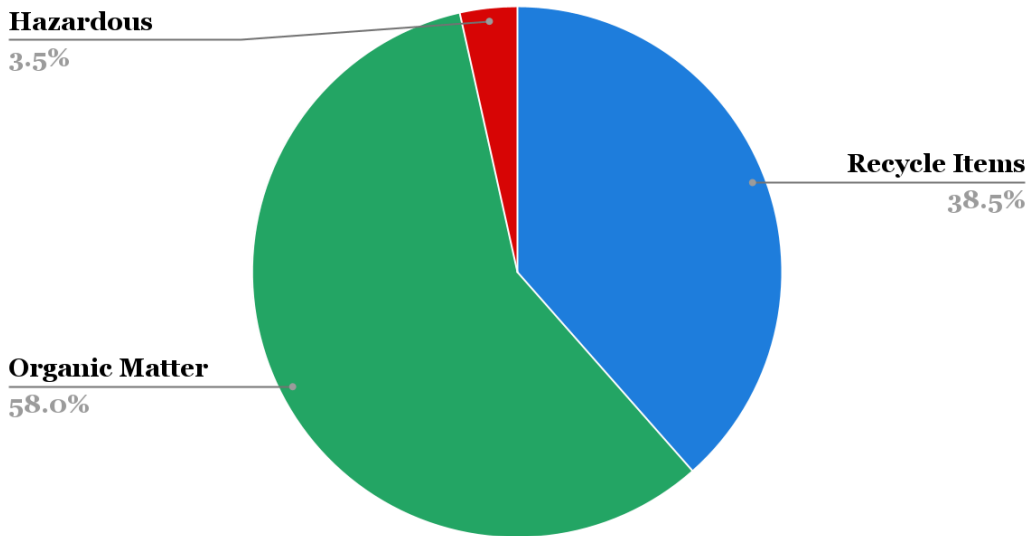


Figure 4. This represents the comparison between the recycle, organics as well as the hazardous materials infractions in the waste carts.

Infraction Comparison



Recycle Infractions Breakdown	Organic Matter Infractions Breakdown	Hazardous Waste Infractions Breakdown
<ul style="list-style-type: none"> ➤ Cardboard ➤ Bottles ➤ Cans 	<ul style="list-style-type: none"> ➤ Pizza Boxes ➤ Food scraps ➤ Whole foods ➤ Yard Waste; Leafs, grass clipping, tree branches ➤ Animal carcass ➤ Shredded Paper 	<ul style="list-style-type: none"> ➤ Electronics; Toaster ➤ Oil Pan; still had oil residue ➤ Flammable bottles ➤ Full fire Extinguisher ➤ Batteries

**During the waste portion of the audit report , it is shown to have quite high numbers for bins visited and as well as decently high percentages for waste bins filled over 50%. Almost half of the waste bins out were between 76-100% filled, showing that many residents used their waste bin to the max. Although the bins were used fully, our team believes that the number could be much lower if the bins were sorted through better, as many of the infractions found were large amounts of yard waste or cardboard.*

↓ Below I will show a few photos of bins that were stickered and were refused collection. These bins were listed under mild or very severe in the charts above. ↑



Photo 1:

- Pizza boxes { **Organics** }
- Take out container { **Organics** }
- Bottles and cans { **Recycle** }

Photo 2:

- Pizza Boxes { **Organics** }
- Shredded paper { **Organics** }
- Food matter { **Organics** }





Photo 3:

- Oil pan with oil residue in pan

{Hazardous materials}

- Full Fire Extinguisher **{Hazardous**

Material}

- Fishing Rod sticking outside of bin

- Paper bag **{ Organics }**

Photo 4:

- News paper **{ Recycle }**
- Bottles **{ Recycle }**
- Food ; scraps, food items still in bag
{Organics }
- Animals bones and carcass **{ Organics }**
- Metal bar **{ Eco- station }**





Photo 5 & 6:

- Yard waste { O }
 - Yard waste in plastic bags



Organics Program:

During the organics portion of the audit, only 755 bins were out for collection from the 3677 homes visited. 44 of these bins were recorded for having infractions such as waste materials and/or recycling materials. Only 14 of those were severe enough for our team to sticker them and be refused for collection.

Data Summary: Organics collection

Houses Visited	3,677
Houses with No Bins Out	2922
Organic Carts Out for Collection	755
Organic Carts with Infractions	44
Containing Recycling Materials	26
Containing Waste Materials	18
Organic Carts Stickered	14

Not Severe: Containing small amounts of infractions; Such as one piece of cardboard or a singular waste item. *[These bins are not stickered]*

Mildly Severe: Containing decent amounts of infractions; Such as multiple pieces of recycle or a small bag of waste or a small plastic . *[These can be stickered, depending on the level/type of infraction]*

Very Severe: Containing large amounts of infractions; Such as full bags of recycle, multiple or big cardboard boxes, any large plastic bags or large amounts of loose garbage. *[These bin are stickered and refused collection]*

Infraction Severity	Number of Bins	Percentage of Bins
Not Severe [0-35%]	24	3.18%
Mildly Severe [35-65%]	6	0.79%
Very Severe [65-100%]	14	1.85%

Fill Percentile	Number of Homes	Percentage of Bins
0-25%	207	27.42%
26-50%	246	32.58%
51-75%	173	22.91%
76-100%	129	17.10
Overfilled	—	—

Figures: Organics Program

Figure 1. This pie chart represents the comparison between the houses that had bins out for collection and the houses with no bins out.

Bins Out For Collection

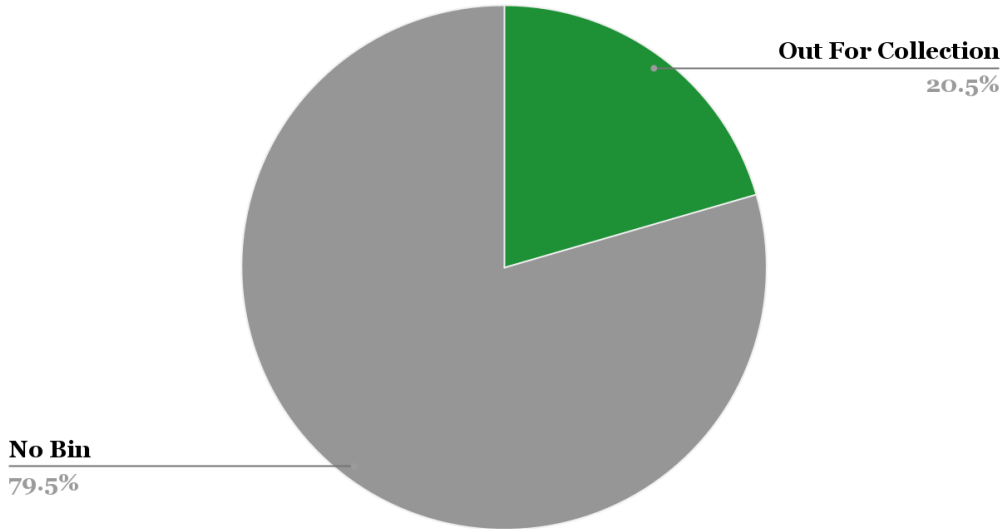


Figure 2. This represents the fill percentage in the organic carts out for collection.

Fill Percentile

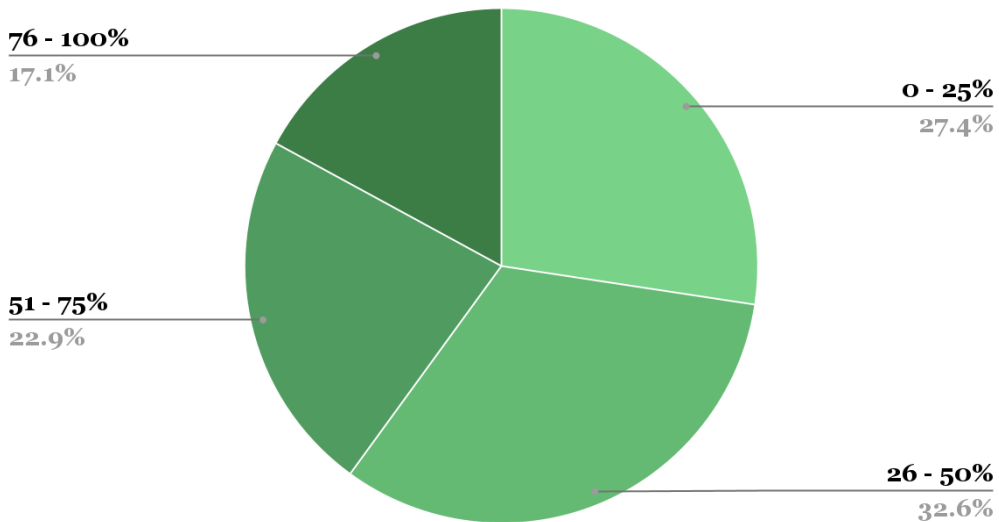


Figure 3. This represents the comparison in severity levels for the organic bins containing infractions.

Severity Levels

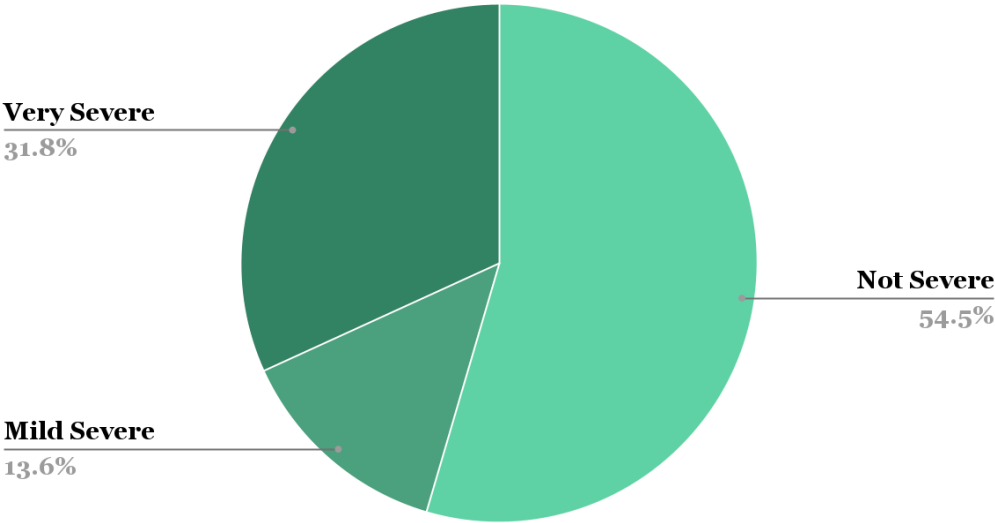


Figure 4. This represents the comparison between the recycle and waste infractions in the organic carts.

Infraction Comparison

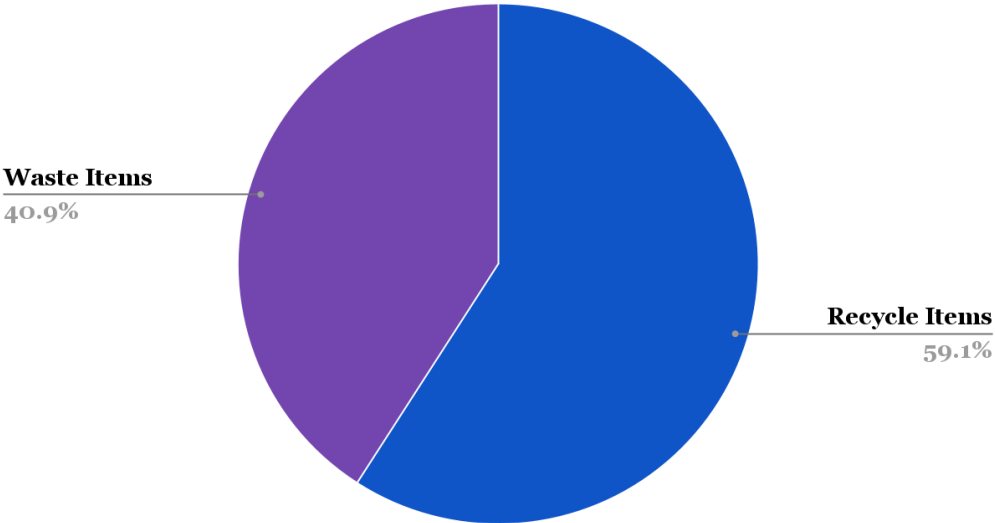


Figure 5. This represents the organic bin fill percentile, while comparing the severity of the infractions in the different percentile levels.

Percentile Vs Infraction

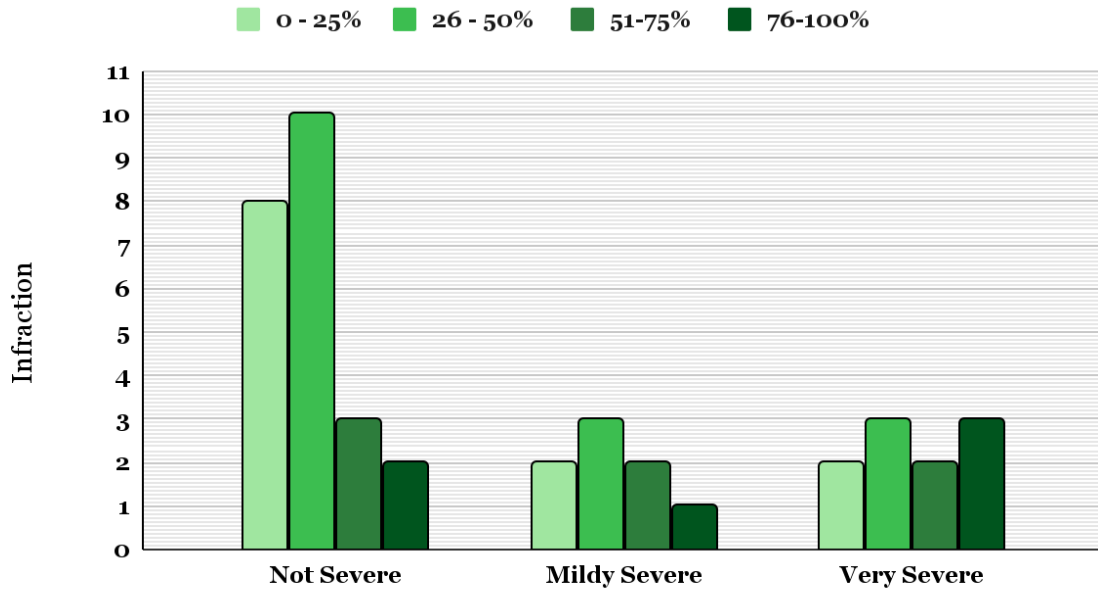
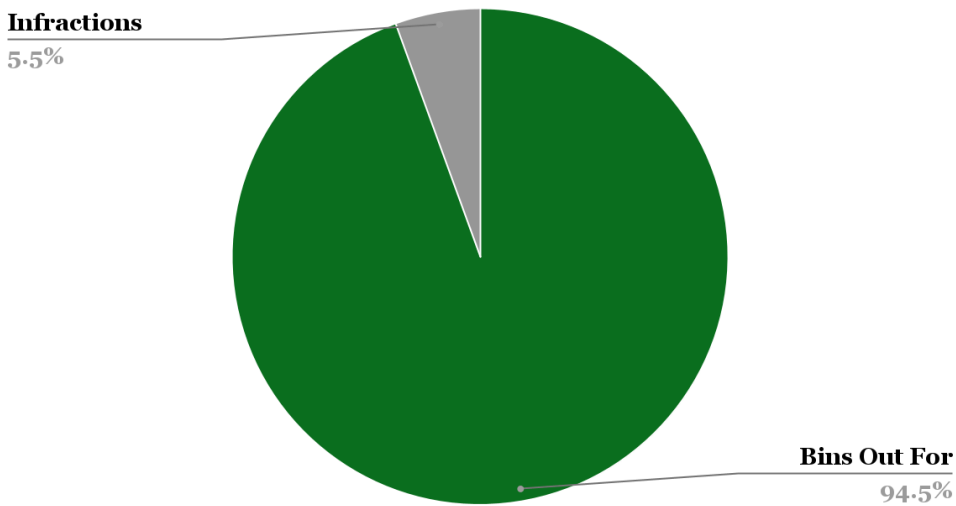


Figure 6. This represents the sum of all the bins and infraction comparison.

Bins Out For Collection vs Infraction



Waste Materials	Recycle Materials
<ul style="list-style-type: none"> ➤ Black bags ➤ Clear plastic bags containing yard waste ➤ Styrofoam ➤ General waste ➤ Plastic materials; lids, to go containers, single use plastics ➤ Tim Hortons, Mcdonalds, etc cups and lids ➤ Dog poop bags ➤ Food in take out containers/ bags 	<ul style="list-style-type: none"> ➤ Clean recycle; school work, loose blank papers, cardboard, etc ➤ Bottles

**As going through the organic portion of the audit report, it is noticeably different in comparison to the waste. There were 85.3% waste carts out for collection whereas there were only 20.5% organic carts out, concluding to a 60.8% decrease in participation. One reason for the low participation we find is due to the weather, as many aren't doing as much yard work this early in the year(April/May), as snow is normally still on the ground like in past years. Fortunately this year summer came early, which caused a surprise when we saw only 20.5% of the residents using their green bins and such an increase of full waste carts with many holding infractions such as yard waste and/or other organic matter. A second reason for there being such a low number of participation could be due to having only one yard waste collection in the month. Bins were getting filled much quicker this year due to the warm weather causing residents to then use it more often and sooner than expected. Which caused reasonable frustration as no one wants to wait to do their yard work. This caused many to just use their waste bin, as many know it gets collected weekly. A suggestion to this, could be to start summer collection a week or few earlier or/and to have bi-weekly collection during winter.*

Although only 20.5% of residents used their green bins, 6% of those bins had infractions, which decreased the number of properly used bins. Hopefully with some additional changes and guidance residents will use their bins more and the infractions will lower even more.

↓ Below I will show a few photos of bins that were stickered and were refused collection. These bins were listed under mild or very severe in the charts above. ↑

Photo 1 :

- Litter containers { R }
- Loose garbage; Plastic bags, ziplock bags, chip bags, zip ties.. { W }
- McDonalds cups { W }
- Hard plastic container { R }



Photo 2 :

- Bottles { R }
- Cup Trays { R }
- Take out containers { W }
- Take out cups { W }
- Loose garbage; dunkaroos, wrappers.. { W }

Photo 3 :

- Cardboard/ Paper { **R** }
- Ziplock bag { **W** }
- Black bags { **W** }
- Spray can { **H.M** }



Photo 4 :

- Bottles { **R** }
- Garbage bag containing waste { **W** }
- Cardboard Box { **R** }

Photos 5, 6 & 7 :

➤ Waste bags { W }



Recycle Program:

During the recycling portion of the audit 5,334 homes took part in the recycling program and had bags out for collection. 104 homes had one or more infractions in their recycling and only 19 homes had to be stickered and be refused collection.

Data Summary: Recycle collection

Locations Visited	5,334
Houses with No Bags Out	2,427
Houses with Recycle Out	2,907
Recycle with Infractions	104
Containing Waste Materials	69
Containing Organic Matter	45
Containing Pizza Boxes	36
Containing Clamshells (Single use fruit or cookie container)	26
Recycle Stickered	19

Not Severe: Containing small amounts of infractions; Such as one clamshell or a few food scraps. *[These bins are not stickered]*

Mildly Severe: Containing decent amounts of infractions; Such as two or more clamshells or take out containers with food residue left or multiple pizza boxes *[These can be stickered, depending on the level/type of infraction]*

Very Severe: Containing large amounts of infractions; Such as full bags of styrofoam,shredded paper, or large amounts of loose garbage *[These bin are stickered and refused collection]*

Infraction Severity	Number of Bags	Percentage of Bags
Not Severe [0-35%]	71	2.44%
Mild Severe [35-65%]	14	0.48%
Very Severe [65-100%]	19	0.65%

Number of Bags	Number of Homes	Percentage of Bags
1 Bag	1,553	53.42%
2 Bags	801	27.55%
3 Bags if he	384	13.21%
4+ Bags	169	5.81%

Figures: Recycle Program

Figure 1. This represents the comparison between the houses with recycling out for collection and the houses that did not participate in the recycling program.

Bags Out For Collection

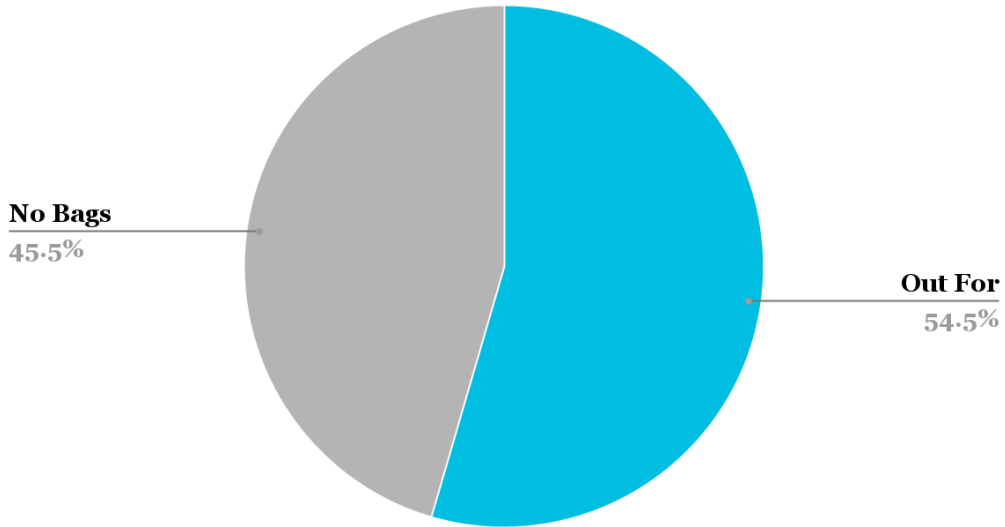


Figure 2. This represents the number of bags that were out for collection.

Recycling Out For Collection

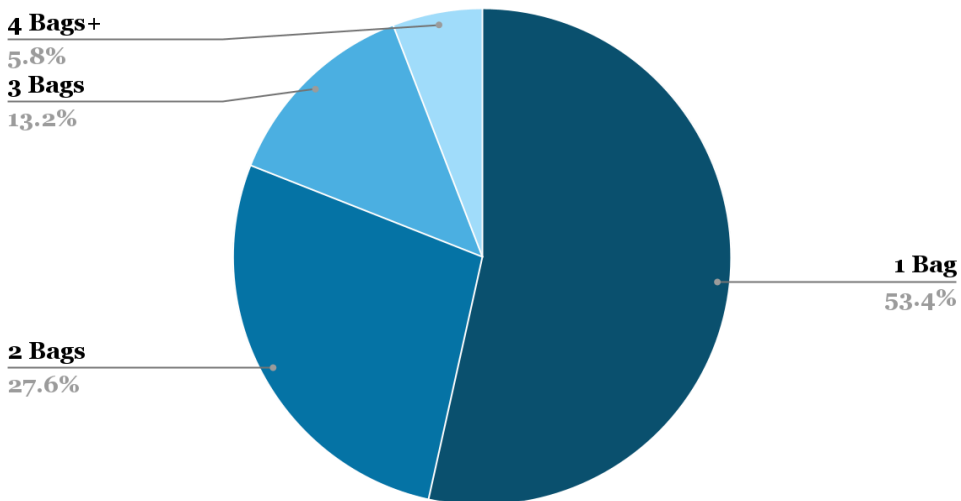


Figure 3. This represents the comparison in the severity levels in bags of recycle that had infractions.

Severity Levels

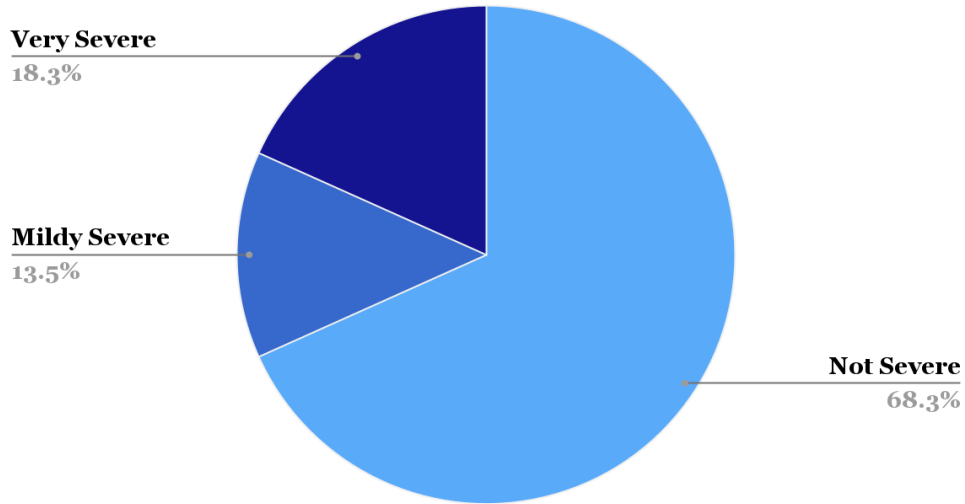
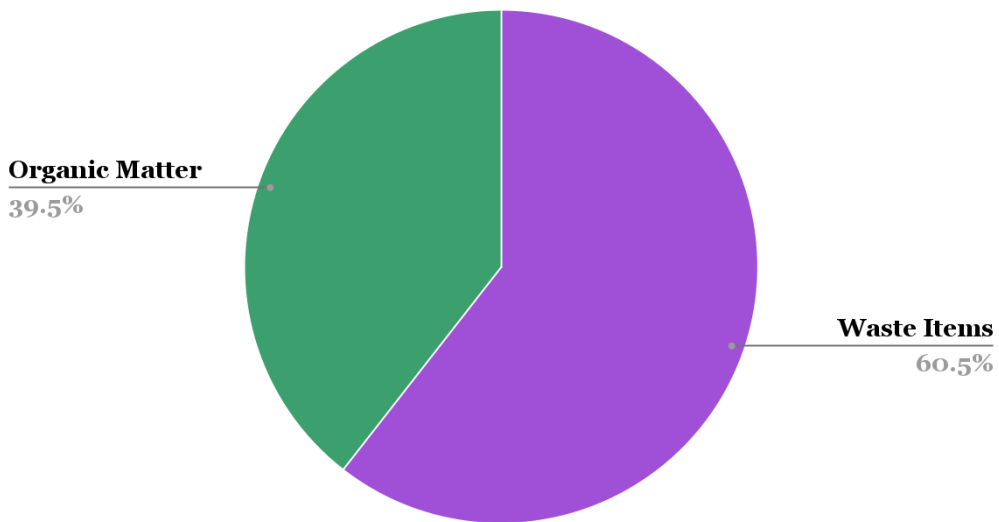


Figure 4. This represents the comparison between the waste and organic matter infractions in the recycle.

Infraction Comparison



Waste Materials	Organic Matter
<ul style="list-style-type: none"> ➤ Clamshells ➤ Styrofoam ➤ Single use plastics; individual yogurt cups, drink cups, cheese wrappers, spoons/ forks, plastic wrap ➤ Tim Horton, McDonalds..etc Cups ➤ Packing Materials 	<ul style="list-style-type: none"> ➤ Pizza Boxes ➤ Shredded paper ➤ Unrinsed cans, jars, containers ➤ Food scraps + food still in containers

*** During the recycling part of the audit, there was a very split level of participation from the residents this spring. As shown above, just about half of the residents in Morinville had recycling out and 3.6% of those had infractions in the blue bags. Though 3.6% is not a bad percentage to have, many recycling items ended up in waste and the organic carts as well. It was noticeably clear that many residents seemed to be confused about certain items, such as pizza boxes and clamshells (fruit/cookie single use container), as these both were main contributors in the infractions.**

↓ Below I will show a few photos of Recycle bags that were stickered and were refused

collection. These bags were listed under mild or very severe in the charts above. ↑

Photo 1 :

- Pizza Boxes { O }
- Clamshell { W }
- Plastic wrap { W }



Photo 2 :

- Shredded paper { O }



Photo 3 :

- Plastic wrap { W }
- Clamshells { W }

Photo 4 :

- Plastic wrap { W }
- Garbage { W }



Conclusion:

During this early spring audit, there was a clear level of participation from the residents that changed drastically from organics to waste week. There was a very low number of residents that took part in the organics program. Which came to a surprise when doing the waste week audit and many of the waste bins our team visited held yard waste and other organic matter. After sorting through bins and talking to a few residents, we learned many were confused or not aware of some of the do's and don't when sorting.

Here's an additional summary on what some of those dos/don't items were that the town seemed to struggle with.

Waste Cart:

- Any hazardous materials; such as batteries, full spray cans, flammable cans/bottles, electronics.. etc

- **These items are not just dangerous to the environment if not disposed of properly, but extremely dangerous to our drivers. Many of those items listed above, plus many others, can start a fire in the hopper of the truck in a matter of seconds/minutes, which can put many individuals and homes at risk. These items need to be taken to the eco-station to get disposed of correctly.**
- Organic matter; yard waste, food scraps, pizza boxes...etc
 - These items were all found normous times in the waste cart and should be placed in the organics cart instead. When these items are constantly put in the correct bin, residents may find they will have much more space in their waste bins. Therefore not only helping with the decrease of overfilled bins but also allowing for less to go into the landfills.
 - Organic collection is also a very important and healthy way to help our environment become more enriched and stronger. It helps farmers enrich their crops, which becomes a full circle moment, as they help bring produce to the cities and towns around, like Morinville.
 - Pizza boxes seemed to be an item many were confused about, as they were found not only in waste bins, but also in the organics cart and the recycle bins. Cardboard that is contaminated; such as pizza boxes, starts to break down therefore cannot be recycled anymore. Once cardboard and/or paper is contaminated, it should go in the green bin to help with composting.

Organics Cart:

- Waste materials; black/clear bags, loose garbage, different plastics... etc
 - Unfortunately these items were very common in the organics cart when we visited. Many of the bins that got stickered, seemed to be just a secondary waste bin to a few residents. There was lots of loose garbage and items that are very clear do not belong in the green cart.
 - If residents didn't use their waste bins for yard waste, the infractions in the organic carts may have been lesser. Unfortunately there were not many organic carts out this spring audit due to the winter, so we aren't able to get a full look into how the town does, but from the information we have gathered so far, the residents need to be guided a bit more.

Overall our team was pleased by the information we discovered and look forward to doing another audit in the future. One suggestion for future audits would be doing a spring/fall audit as well as a summer audit every couple years. This would help to show the different levels of participation, as well as what needs to change during the seasons or what should stay. In addition to it being every couple years, this would allow the room for improvement to take place and give the communities time to do outreach work and education. We were pleased by some of the discoveries, the town may benefit from doing additional outreach to the residents. A few ideas our team has, would be sending out additional information guides about the three different programs; waste, organics, and recycle. This could be door hangers, or a print out containing information of do's and don'ts that could be paired with the cart collection dates calendar. This tends to be a very popular option amongst other towns, as many residents enjoy being able to place the information guide on the fridge or wall. Another idea our team would suggest would be having GFL be part of local trade shows, or having an information booth at the markets. This can

contain, our team coming out to play an educational trash game, displays of what the future could look like if everyone took one extra step in helping the sorting process, as well as having a few individuals there who excel in this and would be able to answer any questions or concerns. This tends to also be a popular option, as we believe the best way to form connections and really help everyone understand is through word of mouth. This is the easiest and fastest way to answer those questions many are confused about. While these are many different ideas our team can help with, there are many things the town themselves can do as well to help take part in this process.

In addition to our audits, many other towns have their own approach containing numerous different ideas and versions of an audit to help educate the residents. One of these different approaches from ours is that some will do area focused audits. To which they will do smaller sections of areas instead of the whole to get a better read of what areas need more attention to or not. By doing this, they are also able to do many other unique things as well, such as putting gold stars on bins that contain no infractions, or bins that have had improvements and contain less infractions. Some also host community competitions between areas, which not only helps with the process, it also builds a great connection amongst the town. These are all ways that can help bring positivity to the process, many also have bylaw officers do checks once a location has been reported for having multiple and consistent infractions and if severe enough, this can be enforced by the resident being fined by the town for having multiple records of infractions. This would be in line with any kind of bylaws that the town has on waste collection enforcement.

Hopefully with the information guides, the trade shows and all these additional measures done by the towns, we all can work together in action to help decrease the levels of infractions and have more residents participate in the collection throughout the whole year.

Thank you for participating in the GFL Audit of 2024, we look forward to seeing Morinville grow after gaining the information provided above and how the residents do after learning more about the programs and all the things they can help do. As well as a secondary thank you for being so patient in getting the audit report and allowing us to get you all the information together seamlessly.

