

City of Brantford
Sustainability Media
SSHRC IG #2024-00073



CONESTOGA

SOCIAL INNOVATION LAB

City of Brantford Sustainability Media

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Executive Summary

The Brundtland commission has defined the term ‘sustainability’ as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. (Jarvie, 2014)

In 2019, the City of Brantford chose to move forward to meet the needs of all it’s residents by declaring a climate emergency and ensuring that future infrastructure, along with city related projects and services, be addressed within the lens of ‘sustainability’. In actively seeking to promote this message, the city has expressed concern that certain segments of the population may not have noticed these efforts enough to increase their involvement and participation in community activities that relate to sustainability. Specifically, the city wanted to focus on it’s 55+ age population.

This research report highlights key findings and actionable recommendations to enhance the understanding and implementation of sustainability media initiatives within the city directed to the 55+ population.

To proceed, we identified two specific study groups within this population:

1. 55+ age individuals who currently have access to the Internet where they live.
2. 55+ age individuals who have no access to Internet where they live.

We then designed an in-person survey to collect information from participants regarding their awareness and level of participation in City of Brantford sustainability projects and activities. We collected information from 405 city residents during ten weeks of in-person interviews. From those responses, several noticeable trends and conclusions became apparent.

Key Findings:

1. **Lack of Understanding of “Sustainability”:** A majority of the survey respondents did not understand the definition of sustainability, and did not have a clear understanding of what “sustainability” entails.
2. **Low Awareness of City Sustainability Projects:** Most people are not familiar with the city’s sustainability projects and organizations, except for the Green Bin project, which has the highest awareness level among all residents surveyed.
3. **Internet Access and Information:** We discovered individuals without internet access at home, rely on the Brantford Public Library for internet access and city information.
4. **Homelessness:** Homelessness within the City of Brantford is identified as a community issue of great concern by the respondents. According to the United Nations Human Settlements Programme, ‘Homelessness jeopardizes many of the Sustainable Development Goals (and) contributes to rising inequalities ... preventing the growth of sustainable and inclusive cities.’ (UNHSP, 2019)

5. **Importance of providing an organized and understandable message:** Effective organization of data and materials is critical in management of multiple sustainability objectives. Presenting coherent messaging to recipients enables them to know where to find information resources and how to respond to the message call to action.

Based on the data collected, we suggest the City of Brantford adopt the following recommendations:

1. **Unify Sustainability Messages Over All Available Social Media Platforms:** Coordinate postings to regularly send similar messages across every platform. Increase post frequencies and encourage engagement by establishing a more informative dialog with the public via response to posted comments, direct messages and sharing options.
2. **Advance Event Planning and Communication:** All city sustainability events and activities should be announced 3-6 months prior to the event. Provide click-thru front page city website announcements to allow persons to easily find out more information. Develop email lists of persons interested in city sustainability events and information. Partner with local community members via existing social media by reaching out to city neighborhood social media groups who can disperse the message to their followers. Regular updates can also be provided by means of public signs and notices including scannable QR codes that link to more information. Reminder inserts notifying residents of these events should also be placed in monthly city paper mailings, such as: utility bill/property tax bill, throughout the months leading up to the events.
3. **Improve Website Usability and Information Dissemination:** Focus on making the sustainability pages of the City of Brantford website easier to maneuver and understand. Educate the public in a simple, accessible manner by clearly defining what sustainability means. Create easy-to-use city web pages discussing sustainability and sustainable community awareness activities.
4. **Continue to Improve How Users Without Internet Engage with the City of Brantford:** Individuals without internet access in their homes are regularly utilizing public library spaces to obtain City of Brantford information. It is important to acknowledge that the two libraries are critical facilities for these individuals. Along that same line, Brantford should also consider developing engaging and dedicated city notice boards within these libraries and in other public areas, where citizens can view current information on sustainable programming and events.

By assessing the survey findings and implementing recommendation suggestions, the city can improve public understanding of initiatives and enhance public engagement, ultimately fostering a more informed and proactive community of sustainability leaders.

Introduction

Sustainability is of vital concern to the City of Brantford, especially since the city declared a 'Climate Emergency' in 2019 (Brantford Expositor 2019). This Climate Emergency states that Canada has disproportionately contributed to the climate and ecological crises, and that emergency mobilization on an unprecedented scale will be required. Furthermore, the city agrees, in principle, to become a "net-zero carbon community by 2050." (Ruby, 2019)

Since 2019, numerous methods of communication have been used to broadcast the city's sustainability messages to various interest holders. It has been assumed that some forms of communication have been successful, while other forms have not had enough scope, depth and impact needed to communicate vital sustainability messages, especially to older residents.

This research has identified the various forms of sustainability communications routinely used by the City of Brantford (Part 1). It looks at what forms have been effective and what forms have not been effective by conducting personal surveys within the city (Part 2). Finally, it compares the City of Brantford results to other similar sized cities in Canada with respect to successful communication methods used (Part 3).

With limited resources and tight budget constraints, use of effective and efficient communication messaging is vital. Developing innovative and engaging sustainability messaging methods among City of Brantford residents, businesses, schools, and underserved members of the community is vital for inclusion in the City's planning goals and future growth.

Importance of Research

The importance of this sustainable media research is to assist the City of Brantford in better understanding limitations in its present sustainable marketing strategies and to identify areas of improvement for future sustainable messaging. This research will enable Conestoga to help the City of Brantford measure media communication effectiveness, raise sustainability awareness, and create community interest resulting in citizen actions.

Research Objectives

During the data collection phase of our research, we performed a comprehensive evaluation of the City of Brantford's sustainability communication methods, including online media content (i.e.: online media, including but not limited to, online exposure). Search engine presence on sites such as Google and Bing were analyzed, along with city webpages, email communications and text messaging. Additionally, city social media presence on Instagram, Facebook, TikTok, X, and LinkedIn, was also evaluated, along with message sharing opportunities with online citizen community social media groups. Use of city mobile apps was also studied.

In working with Gagan Batra, Brantford's City Manager, Business Support and Sustainability Public Works Commission and Rebecca Szczepanowski, City of Brantford's Climate Change Officer, we reviewed primary media data previously collected from the City of Brantford for comparison. With their help, we were able to be present in the community on several city properties, and at a number of community activities where we collected over 400 personal surveys. Since the city was concerned about its communication to residents who did not have access to the Internet, we conducted many of the surveys at the two City of Brantford Public Libraries.

To further see if there might be data / information from other similar sized communities implementing sustainable media communications, we conducted online Media Content Analysis¹ to identify cities that are successfully adopting similar messaging and programs to their residents. From this assessment we would be able to provide data lists and links to the City of Brantford to conduct further investigations into specific programs that could be of interest. We also provided conclusions for each city we found, assessing what may be specifically making the programs successful among community residents.

Part 1 – Brantford Sustainability Media

Sustainability Media Campaigns

The first step in our research for the City of Brantford was to identify and understand what the city has done in past years to communicate their sustainability plans and activities in the media. Information on past physical and digital media campaigns was provided by the city, and findings were supplemented with an online review of recent campaigns. Through analysis of these media communication efforts, we aimed to better understand what methods may or may not be working for them. Results of this analysis were then compared to the Brantford survey data we collected (see Part 2 for results).

Two recent examples of typical sustainability media campaigns for the city of Brantford are the Clean Brantford Litter Pick Up Event (Spring and Fall 2023, and Spring 2024) and the promotion of the Green Bin Program (September 2023 to March 2024).

Clean Brantford Litter Pick-up Promotional Campaign (Spring/Fall 2023 and Spring 2024)

¹ A Media content analysis is a research method used to systematically examine and interpret media texts and visuals to identify patterns, themes, or biases. (Media Studies 2024)

Clean Brantford is an ongoing City initiative encouraging individual and collective responsibility to help keep our streets and neighbourhoods clean for the betterment of the city.



This campaign included:

- City Sustainability Website, YouTube ads, social media ads, and Google ads.
- Digital billboards placed around the city (Spring 2023 only, number unknown).
- RootsTV in Lynden Park Mall (Spring 2023 only).
- Banner advertisement in the Brantford Expositor (Used for each event, advertising in the free Thursday paper, each of the two weeks before the event).
- Banner advertisement in the BScene publication.
- Printed flyers (approx. 120) distributed to community housing, libraries, Laurier and Conestoga campus buildings and community centres.

Green Bin Promotional Campaign (Sept. 23-March 2024):

The City of Brantford's Green Bin program encourages residents to separate household organic waste from their regular garbage. Green Bin collection takes place with weekly scheduled curb side collection.



This campaign included:

- Social media posts and ads on Facebook, Instagram, Twitter, YouTube, etc.) Posts were both static image ads and video, distributed on social media and Google platforms.
- Video ads on RootsTV at Lynden Park Mall
- Media releases
- Dedicated green bin page on Brantford.ca
- Photo contest on Lets Talk Brantford
- Media City Billboard ads
- Brantford Expositor articles
- Ads in BScene publication
- StreetSeen (Transit Advertising) – partial murals for buses and transit shelters
- Flyers and postcards provided with green bin delivery, mailed water bills and tax bills
- Posters put up at community centres/boards, and in housing units
- Radio ads
- Ads on outdoor billboards

- Booths set up at events such as Laurier Welcome BBQ, Canada Day, Wheels on the Pavement, Children's Water Festival
- Pop up booths around the city at grocery stores, libraries, McDonald's, Lynden Park Mall, Walter Gretzky Golf Course, Farmers Market, etc.
- Ward Meetings/Info sessions

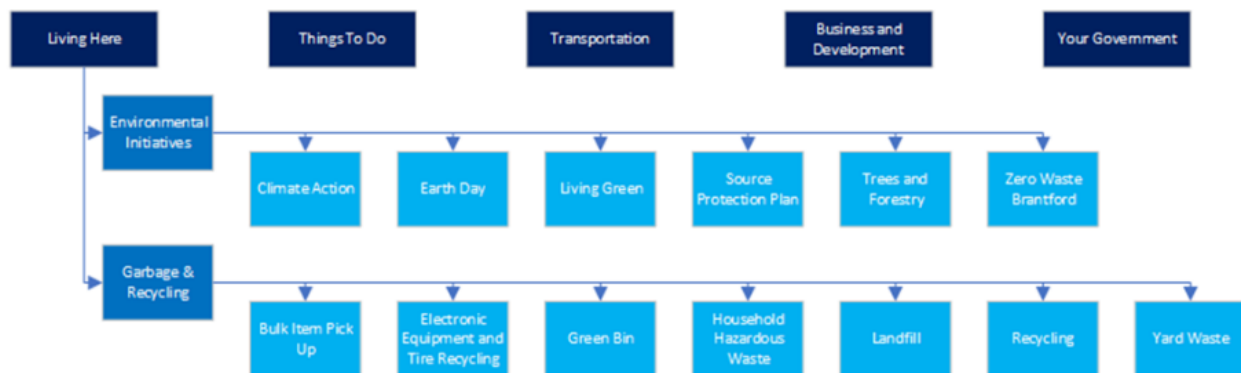
We can see through examples of their media efforts, the City of Brantford clearly has tried to communicate city sustainability efforts, projects and activities through a multitude of media modes. Over twenty-five various forms of media communication were used by the city for each of their campaigns.

Brantford Online Media Review

In addition to the City's physical advertising campaign review, an online media review was also conducted. This review included analysis of the city's website, as well as Facebook, Twitter(X), LinkedIn, Instagram and YouTube platforms

Website Organization Structure:

The City of Brantford website organization is presented below:

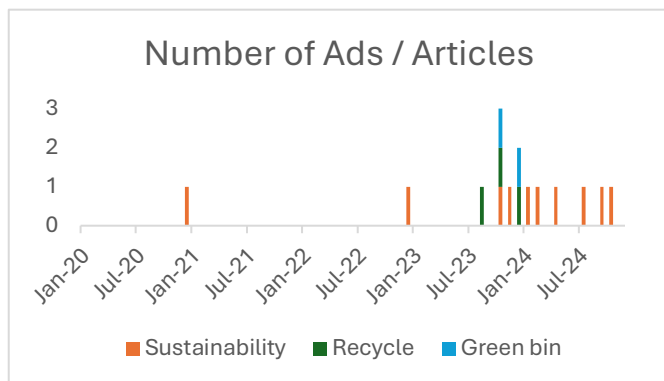


Currently under the "Living Here" heading, the City of Brantford has 'Environmental Initiatives' and 'Garbage & Recycling' as separate webpage sections. Ideally, these might be combined under a single heading like 'Sustainability' to show all the city's efforts in one place.

Under this approach, users must know exactly what they are looking for to find information about the city's sustainability efforts. Designing a clearer and simpler structure would make it easier for everyone to access and search for information

Online / Hard Copy Media:

Within the Brantford Expositor and BScene, Brantford’s two local newspapers, the city publishes independent ads and articles to update residents on city sustainability experts. These publications are distributed to residents in both hard copy print form, and also digital form on their websites.



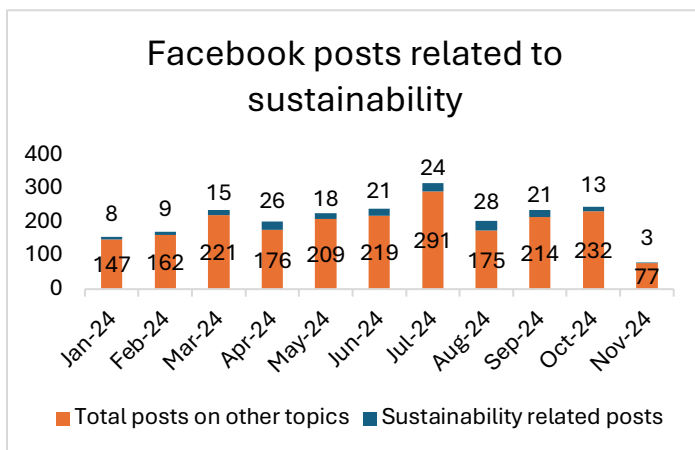
Shown left is the monthly publication analysis for Brantford Expositor keywords “Sustainability”, “Recycle”, and “Green Bin” between January 1, 2020 and November 16, 2024:

NOTE: Only one article covering topics such as "sustainability," "recycling," and "green bin" was run between January 1, 2020, and July 31, 2022. This amount increased as the roll out of the city Green Bin program took place in late

2023 into early 2024.

Social Media Platforms:

Facebook:

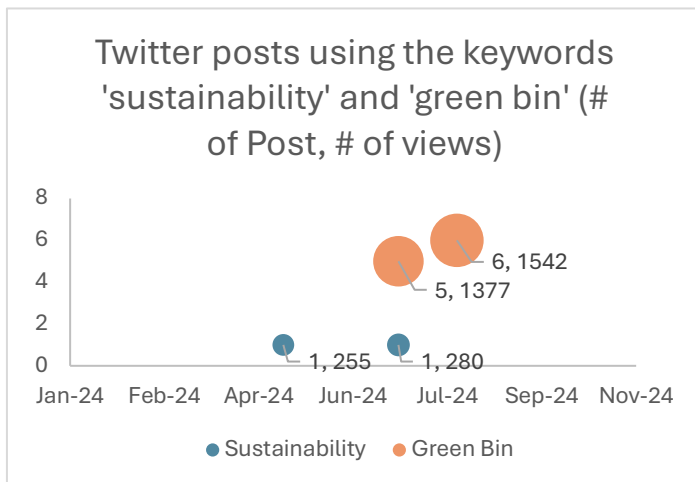


NOTE: The official city Facebook page is active, with multiple posts daily on various topics. An analysis of 2024 from January 1 to November 16 shows that, on average, 5-14% of posts have been related to sustainability.

The Facebook account often repeats content, with some posts shared multiple times. Many posts focused on green bins and water conservation. Other initiatives, such as free tree giveaways and rain barrels, have been mentioned, but not as frequently.

The city could increase the use of keywords like ‘Environment’ or ‘Sustainability’ to show that all these efforts are part of a broader sustainability program. Since the platform has a large reach among residents, it should be used effectively to promote all sustainability initiatives.

Twitter (X):



NOTE: During 2024, the official city Twitter (X) page shows 13 posts (as of November 7) mentioning "sustainability" and "green bin." This is notably below the monthly average of 17 posts, and is based on a projected total of 187 posts made by November 17, 2024. As a result, posts on sustainability account for just 7% of the overall content, highlighting a missed opportunity to emphasize these important topics.

The city's official Twitter (X) account publishes very few posts about sustainability and is not consistent in posting. There are months with no posts at all, and so far, only 13 posts in 2024 have mentioned topics like 'sustainability' and 'green bins.' Engagement is low, with an average of 250-300 views per post. One possible reason is the lack of regular content on sustainability. A second reason is that the lack of consistent posting, and sporadic postings, make it difficult for the platform algorithms to find a regular audience.

To further improve visibility and reach, the city could increase the use of specific hashtags like '#Sustainability' or '#Environment,' or '#GreenBrantford' in every post related to these themes. This would make it easier for readers to connect with and recognize sustainability-related content.

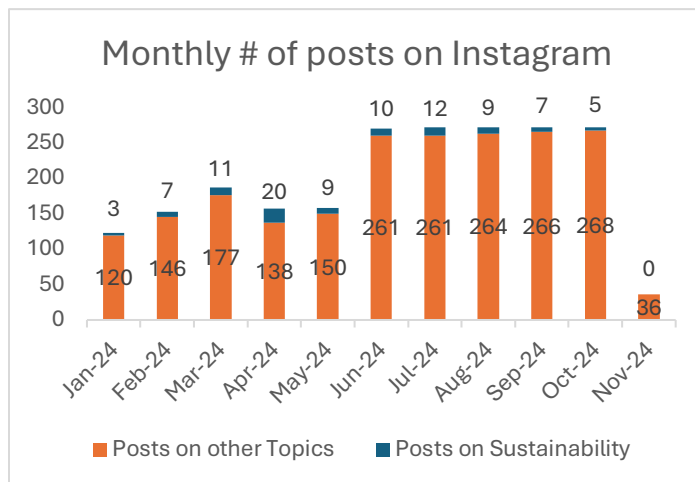
LinkedIn:

There have been zero posts related to sustainability in the last five months, out of a total of 100 posts on other topics.

The city's official LinkedIn account seems to be underused for sustainability communication. The most recent post in 2024 was made in May.

With a follower base of 11,000, the platform has significant potential to raise awareness about the city's sustainability efforts and reach a wider audience. Regular and engaging posts could make better use of this opportunity.

Instagram:

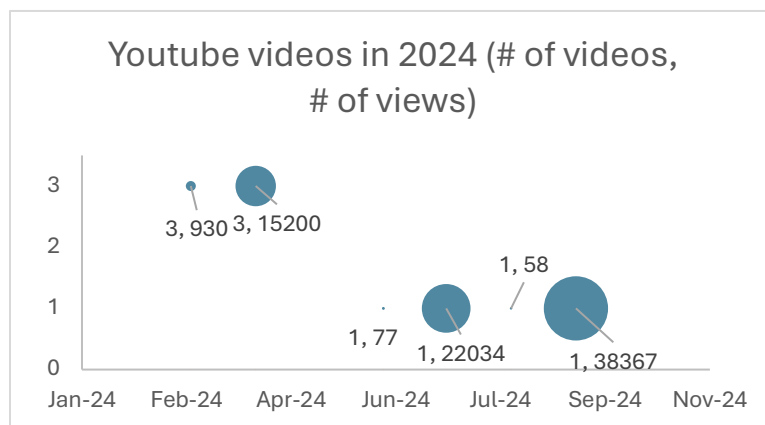


NOTE: The city's official Instagram account has one of the highest posting rates, while the subscription rate remains similar to other platforms. In July 2024, out of a total of 273 posts, only 12 were related to informing residents about sustainability, accounting for just 4% of the content. Assuming a monthly posting rate of 273 posts, the average coverage of sustainability topics was only 2%–13% from January 1 to October 30, 2024.

The city's official Instagram account gives little attention to sustainability topics, with only 2–4% of posts in 2024 covering these themes. While Instagram is used more consistently than other platforms, the focus on sustainability is still low. The posting pattern is also uneven. Some days feature multiple posts on the same content, followed by long gaps with no posts on the topic at all.

A benefit of Instagram is its diverse method of creating and sharing posts. Creating diverse posts with the use of stories, reels, and music to share sustainability messaging, may help to increase followers, while creating more meaningful engagement with more residents and viewers.

YouTube:



NOTE: As of November 16, 2024, 10 videos related to sustainability were published, categorized into "Informative" and "Discussion." The viewership for informative videos was significantly higher, averaging 19,000 views, likely due to their shorter duration, ranging from a few seconds to a few minutes.

Out of 59 total videos published by November 16, 2024, only 14 were informative, with 8 focusing on sustainability. This indicates that sustainability accounted for just 17% of the overall video content.

The city's official account on the platform may be underutilized, and there could be more informative content videos created to raise awareness of city sustainability initiatives. The account primarily shares videos of official discussions or meetings which are lengthy in nature. Given the high number of views of short informative videos, this may indicate a missed opportunity to better inform and engage its audience.

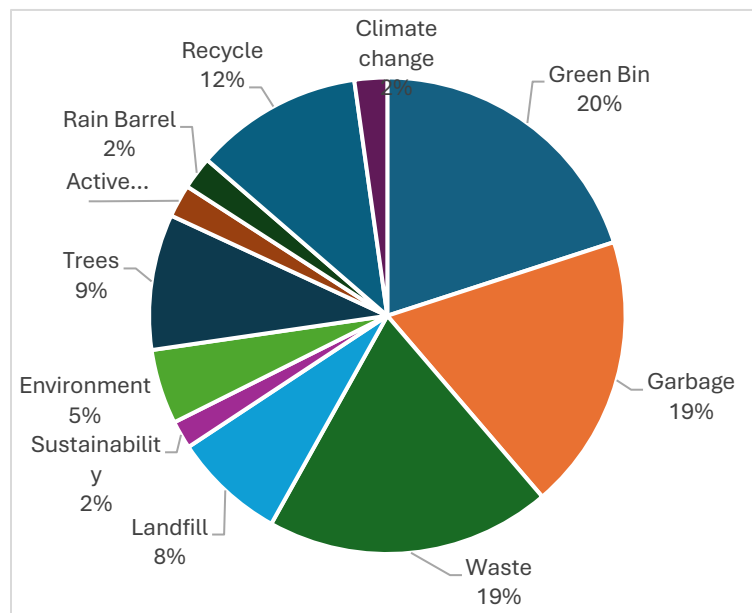
The YouTube platform itself has significant potential for greater impact to users, offering features like YouTube Shorts. These short videos typically attract 15,000 to 40,000 views, highlighting an opportunity to reach a wider audience. The city's decision to disable comments on its videos reduces engagement and may limit the content's reach. Enabling comments for social content is generally recommended to foster interaction and increase visibility.

Key Word Analysis:

An analysis of communication posts across online platforms from June 1, 2024, to November 16, 2024, reveals that the city has primarily focused on keywords such as 'Green Bins,' 'Garbage,' 'Waste,' 'Recycle,' and 'Landfill' in its messaging to residents.

However, it was discovered in our review that the city promotes programs separately; for instance, a Green Bin advertisement does not incorporate broader terms like 'Environment' or 'Sustainability.' Similarly, other initiatives, such as Recycling, Free Tree Giveaways, Landfill Use, or Active Transportation, are advertised without linking them to each other.

The city seems inconsistent in using key sustainability terms across its various social media platforms. While it may be clear from an academic standpoint that these programs fall under broader 'environmental' or 'sustainability' efforts, a layperson may find it difficult to connect specific programs like Green Bins to broader goals, such as the city's emission targets or their relation to overall sustainability.



Summary

The City of Brantford utilizes various methods to communicate with its residents regarding sustainability. While they may consider all sustainability initiatives under one umbrella, it does not consistently present them as such, especially on its website, where the sections 'Environmental Initiatives' and 'Garbage and Recycling' are reported separately. This results in residents failing to connect these efforts under the broader umbrella of sustainability.

The city is clearly proactive in using social media for sustainability outreach and awareness campaigns, however only about 2-14% of overall posts on these platforms focused on and are using the term "sustainability". Given the lack of keywords and cohesive media strategy, city residents receiving the media communication may not understand that the message, activity or project is part of the city's sustainability program. Therefore, a targeted and united campaign approach to communicating these programs across all platforms should help strength the community's awareness of the city's programs.

An evaluation of the city's physical media strategies, such as posters, flyers, and advertisements, is evaluated in Part 2 - Brantford Sustainability Survey.

Part 2 – Brantford Sustainability Survey

The second part of this research involved surveying Brantford residents. From September 29th to December 7, 2025, our research group conducted 405 in-person surveys within the community.

Using target market parameters set by the City of Brantford, individuals over the age of 55 and those without access to Internet connection where they live were targeted. Given this focus, in-person surveys were considered to be the most appropriate in order to allow us to speak directly with the target demographic.

Surveys were conducted at city owned sites, with the coordination assistance of Rebecca Szczepanowski, Climate Change Officer City of Brantford. Sites included; both Brantford Public

Library locations, the local Brantford Farmers Market and several City of Brantford adult activity centers.

The survey asked about each individual's gender, age, city residency, recycling/waste and internet availability. The survey questions also sought to document individual awareness of the city's sustainability efforts, programs and activities. Additionally, it was designed to identify the means by which individuals currently find out about the City's sustainability efforts, and how they would prefer to find out about them. In its concluding question, the survey asked for suggestions/comments about sustainability and the city.

Given the specificity of these questions, surveyors found that throughout the survey period, many individuals over the age of 55 asked the surveyors to define the term "sustainability." This may reflect an overall lack of awareness of sustainability in general which might be targeted with another study or through the City's communication efforts.

Through the tabulation of these surveys, and the analysis of this report, we hope that a review of these findings will reinforce the City's need for a thoughtful, engaging redesign of its sustainability communication efforts.

Demographics Section

Gender and Age:

The total survey response demographics consisted of 41% male and 59% female. 89% of the surveys were individuals over the age of 55. 97% of respondents live within the Brantford area.

Access to internet:

To specifically targeted the requested demographic of those who do not have an Internet connection where they lived the survey found of the surveyed group, 10% or 356 of the respondents fell into this category.

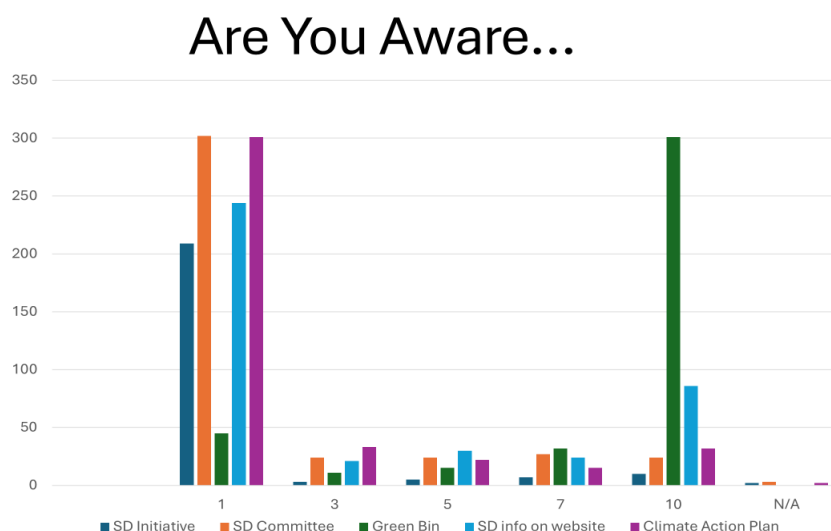
Of this subset, "The majority" stated the main reason they had no Internet where they live was the cost of service. They noted the public library as convenient, available and free, therefore satisfying their Internet needs. In addition, information posted in the library and other community locations helped provide sustainability and city information.

Waste disposal methods:

From the total demographic group we learned the following:

- 96% presently recycled where they lived
- 68% indicated that they have dropped off waste at the Brantford Mohawk Street Landfill.

Survey Questions - 'Are you Aware?': Gaging the Awareness Level of Respondents*



**On a scale of 1 – 10, with 10 being the highest*

To ascertain the level of awareness of Brantford's sustainability projects and efforts, we asked the following questions:

- How aware are you that the City of Brantford has a Sustainability Initiative Program?
- How aware are you that the City of Brantford has a Sustainability Committee?
- How aware are you that the City of Brantford has a Green Bin Program?
- How aware are you that the City of Brantford has Sustainability information on their website?
- Are you familiar with the City of Brantford's Climate Action Plan?

As shown in the chart above entitled **ARE YOU AWARE**, outside of having knowledge of the Green Bin program, where 74% of respondents answered at the highest level 10 for awareness, it is apparent that many city residents within the surveyed demographic have little awareness of City of Brantford sustainability actions. One anomaly to note is the awareness that every household resident of Brantford received green bins from the city in Fall 2023. The specific awareness level of this could be due to the act of physically receiving the bins.

The second highest awareness level by residents was knowing that the city had sustainability information on their website, where 21% of respondents answered at the highest level 10 for awareness. Whether the respondents have gone to the city's website for sustainability information was not asked. Additional surveys might be conducted to determine this variable.

Looking at the results through the lens of lowest levels of ranking, awareness of Brantford's sustainability committee (75% answering at the lowest level 1) and awareness of Brantford's

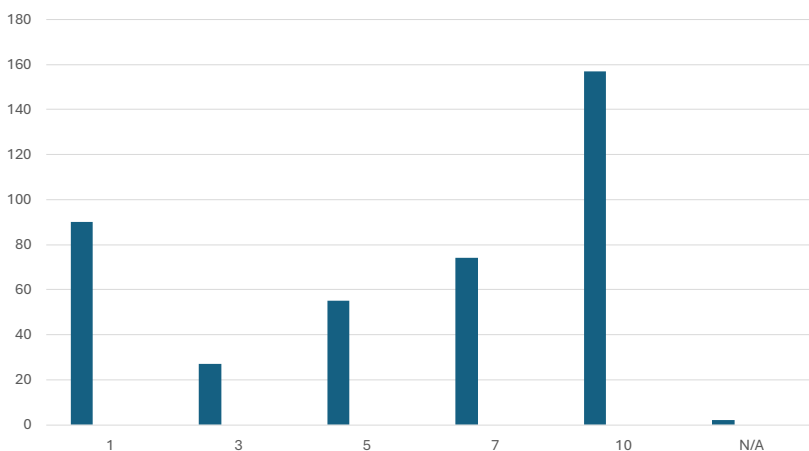
climate action plan (74% answering at the lowest level 1), are several facts which should be noted.

The Sustainability committee, ESPAC, does not promote committee initiatives or discussions other than posting meeting details on the City's calendar. However, the Climate Plan is visibly posted on the City's website, and details of the plan have been regularly reported in the Brantford Expositor since its adoption in 2019/2020. Based on the results of this question, it seems using the City website and Brantford Expositor to increase awareness of the Climate Plan has not made an impact.

With respect to this question, it should also be noted there was no statistical difference in answers between individuals without internet access and other respondents.

Survey Questions - 'Programming Awareness:' Determining Respondent Awareness Levels of Sustainable Programming/Events*

Awareness Of the City's Earth Day, Citizen Litter Clean-ups, Free Tree Giveaway, Community Tree Planting Events.



****On a scale of 1 – 10, with 10 being the highest***

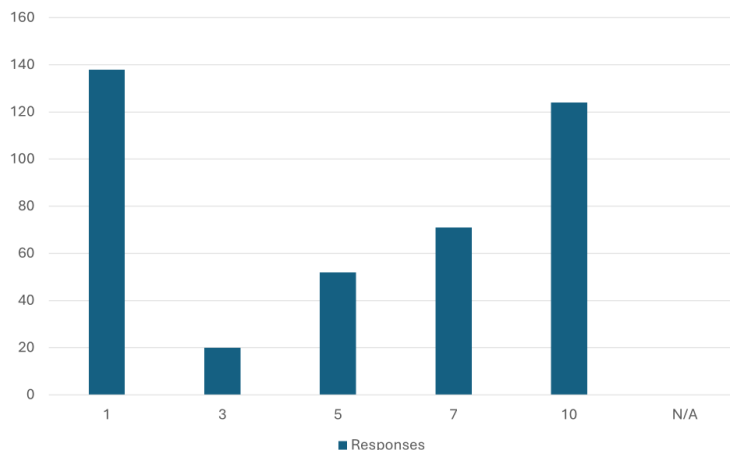
The survey next addressed public awareness of Brantford's Earth Day Celebration, Citizen Litter Clean-ups, Free Tree Giveaway and Community Tree Planting Events.

It can be noted from the results, over 50% or 286 respondents answered at Level 5 or higher indicating they had at least heard of the four mentioned sustainable events mentioned in this question. These events have been promoted by various communication methods; on Brantford's

city website, in print form through posters and the media, and via city social media pages. Information flyers in city bills, posters for the Clean Brantford Litter Pick Up Promotional Campaign, and the Green Bin rollout campaign, have also been widely distributed in the community.

With respect to this question, it should be noted there was no statistical difference in answers between individuals without internet access and other respondents.

Are you involved in any sustainability programs such as Rain Barrel, Climate Action at Home, Green Bin or using Active Transportation etc?



****On a scale of 1 – 10, with 10 being the highest***

In asking if the respondents were personally involved in using the mentioned sustainability programs, 34% responded their personal involvement was at Level 1 (Low), and 31% was at Level 10 (High). Extreme involvement or lack of involvement on both ends of the spectrum like this could provide insight into the positive or negative response to the type of message delivered on these programs.

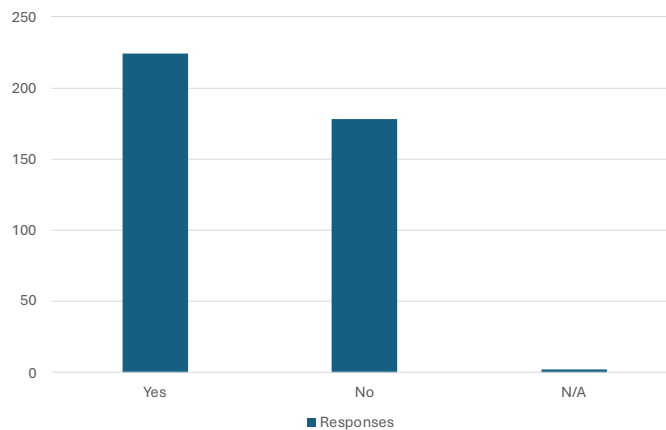
Overall, 66% of respondents indicated there was some involvement with these sustainability programs. Looking at these results in this manner means that although respondents may be hearing the message, it may not have been meaningful enough to get them to understand the importance, or to care enough to increase their participation.

Since there were not specific follow-ups to this question included in this survey to provide more depth, future research may want to delve into the specific programs and the reasons behind the level of resident interest or involvement.

With respect to this question, it should be noted there was no statistical difference in answers between individuals without internet access and other respondents.

Survey Question – Hearing the Message: Addressing If and How Residents Hear the City of Brantford’s Sustainability Messaging

Have you ever heard anything regarding the City of Brantford and Sustainability

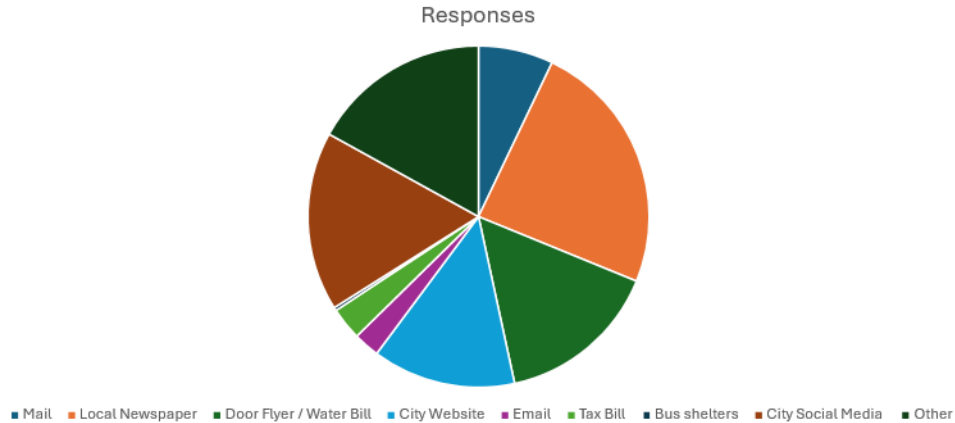


The majority of respondents (224) indicated that they have heard about the City of Brantford and Sustainability. Not defining the source of the information allowed the respondents to indicate that they have heard about both regardless of the source.

A large number (178) however, have not heard anything about either, which could mean that messaging has been ignored, not understood, or not delivered in a manner that recipients would be able to receive.

With respect to this question, it should be noted there was no statistical difference in answers between individuals without internet access and other respondents.

How did you hear about what the City of Brantford is doing about sustainability?



Respondent's top single choice for how they have received information in the past about the City of Brantford sustainability program was the local newspaper, the Brantford Expositor (24%).

Traditionally this has been a major source of information throughout the community. However, it is a known fact that newspaper readership among all age demographics has been in decline across the globe in the past years, and continues to fall as more digital options become available.

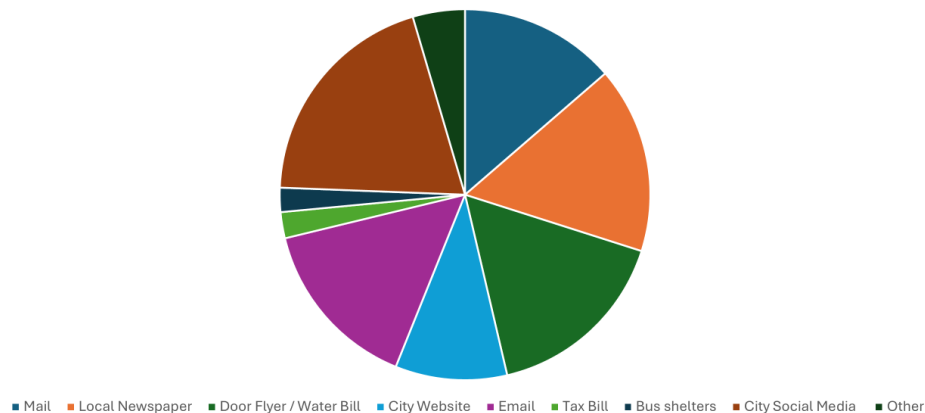
This survey demographic was aimed at aged 55+ adults, which, depending on a respondent's exact age, could be a group that traditionally may still be comfortable with getting news in that method. It is important to note that online methods of receiving information are increasing, including the use of social media (17%), city website (17%), and email (2%) which means the City may want to look further into digital communication, as technology use among an older population is not the barrier it may have been in the past.

Other past methods of receiving information have been physical receipt of information; flyers through mail, on front doors, or included in water bills/tax bills (21%). This more personal form of communication allows a reader to absorb and research for more information on their own terms.

Other methods (17%) included receiving information mainly from friends and family of the respondents. Although it might be nice to receive information from friends and family, the timelessness and accuracy may not be very efficient. The information received may be given with personal opinions and the habits of the sender attached, leading the receiver to make decisions that may not necessarily be based on their own opinion, but on the opinion of others in their personal network.

For this question It should be noted that individuals that do not have internet access indicated public flyers / posters in public spaces like the libraries, community centres, bus shelters and buses were their main sources for information.

How would you like to receive information about the City of Brantford sustainability program?



Respondents' top choice for how they wanted to receive information about the City of Brantford's sustainability program was through social media (20%). Even though the demographic group for this study is over the age of 55 +, social media appears to reach this group on a daily basis and is their preferred method of viewing.

Combined with receiving email notices (15%) and information from the city's website (10%), 45% of respondents choose digital methods as the means of obtaining sustainability information.

Given this interest in a diversity of method receipt, the city may want to explore a multi-pronged approach to sharing sustainability programming via digital platforms.

The second preferred method of receiving information is the physical receipt of the information of flyers through mail, on front doors, or included in water bills or tax bills (32%). As discussed in previous questions, the receipt of physical messaging allows residents the chance to review this information at their own pace. This is more of a direct 'in your face' method which if messaged properly for the 55+ demographic by using legible fonts, easily understandable instructions, and clear images or directions, could lead to more positive interaction with city sustainability initiatives.

Although newspaper was the highest method for respondents to receive information, the preferred method of newspapers was only 16%. The city may want to look at making sure news stories are digitally linked within their social media posts or web pages, or plan for social media 'news' on a regular schedule so that this demographic will become used to seeing stories and information regularly, and their viewing algorithms will adjust to accommodate these posts.

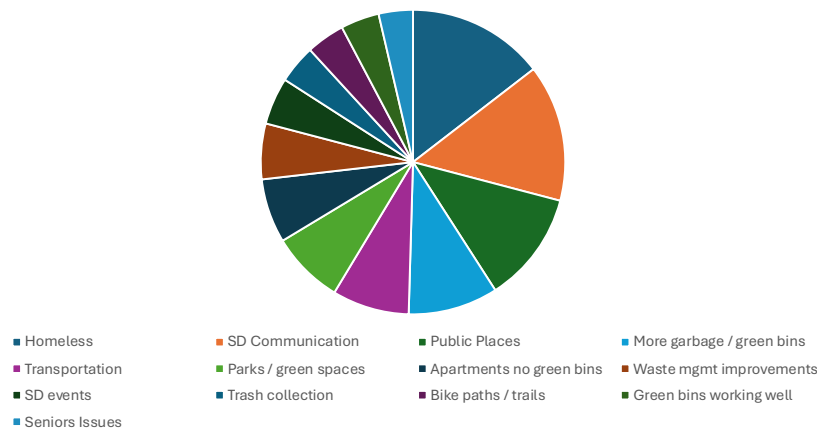
Other methods (5%) included receiving information mainly from friends and family of the respondents. Although it might be nice to receive information from friends and family the

timelessness and accuracy may not be very efficient, and as indicated in the previous section, friends or family members can have a great deal of influence over the actions of this demographic, depending on the existing opinions of the sender. The City of Brantford may also want to work in tandem with messaging sent out to all citizens, since impressions that are made among the public of existing problems or new plans could help or hinder recipient processing.

With respect to this question, it should be noted that individuals without internet access indicated a higher than average response in receiving information from libraries, community centres, buses shelters and buses.

Survey Question – Future Actions

Are there any measures you feel that the City of Brantford should take to be more sustainable?



The survey final question gave residents an opportunity to state their opinion(s) on any measures they felt the City of Brantford should take to be more sustainable, or about their concerns for the city in general. Comments ranged from short answer to in-depth concerns, covering many categories within and outside of the scope of the questions asked in this survey. Topics of concern/interest have been outlined below in highest to lowest rank. These are issues that the City of Brantford may want to look into or address with future research or community outreach.

- 32 / 15% Homelessness issues
- 32 / 15% SD Communication / training
- 26 / 12% Public places – clean up
- 21 / 10% More Garbage / Green bins Downtown
- 18 / 8% Transportation issues / Bus / bike paths / seniors
- 17 / 8% Parks / Green Spaces / trees
- 15 / 7% Apartments – to use green bins
- 13 / 6% Waste improvements - medical waste, e-waste(5), plastic(7)
- 11 / 5% SD events more

- 9 / 4% Trash collection issues
- 9 / 4% More bike paths and trails
- 9 / 4% Green Bin working well
- 8 / 4% Seniors homelessness / communication / accessibility / help with waste

Part 3 - Comparable Canadian Cities

To better understand the City of Brantford's sustainability media campaign effectiveness, this report sought to understand sustainability media campaigns of similar Canadian cities. This included the cities of Cambridge, Ontario, Lethbridge, Alberta, Prince George, British Columbia, and St. Catharines, Ontario. Each city was chosen for their comparable population size and comparable focus on sustainability efforts within their community. This section looks at each of their activities and identifies the type of media used to promote their sustainability efforts. Each is then compared to similar City of Brantford data regarding activities and promotions.

1. Cambridge, Ontario

The City of Cambridge is located in the Regional Municipality of Waterloo, Ontario, Canada. As of the 2021 census, the city had a population of 138,479. Along with Kitchener and Waterloo, Cambridge is one of the three core cities of Canada's tenth-largest metropolitan area.

This report provides a comprehensive overview of Cambridge's sustainability initiatives and their contribution to addressing climate resilience, waste management, and sustainable development.

Like the city of Brantford in 2019, the City of Cambridge declared a climate emergency (Resolution 19-230 to 232), committing to a bold strategy to combat climate change. The City's primary objective is to achieve an 80% reduction in greenhouse gas (GHG) emissions by 2050 compared to 2010 levels. Interim targets include a 50% reduction by 2030, aligning with regional and international climate action goals.

Cambridge integrates the 'Planet, People, and Profit' approach, known in the industry as 'triple bottom line', into its sustainability framework, prioritizing ecological, health and social well-being, and economic growth. Their vision integrates environmental stewardship with social and economic development, guided by their Climate Adaptation Plan, Stormwater Master Plan, and Urban Forest Plan, among others.

Sustainability Media Campaigns

Examples of City of Cambridge campaigns include:

- **Environmental Planning and Conservation** - Environmental planning to protect and enhance local ecosystems while supporting sustainable urban development.

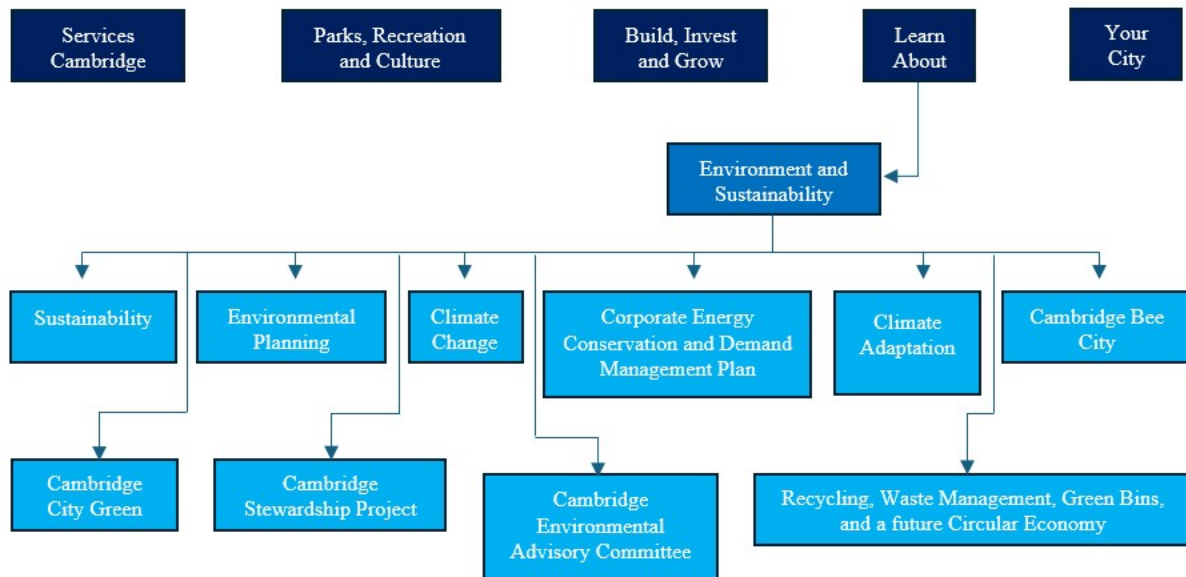
- **Sub-watersheds Studies** - Critical ecological zones are identified and safeguarded through integrated watershed management strategies.
- **Contaminated Sites Grant Program** - Provides a grant of up to 100% of restoration costs for new developments on restored properties in the core areas.
- **Urban Forest Plan** - Designed to protect and enhance the city's 27% tree canopy cover.
- **Tree Canopy Mapping** – An online tool that provides residents access to data on their street's trees and promotes community participation in urban forestry initiatives.
- **TransformWR Strategy** - Community-based vision for climate action.
- **Stormwater Management System** - Combines lot-level controls (rain barrels), conveyance methods (sewers, pipes), and stormwater management ponds to mitigate flooding and improve water quality.
- **Energy Conservation Demand Management (ECDM) Plan** - Identification of the cornerstone of it's corporate Green House Gass (GHG) reduction strategy.
- **Energy Efficiency Improvements** – Program designed to retrofit municipal buildings with high-efficiency heating systems and replace traditional streetlights with LED systems.
- **Fleet Electrification** – Project that transitioned city-owned vehicles to electric or hybrid alternatives.
- **Cambridge as a Bee City** - Established pollinator gardens and hosted the annual pollinator awareness event, "Bee City Seedy Saturday".

Cambridge Online Media Review

There is an active media presence for the city and it's initiatives, with platforms including the City of Cambridge website, online/hardcopy media articles, Facebook page, as well as Twitter(X), LinkedIn, Instagram and YouTube platforms.

Website Organization Structure

The City of Cambridge website organization is presented below:



The Cambridge website places significant emphasis on the keyword ‘Sustainability’. This focus is evident in the flowchart above, where all sustainability initiatives and related information are consolidated under the single heading ‘Environment and Sustainability’. Additionally, the website further breaks down these initiatives into detailed sections.

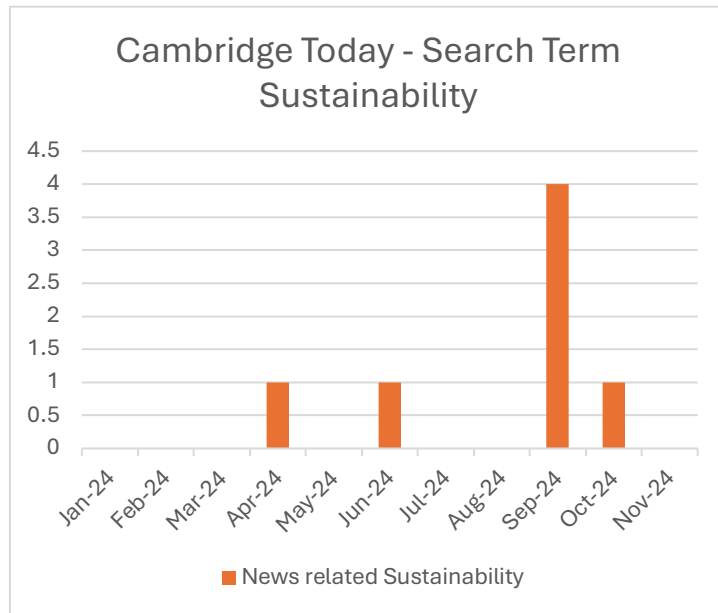
While all relevant information is grouped together on one webpage to provide a comprehensive overview of the city's environmental and sustainability efforts, pinpointing the exact location of specific programs remains challenging, as it not easy to navigate this information once within this section of their city website.

Online /Hard Copy Media Information Sources:

Cambridge Today (www.cambridgetoday.ca):

Cambridge Today is a print newspaper publication published primarily for area residents containing independent articles to update readers on what the City is doing with respect to sustainability issues and other City-wide sustainable events. Their website offers a separate section where the city and the public can post upcoming events, including those creating awareness about sustainability.

Shown below is the monthly publication analysis for ‘Cambridge Today’ using the keyword “Sustainability”, between January 1, 2024 and November 16, 2024:



Our study noted that most of the information on large scale initiatives, i.e., search terms such as ‘green bins’, are communicated as Region of Waterloo initiatives. It should also be noted that our research found there are several other similar news sources where information is being shared with the public. Articles, informational advertising, and press releases can be found in ‘The Record’ as well as ‘Cambridge Times’, and some information is also passed along to local radio and television stations covering the area. Details on these promotion efforts have not been provided in this research and may be something the City might choose to analyse in the future.

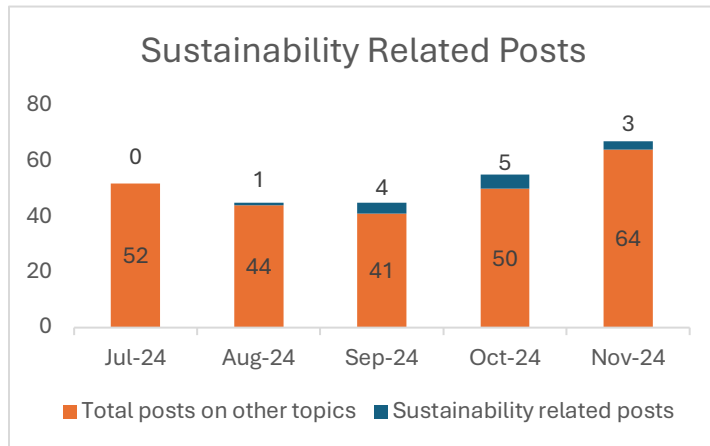
Social Media

Facebook:

The research data charts show that the city’s official Facebook account from July to November 2024 shows 2-9% postings related to sustainability topics. Most posts on their Facebook platform are not sustainability related.

Note: Orange in table = Facebook posts regarding other topics.

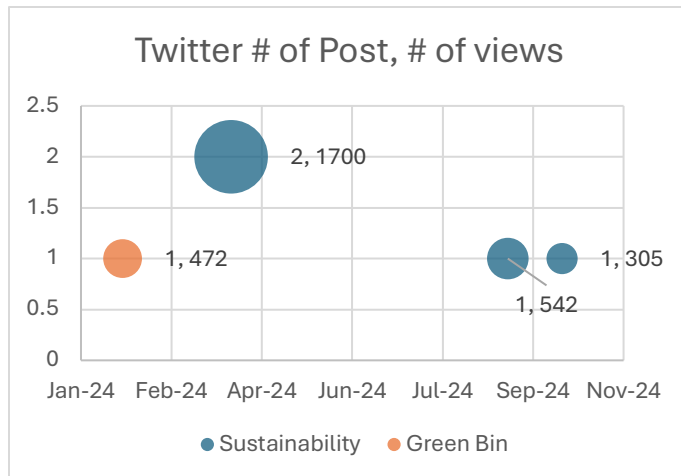
An example of a Facebook post regarding ‘Sustainability’ is also shown below:



[Photograph]. City of Cambridge. (n.d.). <https://www.facebook.com/photo/?fbid=974015708097992&set=a.299594698873433>

Twitter (X):

The official Twitter(X) page for the City of Cambridge is used regularly to promote and create awareness of city endeavours among its residents. To highlight sustainability events, keywords such as “sustainability” are used throughout. An example of a Twitter (X) post is shown below.

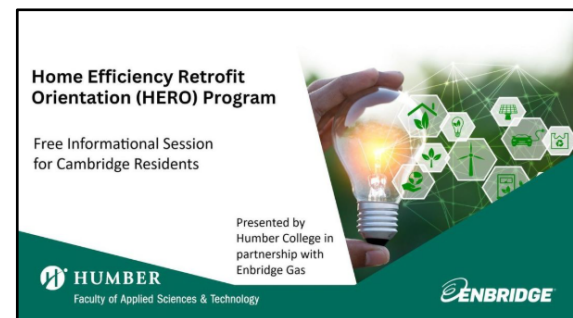
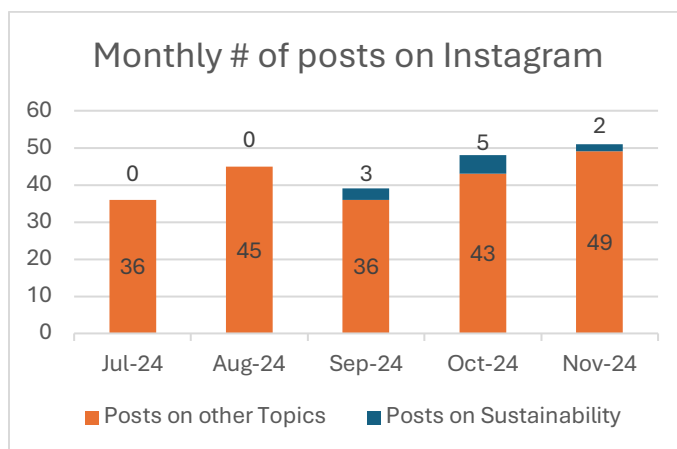


Linked In:

The City of Cambridge Linked In account shows there have been no posts shared related to sustainability or sustainability events over the period from January – November 2024.

Instagram:

Analysis of the city's Instagram account from July through November 2024, shows that 4-10% of its posts were ones relating to sustainability topics. An example of a typical post is shown below.

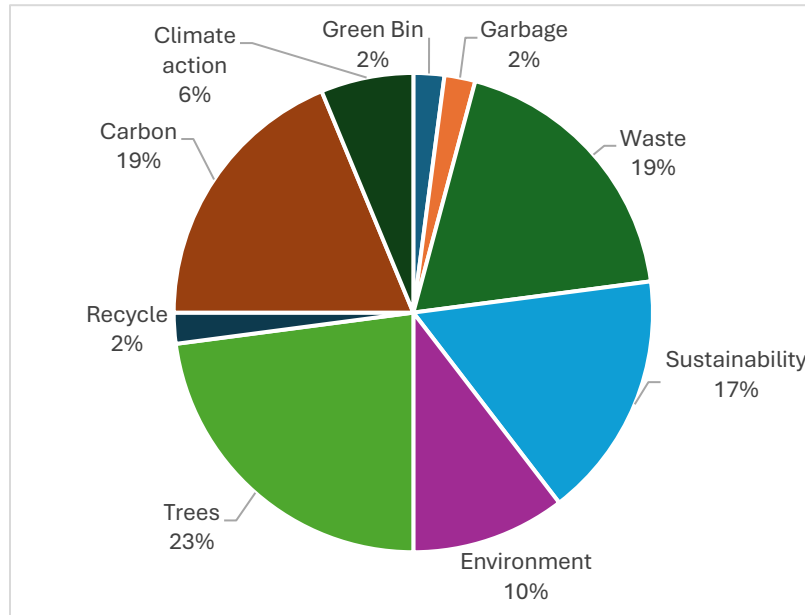


[Photograph]. City of Cambridge. (n.d.). Instagram. <https://www.instagram.com/p/DBtcKrgJ0hN/>

YouTube:

There have been zero videos related to sustainability awareness by the City of Cambridge on YouTube. No additional research on city YouTube videos was conducted.

Keyword Analysis:



Analysis of communication posts across all platforms listed above from June 1, 2024, to November 22, 2024, reveals that the city has primarily focused on keywords such as 'Sustainability,' 'Tree Plantation,' 'Waste,' 'Carbon Emission,' and 'Climate Action' in its messaging to residents.

It should also be noted that many initiatives like Green Bin, Blue Bin are advertised by the Region of Waterloo. Research on regional initiatives in this research

Summary

Overall, the City of Cambridge has shown consistency and proactiveness by using specific common keywords in its communication to the public, such as Sustainability, Trees, Carbon, Environment, and Waste. This emphasis is also reflected in the design of its website, which clearly classifies its initiatives under the heading 'Environment and Sustainability.'

Cambridge's posting frequency on social media outlets is significantly lower when compared to Brantford, and they also have underused social media platforms, such as LinkedIn and YouTube. One major advantage Cambridge has over the city of Brantford is its inclusion within the Regional Municipality of Waterloo, which includes two other sizable cities of Kitchener and Waterloo. Many campaigns, such as Green Bin awareness, are managed by the Region of Waterloo. This allows Cambridge to rely on the Region of Waterloo's broader communication strategies.

An interesting fact that our research uncovered is that the city of Cambridge promotes a great number of private events and seems to rely on the public to promote sustainability. For example, Community Clean Up or Walks and Planting projects are promoted through public media channels under the guise of raising community awareness and call to action. From our research, it is unclear whether these events are partially or fully funded by city organizers, or if these are grass roots efforts by business and citizens organized for the good of the community. The City of Brantford might choose to conduct future research into such partnering with similar sorts of stakeholders for a broader reach to its public message.

Finally, a key takeaway from the analysis of Cambridge's sustainability strategies would be to compile all its initiatives under a single webpage umbrella of Sustainability in its website directory to allow easier search and access.

2. Lethbridge, Alberta

Lethbridge is a city in the province of Alberta, Canada. The city has a population of 106,550 as of the 2023 municipal census, Lethbridge is Alberta's third-largest city by population and area after Calgary and Edmonton.

This report provides a comprehensive overview of Lethbridge's sustainability initiatives and their contribution to addressing climate resilience, waste management, and sustainable development.

Overview of Lethbridge's Sustainability Vision

Lethbridge, Alberta, emphasizes community engagement and the EMPOWER framework: Sustainability, Energy, Air, Land, Water, and Waste. The city fosters sustainable behaviours and connects residents to local resources for environmental stewardship through initiatives like Environment Lethbridge and the Wasteless Platform.

Key Sustainability Initiatives:

Climate Adaptation and Resilience

Lethbridge employs a multi-pronged approach to build resilience against climate risks, while protecting its natural resources. Key Strategies in this approach include:

- Green Infrastructure: Implementation of rain gardens, bioswales, and stormwater management systems to address flooding risks and maintain ecosystem health.
- Adaptation Plans: Department-specific climate action plans to strengthen utilities and infrastructure against extreme weather events.
- Disaster Preparedness: Focus on mitigating wildfire risks, urban heat islands, and vulnerabilities to extreme rainfall.

The city also collaborates with local organizations, such as the Helen Schuler Nature Centre, to enhance climate education and increase public awareness.

Transition to Zero-Emission Transit

The Government of Canada and the City of Lethbridge are currently investing \$134,813 jointly to develop an Implementation Roadmap for transitioning the city's transit fleet to zero-emission buses.

The project is funded through the Zero Emission Transit Fund, with \$107,850 contributed by the federal government and \$26,963 by the City of Lethbridge. Key project objectives include:

- Assessing benefits, risks, and constraints of transitioning to net-zero buses.
- Reducing greenhouse gas emissions and supporting sustainable energy use.
- Enhancing public transit infrastructure to offer affordable, efficient, and environmentally friendly transportation options.

The initiative aligns with Canada's national climate plan, supporting the transition to cleaner public transit and advancing long-term sustainability goals.

Solar Energy and Micro-Generation

Lethbridge promotes solar energy adoption to reduce fossil fuel reliance and foster sustainability. Residents and businesses can install solar systems through two streamlined application processes: one for homeowners and retailers and another for certified contractors. Key requirements include an Interconnection Agreement, Canadian-approved solar modules, and detailed system specifications. Necessary permits, such as Development, Electrical, and Building permits, ensure compliance with safety and city standards. These initiatives also support solar carport installations, aligning with Lethbridge's goal of expanding renewable energy and enhancing community sustainability.

Wasteless Initiative and Waste Reduction Goals

The Wasteless Initiative promotes sustainable practices by providing tips and resources to reduce food, textile, and plastic waste. Key points to this initiative include:

- Food Waste Reduction: Provides guidance on meal planning, proper food storage, and composting.
- Textile Waste Reduction: Promotes repairing, reusing, and support for second-hand shops.
- Plastic Waste Reduction: Encourages use of reusable bags, containers, and eco-friendly alternatives.

The goals of this initiative align with the Business Waste Diversion Strategy, targeting 45% commercial waste diversion by 2030, and advances circular economy objectives by connecting residents to recycling and repair services.

Energy Efficiency and Green Infrastructure

The Energy Conservation Master Plan promotes the following:

- Emphasizes emission reductions across municipal operations.

- Transitioning of municipal fleets to electric and hybrid vehicles.
- Increasing renewable energy installations at municipal facilities.
- Promotes sustainable energy use and contributes to carbon reduction.

Land and Water Stewardship

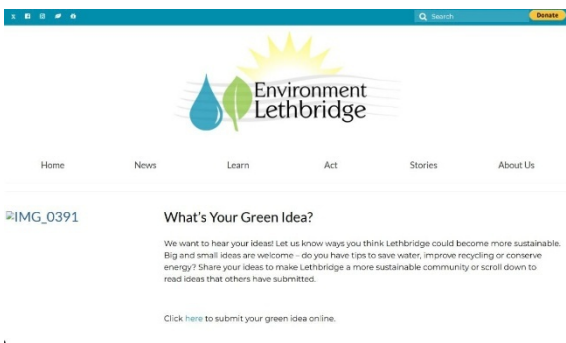
Guided by the Municipal Development Plan, the city focuses on:

- Protecting natural habitats and increasing urban forest cover.
- Preserving green spaces and ensuring sustainable land use practices.
- Using stormwater management techniques to protect local watersheds.

Communication Platforms

Environment Lethbridge (www.environmentlethbridge.ca)

- **Central Platform:** Provides tools and information for waste reduction, energy savings, and sustainable living in one specific online resource location.
<https://environmentlethbridge.ca/>
- **Green Idea Feature:** Residents can submit ideas to improve the city's environmental health, encouraging a collaborative approach to sustainability.
<https://environmentlethbridge.ca/connect/>

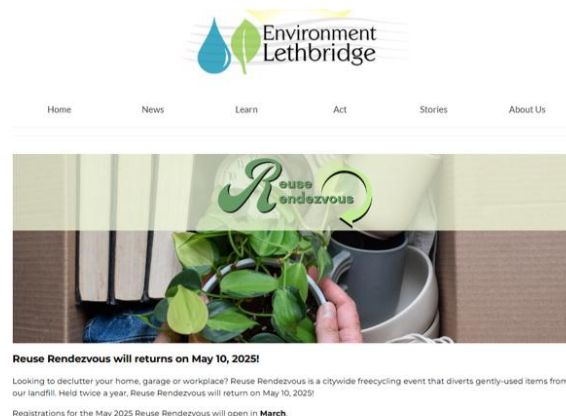


Public Education and Wasteless Platform

- Educational Campaigns: Teach residents practical ways to reduce waste and consumption, fostering a culture of sustainability.
- Flyers: The city also sends out flyers regarding the events and programs being conducted in the city towards environmental sustainability. (See Exhibit 5.4)
- Reuse Rendezvous Events: Encourage repurposing items to reduce waste.
<https://environmentlethbridge.ca/reuse/>

Wasteless Platform Focus Areas:

Focus Area	Description
Plastic Waste	Promotes reusable alternatives and sustainable shopping practices.
Textile Waste	Encourages repairing clothes and mindful purchasing, as well as supporting second-hand.
Food Waste	Provides resources for meal planning, composting, and reducing organic waste.



Environment Week Celebration

Environment Week in Lethbridge engages residents in sustainability through daily themes like Active Transportation Monday and Green Energy Thursday. Activities include workshops, nature walks, Reuse Rendezvous, and interactive tools like Environment Week Bingo where participants can learn more about waste reduction, water conservation, and eco-friendly habits. This week fosters community action and environmental awareness, promoting a greener Lethbridge.

Multi-Channel Communication:

Newsletters and News Feeds

Lethbridge actively engages its community through newsletters and an online news feed managed by Environment Lethbridge. Regular newsletters highlight sustainability programs, local events like Environment Week and Reuse Rendezvous, and practical tips for waste reduction and energy efficiency. The online news feed offers updates on initiatives, community profiles, and resources for residents to stay informed and involved in environmental stewardship efforts. This approach ensures transparent communication and encourages active participation in the city's sustainability goals.

Green Your Everyday

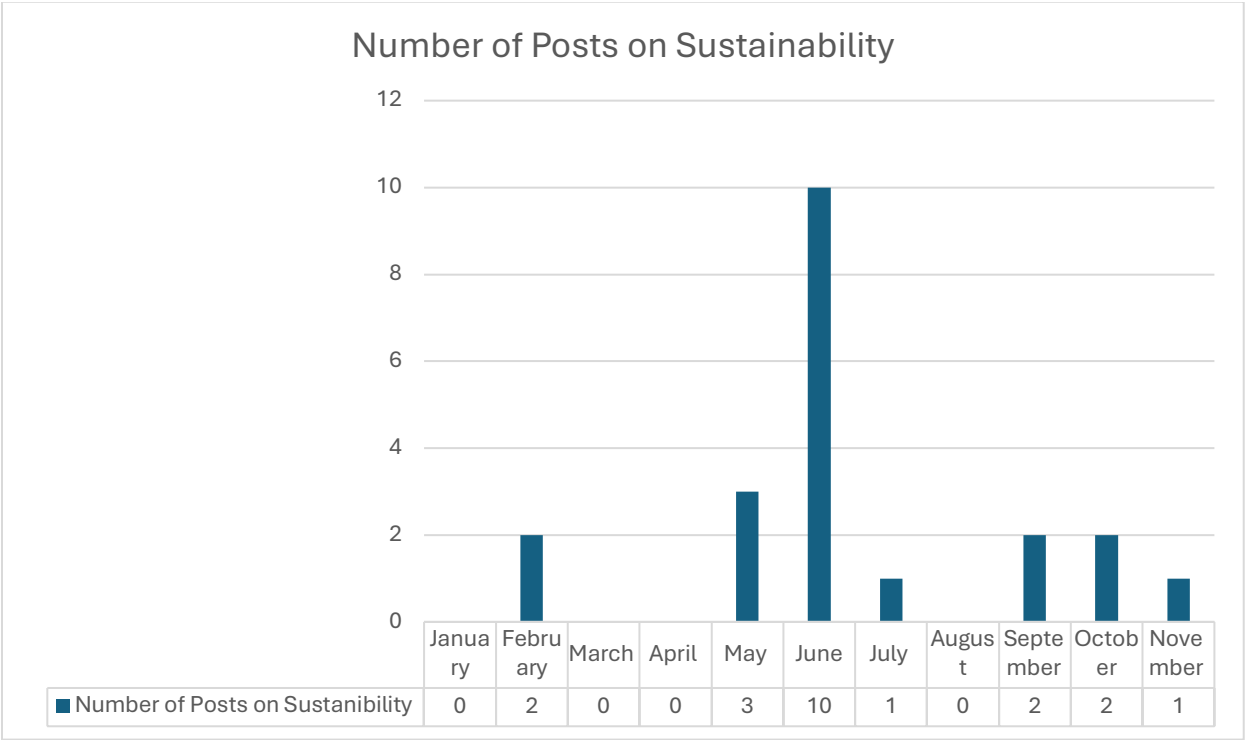
GreenYourEveryday, a project by Environment Lethbridge, offers practical advice and resources to help individuals adopt a sustainable lifestyle. The website provides tips on waste reduction, energy conservation, and eco-friendly living, along with guidance for integrating sustainability into

daily routines. By promoting community-driven environmental initiatives, GreenYourEveryday empowers residents with actionable solutions for creating a greener future.

Social Media Platforms:

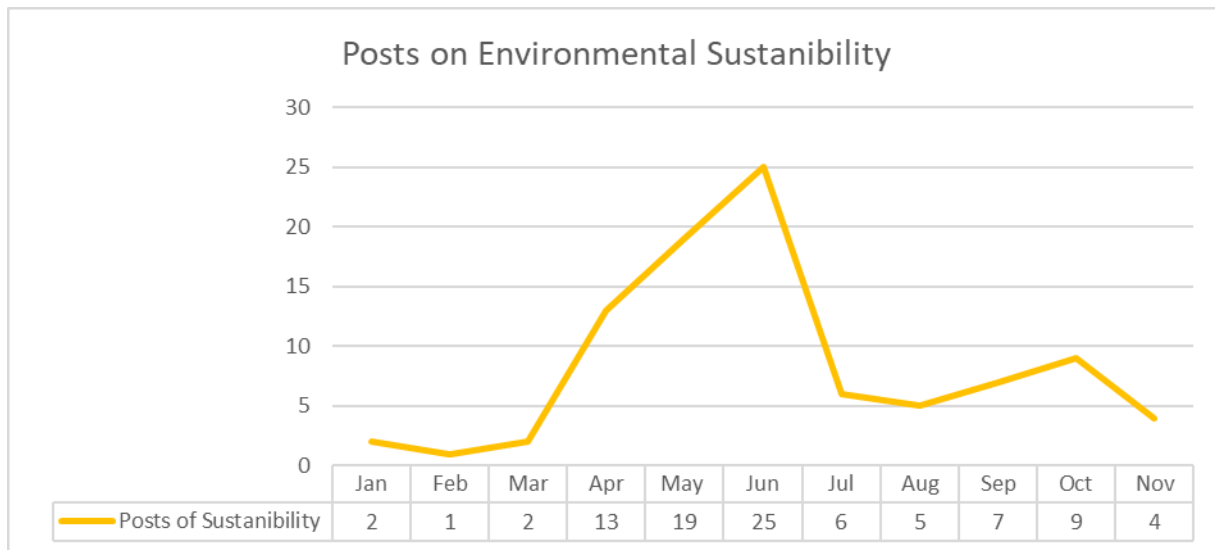
Instagram:

In 2024, sustainability-related Instagram posts showed inconsistent activity, with no posts in January, March, April, and August, and minimal engagement in most other months. The peak in June, with 10 posts, likely tied to Environment Week, highlights the potential for event-driven content to boost visibility. However, missed opportunities during key months, such as Earth Day in April, suggest the need for a more consistent posting strategy. Regular content aligned with global sustainability events, combined with diversified formats and data-driven planning, could enhance engagement and ensure continuous audience interaction throughout the year.



Facebook:

In 2024, Lethbridge actively used Facebook to promote sustainability, with peak posts in April (13), May (19), and June (25), aligning with key events like Environment Week and water conservation. Themes included climate action, solar energy, and active transport. Consistent posting ensures strong engagement, but quieter months like January and February offer opportunities to maintain momentum with ongoing city initiatives.



Twitter (X):

Lethbridge's Twitter presence for sustainability in 2024 was minimal, with only one post on April 9 promoting "Reuse Rendezvous," garnering 75 views. Despite having 1,000 followers, the limited activity suggests missed opportunities for broader engagement on this platform, since there is a connection between increased frequency of social media posts and outreach. Varying post topics can also increase interest and awareness in the city's sustainable message.

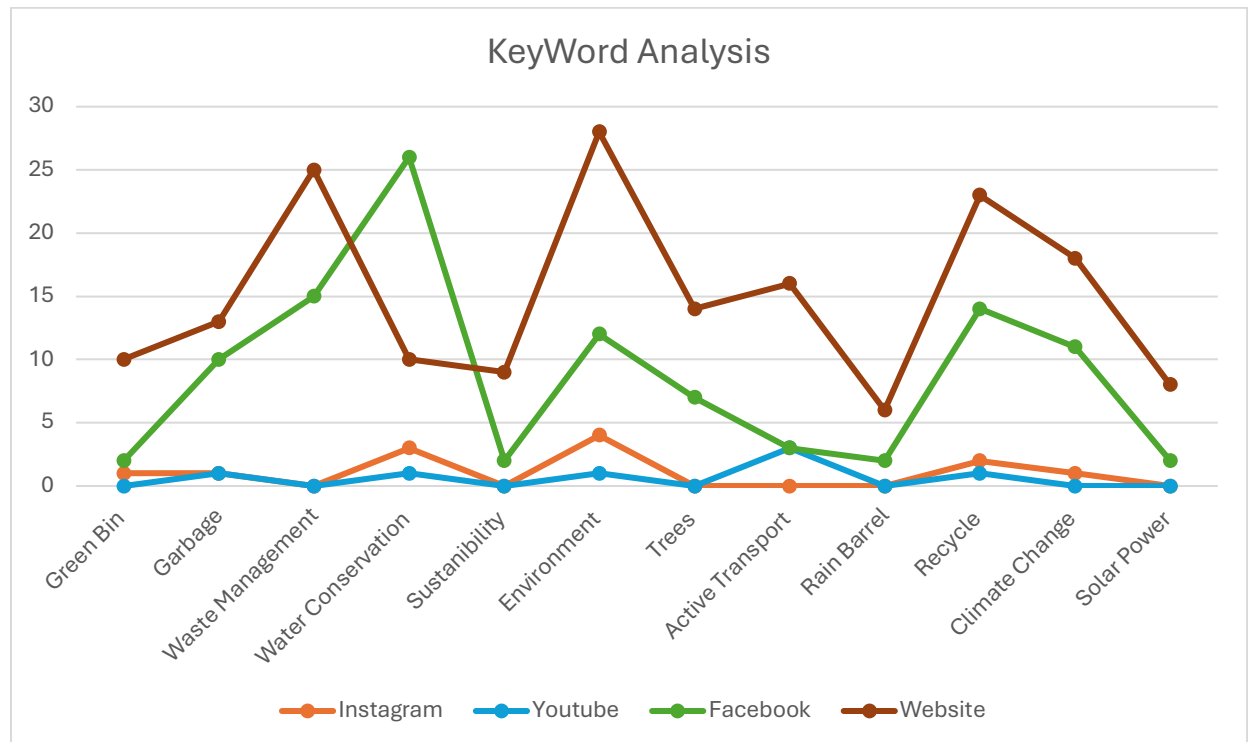
YouTube:

The City of Lethbridge has utilized its YouTube platform to communicate key sustainability initiatives, focusing on diverse topics such as waste management, water conservation, and active transportation. Below is a summary of their video topics and viewership data:

Date	Topic of Video	Number of Views
09-01-2024	Hazards E-waste in Curbside Carts	1,370
22-02-2024	Nature of Play Program	104
21-03-2024	Water Conservation - Leaky Toilet	1,305
02-05-2024	Bike Lane Safety	1,553
14-05-2024	Bike Lane Safety	5,679
06-09-2024	Lethbridge Transit - Active Transport	301

Keyword Analysis:

Keyword analysis highlights that "Water Conservation" and "Environment" are the most frequently mentioned topics across all platforms, with Facebook and the city website leading in engagement. Instagram and YouTube show minimal mentions, indicating potential areas for increased outreach and visibility.



Conclusion

The City of Lethbridge has demonstrated a proactive approach toward sustainability through its diverse initiatives in climate action, waste management, renewable energy adoption, and public engagement. Programs like the Wasteless Initiative and Environment Week exemplify the city's commitment to fostering a culture of sustainability while empowering its residents with practical tools and knowledge. Through the effective use of multiple communication platforms such as social media, newsletters, and workshops, Lethbridge has been successful in driving awareness and participation in environmental efforts.

However, the data highlights areas for further improvement by the city, particularly in expanding outreach on certain sustainability topics like solar energy and recycling, to ensure a balanced representation across all platforms. The high levels of engagement seen in programs like Bike Lane Safety and Active Transport initiatives underscore the potential for continued growth in community involvement when supported by targeted and consistent communication strategies.

Overall, Lethbridge sets an inspiring example of municipal leadership in environmental stewardship while recognizing opportunities for refinement to achieve a greener future.

3. Prince George, British Columbia

Prince George is a city in British Columbia. The city itself has a population of 76,708 while the metro area census shows a population of 89,490.

This report provides an in-depth overview of Prince George's environmental sustainability and climate resilience strategies, showcasing its leadership in addressing climate change impacts and fostering community engagement.

Overview of Prince George's Sustainability Vision

Prince George has set itself apart as a model city for sustainability in British Columbia, aligning with both provincial and federal goals. The city employs inclusive strategies that prioritize reducing greenhouse gas emissions (GHG), conserving natural resources, and building resilience to climate impacts such as wildfires and extreme weather.

Key Sustainability Initiatives:

Prince George is involved in a number of programs driving its sustainability messaging to citizens.

Climate Forward Implementation Strategy 2021-2025

This is a phase-based plan to achieve a sustainable and resilient City of Prince George by means of implementing the following:

- Reducing corporate and community GHG emissions by 5% from the 2017 levels by 2023.
- Building resilience into infrastructure to reduce risks associated with wildfires, flooding, and extreme weather events.
- Conservation of natural areas and improvement in ecosystem health.

Future phases, 2026-2050, would align with long-term reduction targets and focus on integrating renewable energy and building resilience (Climate Forward Implementation Strategy, 2024; City of Prince George, 2021).

2020 Climate Change Mitigation Plan

Updated to reflect evolving climate goals, this plan prioritizes the following:

- a. Electrifying transportation systems, including transitioning city fleets to EVs.
- b. Expanding active transportation infrastructure such as bike lanes and pedestrian pathways.

- c. Improving waste diversion through expanded composting and recycling programs.
- d. Increasing adoption of renewable energy and energy-efficient building retrofits.

Target Type	2025	2030	2040	2050
Corporate Targets	5% reduction	17% reduction	50% reduction	80% reduction
Community Targets	5% reduction	12% reduction	50% reduction	80% reduction

Prince George works toward an 80% reduction in corporate and community emissions by 2050 to meet provincial and federal climate action goals (Climate Change Mitigation Plan, 2024; City of Prince George et al., 2020).

Downtown Renewable Energy System (DRES)

A signature municipal innovation, DRES uses sawmill residues to generate carbon-neutral heat for downtown buildings. Benefits of this initiative include:

- Reduction in GHG emissions by 1,868 tons per year.
- Enhancing local forestry-based industries and keeping energy dollars at home.
- Providing cost stability and generating nontax revenue for the city in return, (Downtown Renewable Energy System, 2024).

Community Wildfire Protection Plan (CWPP)

Wildfires are a significant threat to Prince George because of its proximity to large, forested regions. Mitigation strategies include:

- Prioritizing high-risk areas for wildfire fuel treatment, such as Broddy Road and Malaspina.
- Techniques include thinning trees, pruning branches, and promoting deciduous growth.

A future Community Wildfire Resiliency Plan will build on the CWPP to further protect urban and natural forests (Wildfire Protection, 2023).

Sustainable Urban Development

- myPG Plan and Official Community Plan (OCP): Prince George's integrated approach to urban planning ensures that sustainability is deeply embedded within land use, transportation networks, and infrastructure projects. Through use of myPG Plan and Official Community Plan (OCP), the city promotes compact, transit-oriented urban growth and conservation of urban forests.

- **Energy Efficiency in Urban Infrastructure:** Prince George has recognized that the energy audit and retrofitting of city-owned buildings to high-efficiency standards is a foundation of a good climate plan. Additionally, the city supports ensuring that new civic buildings incorporate energy-efficient designs and sustainable materials.

Renewable Energy and Energy Conservation

- **Renewable Energy Integration:** The municipality utilizes renewable resources, such as solar and wind energy, concurrently enhancing its district energy systems powered by biomass.
- **Green Fleet Study:** Prince George's is transitioning its light-duty municipal fleet to EVs and hybrids, reducing GHG emissions from city operations.
- **2.5 Waste Management and the Circular Economy: Enhanced Composting and Recycling:** The city's enhanced solid waste management plans also include a full-scale composting program and implementing more efficient recycling systems.
- **Circular Economy Partnerships:** Collaborations with local industries to promote a - circular economy model, ensuring waste materials are repurposed and reused.

Communication Strategies

The Recycling & Environmental Action Planning Society (REAPS):

The Recycling & Environmental Action Planning Society (REAPS) serves as a vital communication and engagement tool for Prince George's environmental sustainability efforts. By leveraging a combination of educational initiatives, practical resources, and community outreach, REAPS actively involves residents and businesses in sustainability measures. Key communication strategies include:

- **Educational Outreach:** Through school presentations like "Salmonids in the Classroom" and "Adopt-a-Worm," REAPS fosters early awareness and involvement in sustainable practices among students.
- **Workshops and Public Events:** Community workshops and participation in events like Earth Day provide hands-on learning opportunities, making sustainability accessible and actionable for residents.
- **Comprehensive Resource Dissemination:** REAPS provides recycling guides, newsletters, and publications that educate the public about waste reduction techniques and local recycling options.
<https://www.reaps.org/wpcontent/uploads/2024/11/report1124.pdf>
- **Interactive Engagement at the Compost Garden:** The demonstration garden acts as a physical hub for sustainability education, offering guided tours and

interactive experiences to teach composting techniques and waste reduction methods.

- Collaboration and Partnerships: REAPS collaborates with local schools, businesses, and government bodies to promote a circular economy and sustainable policies.

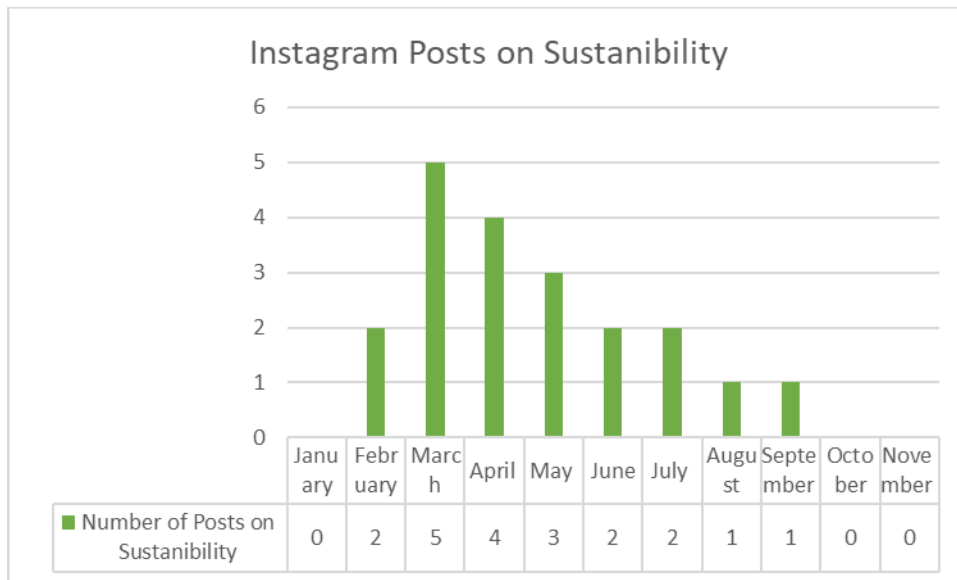
The screenshot shows the REAPS website with a navigation bar at the top: SCHOOL PROGRAMS + PUBLIC PROGRAMS GOING GREEN + ABOUT REAPS + PUBLICATIONS +. Below the navigation bar is a section titled "Events from Dec 6th" featuring a grid of five event cards. Each card includes a title, date, time, description, and a list of hashtags.

Event Title	Date	Time	Description	Hashtags
Food Waste: Food Waste Facts, Tips & Action Workbook	Thursday, Dec. 12, 2024	6:30 to 7:30 p.m.	How long can you actually keep leftovers in the fridge? Is "Best Before" different from "Expiry Date"? What can you do with the scraps and ...	#foodwaste-#food-#reduce-#reaps
Food For Thought	Thu Jan 9th 2025	6:30pm - 7:30pm	An exploration of why fresh, local food matters, and how our food habits impact the health of our bodies and environment.	#food-#foodwaste-#reduce-#waste-#reaps
Organic Gardening 101	Thu Jan 23rd 2025	6:30pm - 7:30pm	Thinking of starting your first vegetable garden this year? Or trying out some new gardening methods? Join us to learn more about the ...	#food-#gardening-#growing-#organic-#reaps
Garden Planning 101	Thu Feb 6th 2025	6:30pm - 7:30pm	The thought you put into designing your garden is crucial for creating a visually appealing, healthy, and enjoyable outdoor space. Whether ...	#garden-#gardenplanning-#growing-#food-#reaps
Organic Gardening 101	Thu Feb 20th 2025	6:30pm - 7:30pm	Thinking of starting your first vegetable garden this year? Or trying out some new gardening methods? Join us to learn more about the ...	#food-#gardening-#growing-#organic-#reaps

Social Media

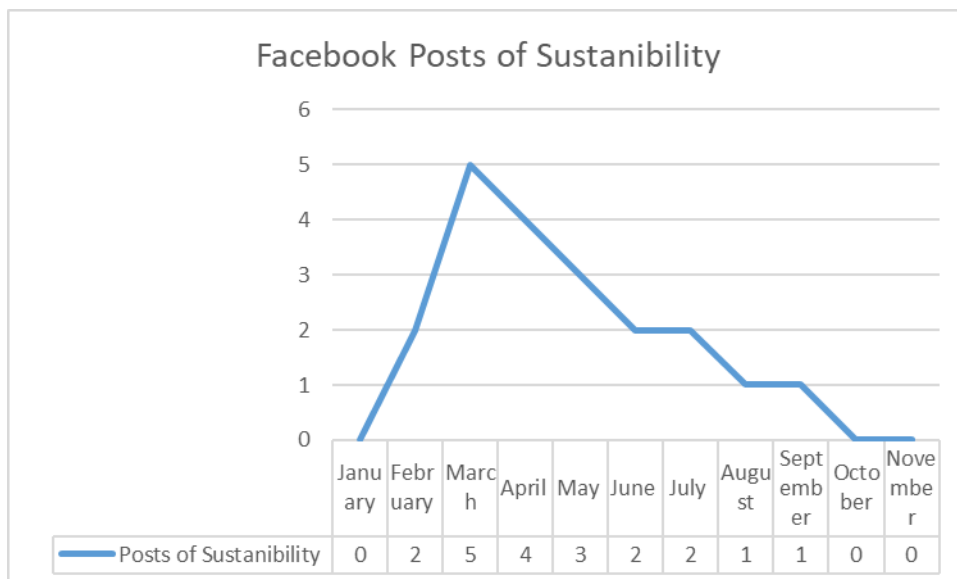
Instagram:

In 2024, sustainability posts accounted for only 7% (20 out of 281) of Prince George's Instagram activity. Peaks occurred in March (5 posts, 25%) and April (4 posts, 17%), with no posts in October or November, indicating inconsistent engagement on environmental topics. The data highlights a need for more consistent and frequent engagement on sustainability topics, as such posts form a small fraction of the city's overall Instagram communication efforts.



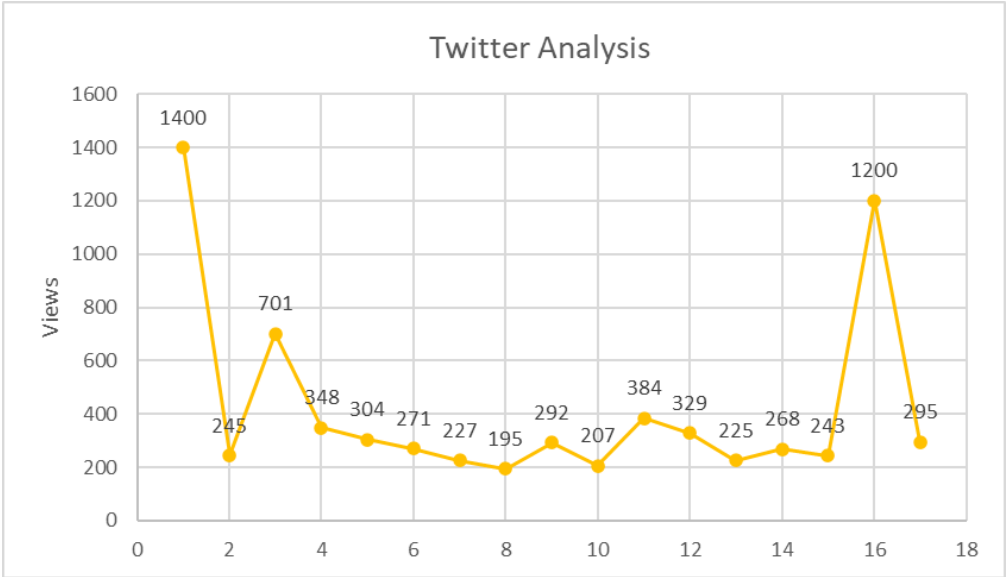
Facebook:

In 2024, only 7% of Prince George's 281 Facebook posts focused on sustainability, peaking in March (5 posts) and declining to none by October and November, indicating a need for consistent sustainability messaging.



Twitter:

Prince George's Twitter posts on environmental sustainability saw peak engagement with "Storm Water Management" (1,400 views) and "Go by Bike Week" (1,200 views), while other topics like "Spring Clean Up" and "Wildfire Prevention" had moderate views, highlighting interest in water and transport initiatives.



YouTube:

Prince George's YouTube content in 2024 highlights the strong public interest in sustainability, with top-performing videos like "Low Carbon Energy," "Sanitary Sewer System," and "Bear Proof Garbage Can", each garnering 1,620 views, showcasing engagement with energy and waste management initiatives.

Date	Topic of Video	Number of Views
30-01-2024	BeDowntown - Clean team	75
03-03-2024	Low Caborn Energy	1620
06-03-2024	Low Caborn Energy	127
07-04-2024	Sanitary Sewer System	1620
11-04-2024	Bear Proof garbage can	1620
22-05-2024	wastewater infrastructure	94

Conclusion

Prince George exemplifies leadership in environmental sustainability through strategic initiatives like the Climate Forward Implementation Strategy, Downtown Renewable Energy System (DRES), and Community Wildfire Protection Plan (CWPP). These efforts align with provincial and federal goals to reduce greenhouse gas emissions, enhance energy efficiency, and build climate

resilience. Programs such as Renewable Energy Integration and the Green Fleet Study highlight the city's commitment to clean energy adoption and municipal innovation.

The city's communication strategies, including partnerships with REAPS and targeted social media campaigns, play a pivotal role in fostering public engagement and awareness. Initiatives like school outreach, composting workshops, and high-impact campaigns on stormwater management and active transportation have garnered significant community attention. However, inconsistent social media activity presents an opportunity to amplify sustainability messaging and increase community involvement.

Prince George's holistic approach—combining innovative policies, community engagement, and transparent reporting—sets a benchmark for sustainable urban development. By enhancing communication consistency and expanding its outreach, the city can further cement its position as a leader in addressing climate change and fostering environmental stewardship.

4. St. Catharines, Ontario

St. Catharines was home to 429,036 people in 2018, and had a population density of 307 residents per square kilometre. Just over one in four (27%) residents were aged 24 and younger, on par with similar size city population distribution in Ontario (29%) and across Canada (28%). St. Catharines is the most populous city in Canada's Niagara Region, and has the eighth largest urban area in the province of Ontario.

This report aims to provide a comprehensive and engaging overview of the city's sustainability initiatives. By analysing these programs and their measurable outcomes, the report highlights how the city addresses environmental challenges and plans to mitigate them.

Overview of St. Catharines Sustainability Vision

St. Catharines has identified environmental sustainability as one of the key priorities in its Strategic Plan. Their long term goal is protecting the natural environment, increasing climate resilience, water conservation, and urban resilience through different initiatives, programs, and partnerships of the city in order to promote the quality of life of its residents.

Key Sustainability Initiatives:

Climate Change Mitigation and Adaptation:

St. Catharines declared a climate emergency in 2019 and strongly reaffirmed its commitment to climate action. A Climate Adaptation Plan, developed in collaboration with Brock University, outlines pathways toward reducing carbon emissions and adapting to the impacts of climate change (Climate Adaptation Plan, 2024). Key actions that this plan will undertake include:

- **Mitigation:** The Energy Conservation and Demand Management Plan targeted the reduction of energy consumption by 30% and greenhouse gas emissions by 45% in 2030. Since then, efforts have been underway to upgrade LED streetlights in the whole city, install high-efficiency HVACs, install solar panels on municipal rooftops and vacant lots, and build electric vehicle infrastructure. The city is also working on transitioning its fleet to hybrid and electric cars, improving further reductions in emissions (City of St. Catharines's, 2014).
- **Adaptation:** The proactive adaptation measures focused on flood management, shoreline protection, and stormwater infrastructure improvement. Some projects included preparing a wetland for flood mitigation, installation of permeable pavement to reduce runoff, and shoreline protection reinforcements along Lake Ontario. Increased temperatures were being responded to by expanding the city's urban tree canopy and opening cooling centers during extreme heat conditions (Climate Adaptation Plan, 2024).

Water Quality and Conservation:

The City of St. Catharines is committed to serving safe drinking water of high quality, achieved through a rigorous Drinking Water Quality Management System. St. Catharines sources its water from the Decew Water Treatment Plant, which receives its water supply directly from Lake Erie (City of St. Catharines, 2024). Some of the measures include:

- **Water Testing and Safety:** Ongoing microbiological and chemical testing ensures drinking water meets Ontario's Drinking Water Quality Standards (City of St. Catharines, 2024).
- **Rainwater Conservation:** The city, through public outreach and the sale of rain barrels, is promoting water conservation to reduce the amount of water runoff and rainwater to be reused for gardens and lawns (City of St. Catharines, 2024).

Urban Forestry and Tree Planting Strategy:

Much of the work across the narrative of climate resilience in St. Catharines is underpinned by a considered approach to their Urban Forestry Management Plan. The city has worked to prioritize laying out plans to increase green cover and boost biodiversity across the city (Roosevelt, 2011).

- **Annual Tree Giveaway:** The city promotes an annual tree giveaway to provide residents with native and drought-resistant species of trees as part of urban greening and community engagement. Native species are selected because of their resilience to local conditions. Additionally, local species promote and encourage local biodiversity by providing vital habitat for wildlife (Tree Giveaway, 2023).

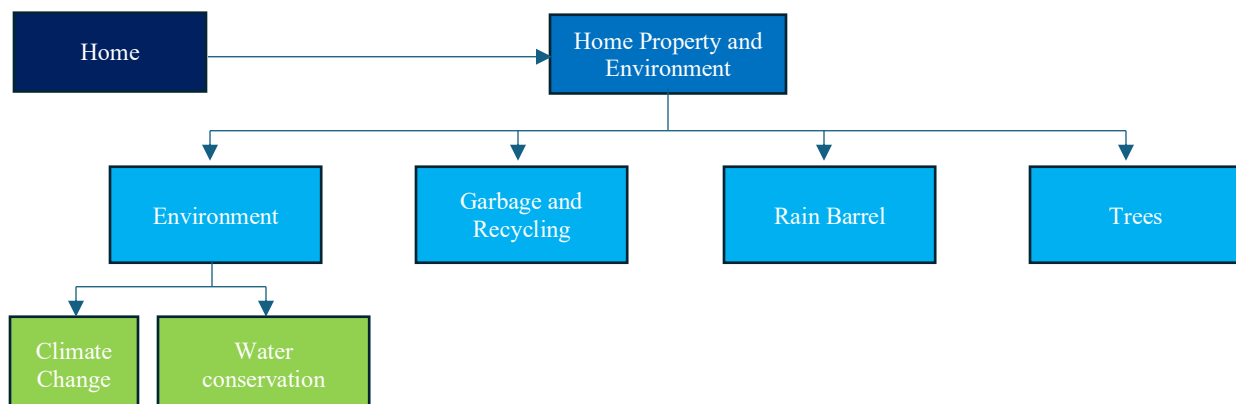
- **Climate Adaptation Benefits:** The strategy of tree planting allows for climate adaptation by expanding the urban canopy to reduce the amount of heat generated by the city due to the urban heat island effect. This is consistent with the city's ambition to be heatwave-ready and prepared to face increased temperatures due to climate change (Climate Adaptation Plan, 2024).
- **Public Education and Partnerships:** St. Catharines supports sustainability of urban forests through tree care education and other efforts with community organizations. This partnership expands the city's greening initiative and encourages resident involvement in long-term tree care (Climate Adaptation Plan, 2024).

Bee City Partnership and Biodiversity Initiatives:

St. Catharines has pledged to protect pollinator habitats as a Bee City. The municipality partners with various community organizations to develop pollinator gardens and reduce the use of pesticides to ensure the environment is welcoming for bees, butterflies, and other pollinators that are crucial for biodiversity. Community members can contribute to such initiatives by planting pollinator-friendly species in their gardens (Bee City St. Catharines, 2024).

Website Organization Structure:

The City of St. Catharines website uses the keyword 'Environment' as as the main point of entrance to their sustainability pages. This focus is evident in the flowchart below, where all sustainability related initiatives and information are consolidated under the single heading 'Home Property and Environment.' The website embeds these initiatives with others making it difficult for a user to relate and tie in searches for other keywords and terms. Users could face challenges and frustrations because information is not quickly accessible.



Social Media

Facebook:

The city's official account gives sustainability-related topics up to 11% weightage on its official account with the most posts occurring in the month of October. An example of a post image is shown below:

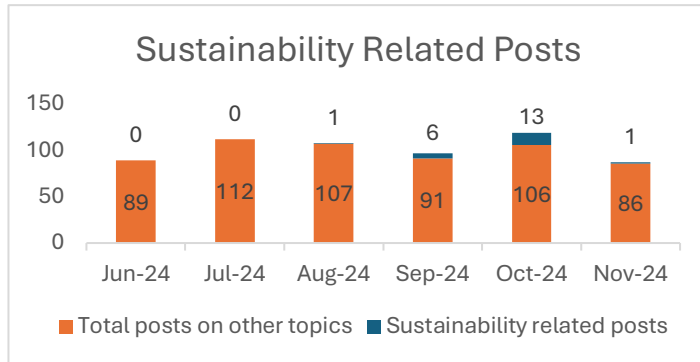
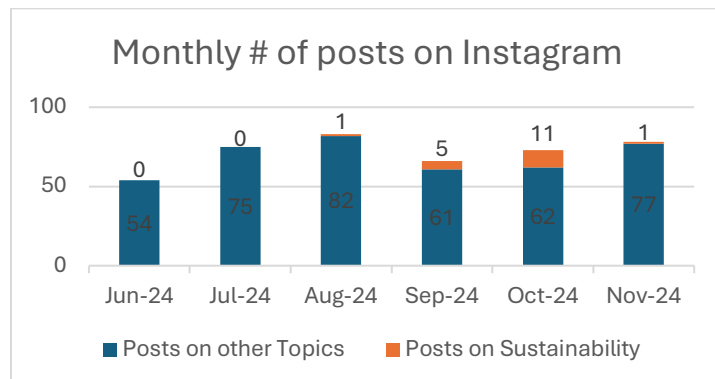


Figure. [Photograph]. City of St. Catharines. (n.d.).
<https://www.facebook.com/photo.php?fbid=976555857840943&set=pb.100064596133099.-2207520000&type=3>

Instagram:

The official city account on Instagram from June through November 2024, only 18 posts relating to sustainability were made to followers and the public, for a weight of 1-15%. Notably the most posts were made in the months of September and October. Increased posting could create more interest and followers of the city's sustainability plans if regular posting occurred throughout the year.



Sample:



Figure. [Photograph]. City of St. Catharines. (n.d.).
https://www.instagram.com/p/C_27TEzqFeX/?utm_source=ig_web_copy_link&igsh=MzRIODBiNWFIZA==

Twitter (X):

The official Twitter page is used to post events and create awareness. Overall for 2024, it appears that the city has only utilized posting opportunities at a few select times of the year, missing opportunities to engage followers and grow their audience. An example post is also shown below:

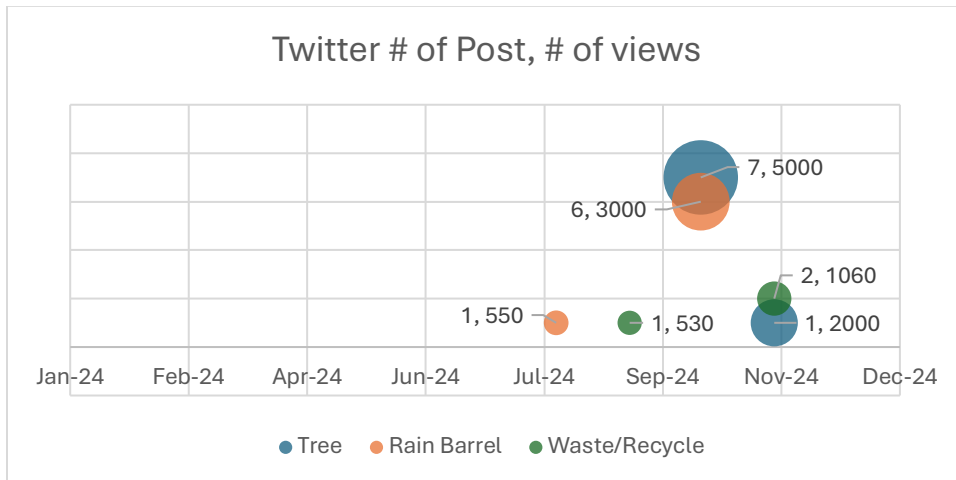




Figure. [Screenshot]. City of St. Catharines. (n.d.). https://x.com/St_Catharines/status/1854977194604339531

YouTwitter:

Presently no videos related to sustainability awareness have been posted by the city.

LinkedIn:

Presently no videos related to sustainability awareness have been posted by the city.

Physical Communication Analysis:

Flyers

Printed materials such as flyers and pamphlets are provided to the residents in conjunction with municipal tax and water bills.

Local Events

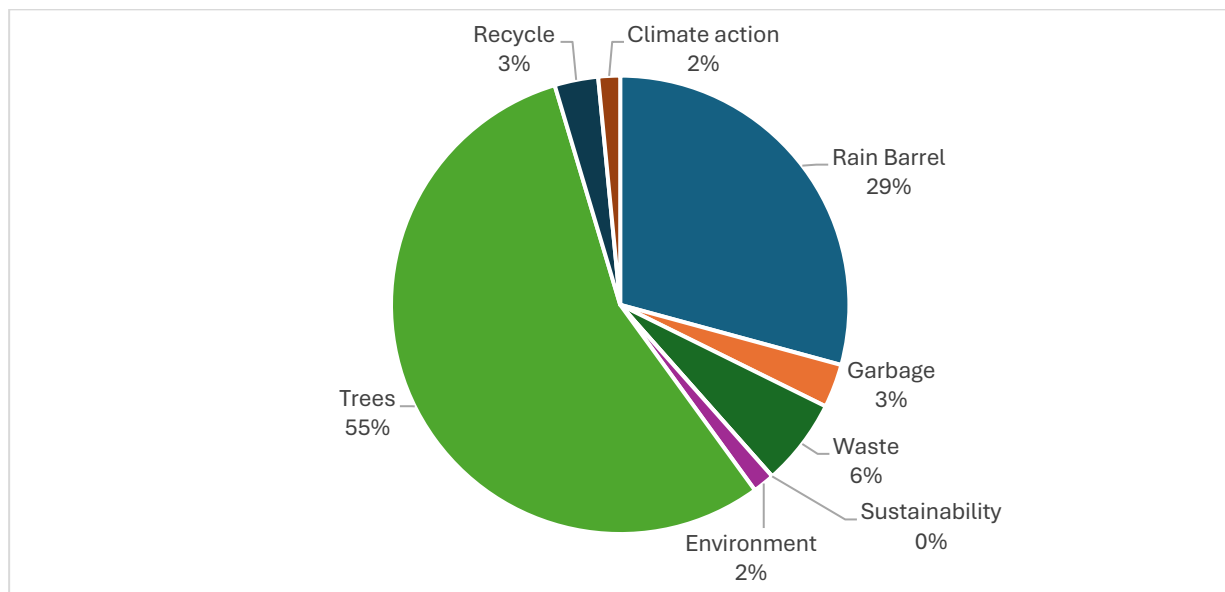
- Earth Day: The city organizes a yearly Earth Day Clean-up event, encouraging residents to participate in environmental conservation efforts and help maintain a cleaner, greener community. (City of St. Catharines, n.d.)

- **Free Tree Giveaway:** The city holds yearly Fall Free Tree Giveaway drives, providing residents with free trees to help enhance local green spaces and support environmental sustainability during the autumn season. (City of St. Catharines, 2023)

Keyword Analysis:

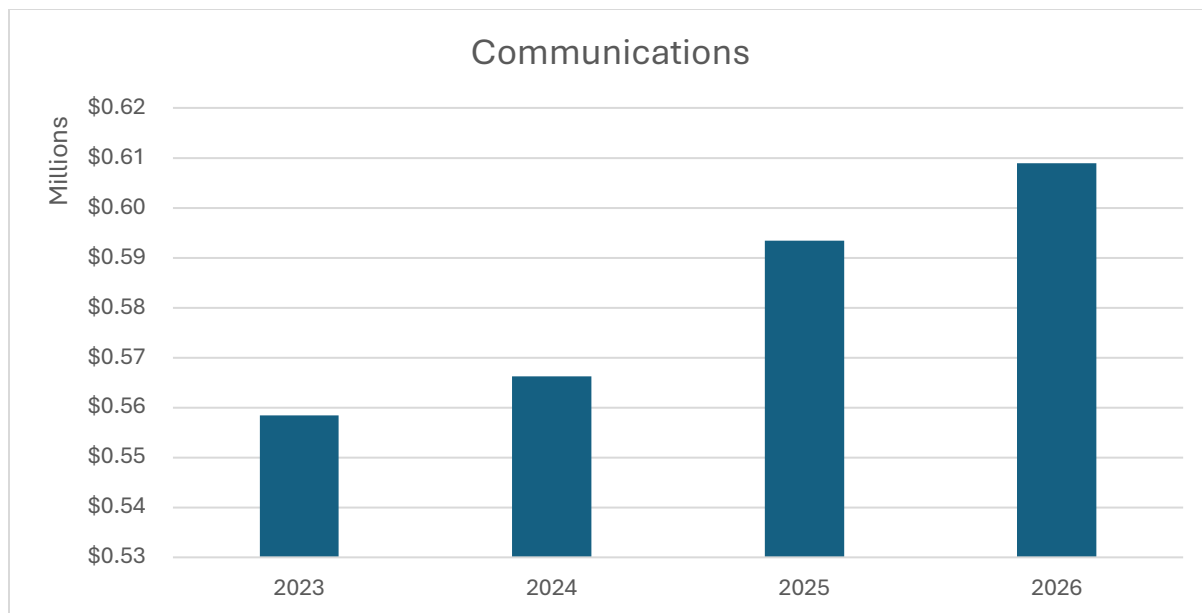
An analysis of all communication posts across platforms from June 1st, 2024, to November 30th, 2024, reveals that the city has primarily focused on keywords such as 'Tree,' and 'Rain Barrel,' in its messaging to residents.

Note: the city also places emphasis on 'Trees' and 'Rain Barrels' as the primary sustainability related initiatives.



Communication Spending Analysis:

It is of interest that according to the city's 2024 budget report, the city has allocated \$0.5 million to communication spending in 2023, which could explain the more limited or modest city related campaigns, and possible lack of city marketing related to overall social media campaigns.



Conclusion

It seems that while St. Catharines has a sizable amount of sustainable initiatives in process within the city, the communication of those initiatives is limited on social media, with very few posts published. These posts mostly focus on the Free Tree Giveaway and Rain Barrel initiatives.

The city's Green Bin Recycling program relies on the Niagara Region for communication and management. Additionally, the city seems to allocate a relatively low budget (~\$0.5 million) for its communication efforts, as highlighted in the spending analysis, and appears to have more a limited presence on popular digital communication channels in comparison with other cities mentioned in this study. It also seems that the city does not choose to focus on the strategic use of the keyword "Sustainability" in its messaging, which differs from other cities of similar size that have been discussed in this study.

Social media channels were the only media analyzed for this comparison research, so it is possible that their civic population chooses to engage more successfully through other methods of outreach.

One key takeaway for the City of Brantford to look at from St. Catharines is the emphasis they have placed on their 'Rain Barrel Program'. This example of promotion of the same message at the same time, across all social media platforms could be something for Brantford to consider when wanting to make sure their message gets out to a large number of residents.

Report Conclusion

As I tell students in my sustainability classes, it's not me I worry about in the future regarding sustainability, but you and your kids. It's up to all of us to work together to make sure future generations are taken care of by taking care of our planet today.

The findings of this City of Brantford sustainability communication and media review reinforce the necessity of Brantford working together with the 55+ demographics within the city, by taking the lead in educating this residential demographic on sustainability. Without clear focus and direction, these residents may get lost in the wasteland of limited messaging.

It became clear from response analysis that more work should be done to educate this demographic group. The research results point out the fact that other than knowing about the city's Green Bin program, most 55+ respondents were unaware or barely aware of the city's sustainable initiatives, and almost every respondent had to be given the definition of sustainability.

Based on the responses received, our study went on to outline next steps and best practices for the city to implement. Actions such as frequent and consistent social media messaging across all platforms, advanced publication of upcoming sustainability events and programming, and adapting sustainable messaging into an easy to access, focused part of the city website, are just a few of the recommendations for the city to consider.

Finally, to assist the city with further information collection, this research conducted an online review of sustainability programs in similar sized communities across Canada. The cities of Cambridge, Ontario, Lethbridge, Alberta, Prince George, British Columbia, and St. Catharines, Ontario, were chosen for these reviews. A detailed data resource list of each city's current sustainability programs and initiatives was compiled. These lists highlight possible opportunities for Brantford initiatives, such as a bee friendly education program like that of St. Catharine's Bee City Partnership and Biodiversity Initiative, a program that involves citizens in protecting pollinators through building community gardens in unused green spaces. Additionally, sponsoring a community based Environmental Week similar to the type conducted yearly by Lethbridge for it's residents, can merge education, resident interaction and fun together while promoting the city's sustainability goals and initiatives.

While this report gives a starting point for possible future sustainability media campaigns, and continued community opportunities, it is our hope that the study ultimately can be a successful first step along the way to Brantford's future environmental and sustainable goals.

Appendix

A. City of Brantford Sustainability Media Survey

Hello, my name is _____ I am with Conestoga College doing research for the City of Brantford to better inform residents about the city's sustainability efforts and processes. This will only take a couple minutes.

Please note: This project has been reviewed and has received ethics clearance through the Research Ethics Board (REB) of Conestoga College. All personal information collected from this public survey is collected under the authority of Section 10 (1) of Municipal Act, 2001, as amended, and will only be used for the purposes of informing City of Brantford staff and Conestoga College on climate change community engagement.

I have a short set of questions to ask you, and you may stop the survey at any time. Would you allow me to ask you these questions?

Verbal approval ☐ Yes ☐ No

Date _____ Time _____ Interviewer _____

Location _____

Thank you.

Demographics: Which bracket do you fall into?

- **Age:** ☐ Under 18 ☐ 18-25 ☐ 26-35 ☐ 36-45 ☐ 46-55 ☐ 56-65 ☐ 66 and above
☐ Prefer not to answer
- **Sex** ☐ Male ☐ Female ☐ Please specify gender ☐ Prefer not to answer
- **Location** - Do you live in the Brantford area? ☐ Yes ☐ No
☐ Prefer not to answer
- **Recycling** - Do you presently recycle any of your trash where you live ☐ Yes
☐ No ☐ Prefer not to answer
- **Waste** – Have you ever dropped off any waste at the Brantford Mohawk Street Landfill at 20 Morrison Road?
☐ Yes ☐ No ☐ Prefer not to answer
- **Internet Availability** - Do you presently have internet where you live?
☐ Yes ☐ No ☐ Prefer not to answer

Awareness of City Sustainability

On a scale of 1-10, with 10 being the highest:

- **How aware are you that the City of Brantford has a Sustainability Initiative Program?**
1 3 5 7 10 ☐ Preferred not to answer
- **How aware are you that the City of Brantford has a Sustainability Committee?**
1 3 5 7 10 ☐ Preferred not to answer
- **How aware are you that the City of Brantford has a Green Bin Program?**

- 1 3 5 7 10 ☐ Preferred not to answer
- **How aware are you that the City of Brantford has sustainability information on their website?**
1 3 5 7 10 ☐ Preferred not to answer
- **Are you familiar with the City of Brantford's Climate Action Plan?**
1 3 5 7 10 ☐ Preferred not to answer

Participation in Sustainability programming and events

On a scale of 1-10, with 10 being the highest:

- **How aware are you of the City of Brantford Sustainability events (i.e.: Earth Day, Citizen Litter Clean-ups, Free Tree Giveaway, Community Tree Planting Events)?**
1 3 5 7 10 ☐ Preferred not to answer
- **Are you involved in any sustainability programs (i.e.: Rain Barrel Program, Climate Action at Home Program, Green Bin Program, using active transportation, etc.)?**
1 3 5 7 10 ☐ Preferred not to answer
- **Have you ever heard anything regarding the City of Brantford and Sustainability?**
☐ Yes ☐ No ☐ Prefer not to answer

If yes:

- **How did you hear about what the City of Brantford is doing about sustainability** ☐
Mail ☐ Local newspaper ☐ Flyer on door / Included in water bill ☐ City website ☐ Email notice ☐ City of Brantford tax bill/correspondence ☐ Bus Shelters ☐ City social media pages ☐ Other _____ ☐ Do not want receive any information on Sustainability from the City of Brantford ☐ Prefer not to answer
- **How would you like to receive information about the City of Brantford sustainability program** ☐
Mail ☐ Local newspaper ☐ Flyer on door / Included in water bill ☐ City website ☐ Email notice ☐ City of Brantford tax bill/correspondence ☐ Bus Shelters ☐ City social media pages ☐ Other _____ ☐ Do not want to receive any information on Sustainability from the City of Brantford ☐ Prefer not to answer

City Sustainability:

- Are there any measures you feel that the City of Brantford should take to be more sustainable?

☐ Preferred not to answer

Thank you for answering our questions.

This research is anticipated to be completed by December 2024, and the results released in early 2025 on the City of Brantford's Sustainability website.

If you have any additional questions or concerns, feel free to contact Professor K. Paridy the Lead Researcher on this project at kparidy@conestogac.on.ca or the REB Coordinator at rebcoordinator@conestogac.on.ca

B. Brantford, Ontario

Exhibit A: Organization Chart

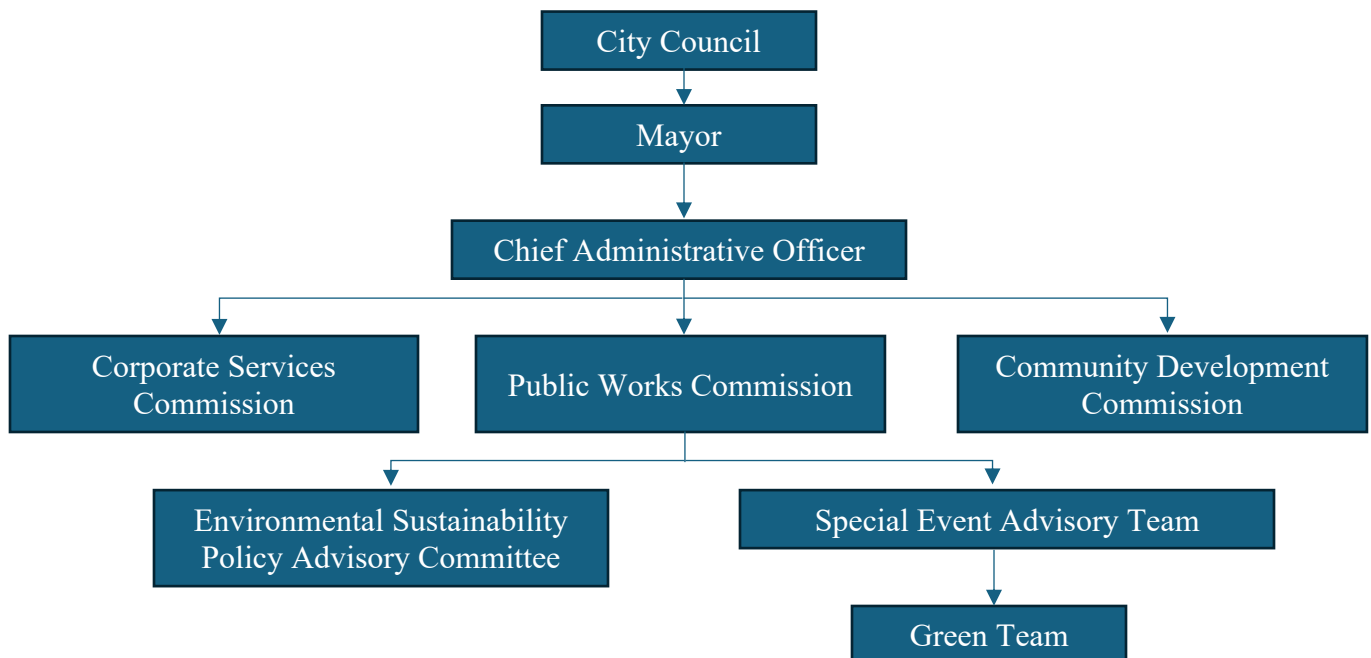


Exhibit B

City of Brantford: Sustainability Initiatives

The city classifies its sustainability related initiatives under ‘**Garbage and Recycling**’ on its main page which includes:

- **Bulk Item Pick Up**
- **Electronic Equipment and Tire Recycling**
 - The program requires to drop the equipment at Mohawk Landfill. A pickup service should be considered.
 - Some large electronic equipment such as Ac, Ovens, Kitchen and household appliances require disposal fees, which needs to be reevaluated.
- **Green Bin**
 - The apartments are reliant on the building’s landlord or building management to participate in the green bin programs. The programs require individual participants in such an apartment to travel to the Mohawk landfill. Common pickup points or other options need to be considered.
- **Household Hazardous Waste**
- **Landfill**
- **Recycling**
- **Yard Waste**

Further, its ‘**Environmental Initiatives**,’ which require research with specific keywords, the initiative is:

- **Climate Action** (Climate Action at Home, Free Tree Giveaway, etc.)
 - Registration for the Free Tree Giveaway is available only during limited windows. Saplings for planting can be distributed every month during non-winter periods.
- **Earth Day**
- **Living Green**
- **Source Protection Plan**
- **Trees and Forestry**
- **Zero Waste Brantford**

Exhibit C

A few articles on the Brantford Expositor and the response to them:

1. 24 July, 2024: [Brant County seeks public input for new climate action plan](#)
 - a. Farming land needs to be conserved.
 - b. Mandatory public transit for government employees.
 - c. Synchronize traffic lights in the city to avoid unnecessary stops.
2. 22 Apr, 2024: [Local tree plantings, garbage pickups mark Earth Day](#)
 - a. The planted areas are left with plastic tree bags, which defeats the purpose of the efforts.
3. 8 Feb, 2024: [Report identifies Brantford as climate change 'hot spot'](#)
 - a. Coal mining should be banned.

4. 7 Dec, 2023: [City collects 200 tonnes of organic waste during first month of Green Bin program](#)
 - a. Green Bins requires user manual in summers, as they become infested with insects in summers.
 - b. Keep the methane-producing waste from the landfill.
5. 30 Oct, 2023: [Brantford trash collection about to go green](#)
 - a. Green bins attract rodents, they cannot be kept inside homes, it requires some kind of locking mechanism.

Exhibit D

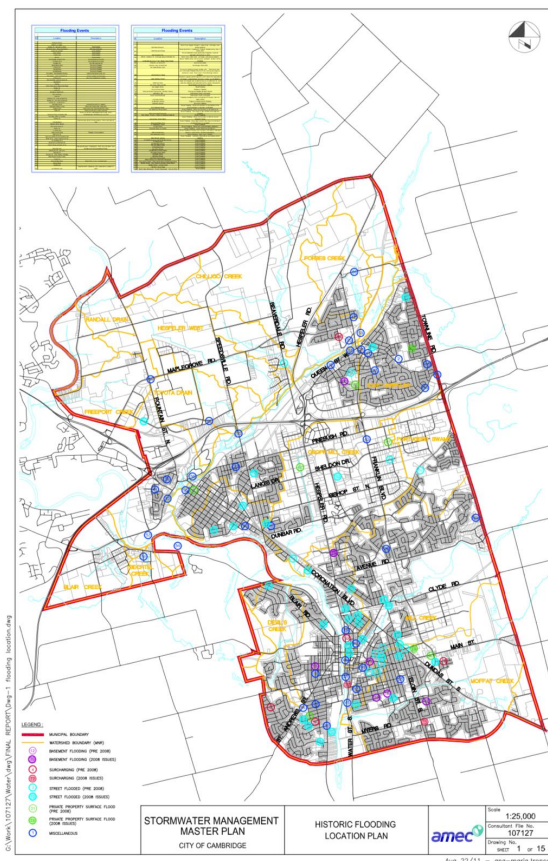
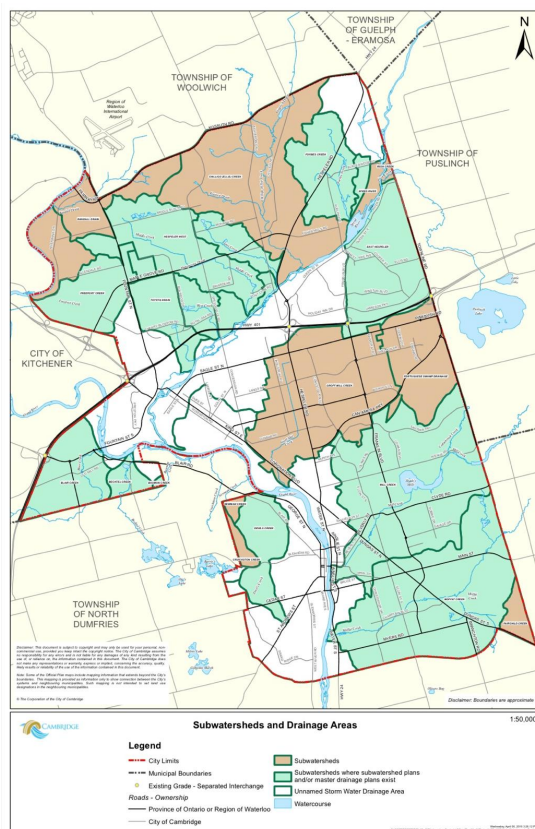
Comments on Instagram posts:

- Early morning pickups of 7am are sometimes skipped and the truck drivers honk multiple times unnecessarily.
- Green bins can use bio-degradable compost bags to store the garbage.

C. Cambridge, Ontario

6.1 Map of Subwatershed areas in Cambridge (left)

6.2 Map of Stormwater Management Plan in Cambridge (right)

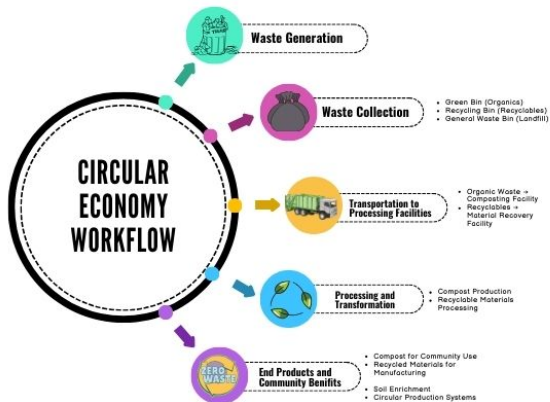


6.3 Energy Consumption and Greenhouse Emissions Reporting for 2023:

<https://www.cambridge.ca/en/learn-about/resources/2023-Energy-Consumption-and-Greenhouse-Gas-Reporting.pdf>

6.4 Bee City Report: https://www.cambridge.ca/en/learn-about/resources/2021-05-11_21-035IFS-Cambridge-Bee-City-Designation-Council-Report.pdf

6.5 Circular Workflow Economy: Flowchart illustrating waste diversion processes, from collection to compost.



D. Lethbridge, Alberta

5.1 Environment Week Celebration: <https://environmentlethbridge.ca/environmentweek/>

environment week BINGO

Starting Monday, June 3, check back for daily activities, resources, and profiles of Lethbridgeans who are walking their talk. A new theme and profile will be revealed every day! Also, be sure to check out the daily suggestions on the City of Lethbridge website for more ways to participate.

active transportation MONDAY

WEDNESDAY

THURSDAY

FRIDAY

SATURDAY

BINGO Grid:

- Read the Monday profile
- Post an Environment Week pic to social media & tag Environment Lethbridge
- Make a plan to conserve water in your yard or garden
- Repair an item
- Visit wasteless.ca to learn about textile waste
- Bike or walk somewhere you would normally drive
- Get the Tree Passport and visit a tree in your neighbourhood
- Visit the Environment Week website
- Read the Tuesday profile
- Visit a Lethbridge park
- Put food waste in your green cart
- Check your toilet for leaks
- FREE SPACE
- Visit the City's water conservation website
- Read the Wednesday profile
- Visit Environment Lethbridge's water conservation website
- Read the Thursday profile
- Go to the Farmer's Market
- Mend your clothing
- Go on a nature walk
- Go to Nature Play Fest
- Learn about the Clean Energy Improvement Program
- Read the Friday profile
- Read the Saturday profile
- Look up something on the Waste Wizard

Environment Lethbridge

Exhibit 5.2:

Business Waste Diversion Strategy

Year	Waste Diversion Target
By 2030	45%

Exhibit 5.3: Climate Adaptation and Resilience Timeline

Year	Milestone
2025	Green infrastructure expansion
2030	Municipal fleet transition to EVs

5.4 Flyers



Exhibit 5.5 News- Media Archive : <https://environmentlethbridge.ca/news/media-archive/>

Please see the list below to read where we've been in the news since 2022. (Please note, the table may take a moment to load.)

ID	Article	Media Outlet	Date	Link
73	Environment Week encourages connection, caring and celebration	My Lethbridge Now	5 June 2024	https://mylethbridge.ca/news/environment-week-encourages-connection-caring-and-celebration
75	Environment Week encourages residents to do their part	Lethbridge Herald	4 June 2024	https://lethbridgeherald.com/news/environment-week-encourages-residents-to-do-their-part
74	Lethbridge gardeners optimistic amid rain, but summer could still see dry conditions	CTV	27 May 2024	https://calgary.ctvnews.ca/lethbridge-gardeners-optimistic-amid-rain-but-summer-could-still-see-dry-conditions-1.7011111
76	Xeriscaping helps in a time of water scarcity: Environment Lethbridge	My Lethbridge Now	15 May 2024	https://www.mylethbridge.ca/news/xeriscaping-helps-in-a-time-of-water-scarcity-environment-lethbridge
72	City of Lethbridge imposes 10 per cent reduction in water usage	CTV	9 May 2024	https://calgary.ctvnews.ca/city-of-lethbridge-imposes-10-per-cent-reduction-in-water-usage-1.7008888
71	Annual Reuse Rendezvous a great way to 'freecycle' household items	Lethbridge News Now	7 May 2024	https://lethbridgenewsnow.com/annual-reuse-rendezvous-a-great-way-to-freecycle-household-items
70	Environment Lethbridge's Reuse Rendezvous returns May 11th	My Lethbridge Now	3 May 2024	https://www.mylethbridge.ca/news/environment-lethbridge-s-reuse-rendezvous-returns-may-11th
69	Water conservation at the office can encourage employees to follow suit	My Lethbridge Now	2 May 2024	https://www.mylethbridge.ca/news/water-conservation-at-the-office-can-encourage-employees-to-follow-suit
68	Local podcaster focuses on climate change and water security in the Oldman watershed	Lethbridge Herald	25 April 2024	https://lethbridgeherald.com/news/local-podcaster-focuses-on-climate-change-and-water-security-in-the-oldman-watershed
67	Save money & conserve water outdoors this spring & summer	My Lethbridge Now	24 April 2024	https://www.mylethbridge.ca/news/save-money-and-conserve-water-outdoors-this-spring-and-summer
65	Lethbridge celebrates Earth Day with historic signing, curbside organics anniversary	Global TV	22 April 2024	https://globalnews.ca/news/lethbridge-celebrates-earth-day-with-historic-signing-curbside-organics-anniversary/
64	Green cart program getting support from residents	Lethbridge Herald	22 April 2024	https://lethbridgeherald.com/news/green-cart-program-getting-support-from-residents

Exhibit 5.6 Budget Allocation

	2021	2022	2023	2024	2025	2026
Waste and Recycling	2,30,51,078	2,37,41,926	2,71,47,872	2,93,88,431	3,02,02,483	3,07,81,544

Exhibit 5.7 Keyword Analysis

Key Words Used in 2024	Instagram	YouTube	Facebook	Website
Green Bin	1	0	2	10
Garbage	1	1	10	13
Waste Management	0	0	15	25
Water Conservation	3	1	26	10
Sustainability	0	0	2	9
Environment	4	1	12	28
Trees	0	0	7	14
Active Transport	0	3	3	16
Rain Barrel	0	0	2	6
Recycle	2	1	14	23
Climate Change	1	0	11	18
Solar Power	0	0	2	8

E. Prince George, British Columbia

Composting Broacher: https://www.reaps.org/wp-content/uploads/2024/04/REAPS_Brochures_Backyard_Composting.pdf

WHAT IS COMPOSTING?

Composting is a natural process that occurs when plant material dies. Bacteria, fungi, worms and other organisms living in the soil and air transform dead plants, leaves, etc. into a rich dark material called humus or compost.

WHY COMPOST?

Compostable materials, such as yard and kitchen wastes make up more than 30% of household wastes. Composting these materials is a cost effective and efficient waste reduction option. Every home has the potential to divert 200 - 300 kg of organic material from regional landfill annually.

Goals aside, why send to the dump material that can enrich the soil and save you money? Finished compost can replace expensive chemical fertilizers and give you healthier shrubs, vegetables, flowers and grass.

NORTHERN CONCERNS

Bears!

If you do not follow the rules of good composting then your compost may attract bears. This is why it is so important to know how to compost well. In the spring bears are attracted by the smell of rotting kitchen waste as residents start their composts working. In the fall it is the smell of rotting fruit that brings them.

To keep the bears away:

- Cover kitchen waste each time you add it. A little time helps to control the smell, but don't add too much.
- Do not add large amounts of fruit waste in the fall unless it is mixed with other compostables and well covered.
- Keep your compost pile well aerated so that it does not smell.

Composting in Winter

The composting process may stop in the depths of winter when the pile is frozen but those kitchen scraps can still be added. Just keep them covered and the freezing and thawing will prepare them for fast decomposition in the spring.

Guide to BACKYARD COMPOSTING

HOW TO COMPOST

Four Essential Ingredients: Nitrogen, Carbon, Water & Oxygen

Anything that was once a living plant can be composted, but to make your compost work well you need a balance of nitrogen and carbon rich materials. All plants contain nitrogen and carbon but the ratio varies. Green materials such as grass clippings are high in nitrogen whereas brown materials such as leaves are high in carbon. If you use equal amounts of green and brown materials, or one bucket of grass clippings and one bucket of leaves, you should create a good balance. The materials can be layered or mixed together. Mixing will start the compost working more quickly.

Balancing the supply of water and oxygen is essential for good composting. The decomposers need moisture to do their work. If the pile is too dry nothing much will happen. If the pile is too wet it will smell and it eliminates the essential oxygen that the decomposers need. The pile should be as moist as a wrung-out sponge. Even with the right amount of moisture the pile tends to pack down and squeeze out the oxygen. To counter this problem the pile should be aerated about once a week. Use a compost fork, pile holes with a crowbar or brown handle to turn the pile with a garden fork. A lid can be helpful for retaining or repelling water.

Nitrogen-rich materials

- Fresh grass clippings
- Plant trimmings
- Dry leaves

Carbon-rich materials

- Kitchen scraps
- Manure
- Sawdust
- Snow and hay
- Newspaper

BUILDING THE PILE

Whether using a purchased or handbuilt container, always start with a layer of twigs or coarse material such as straw to allow for good air circulation. Materials can then be added in layers no more than 10 cm thick. Alternate the kinds of materials used or mix them together. The smaller the materials are chopped or shredded the faster the composting process will work. The pile should be at least one cubic metre in size but no larger than 2.5 cubic metres.

MATERIALS TO AVOID

- Barbecue ashes: Contains sulfur oxides
- Diseased plants: Pathogens only killed by very hot compost
- Dishwashing water: May contain perfumes, greases, sodium
- Dog, cat feces/urine: Can contain disease organisms
- Fish scraps: Attracts animals - bury in trench
- Grease, milk products: Attracts animals, large amounts slow composting
- Meat scraps: Attracts animals
- Quackgrass: Unless thoroughly dried before adding it will grow again

COMPOST PROBLEMS

Compost has unpleasant smell
Too wet, not enough oxygen: add dry material and aerate.
Compost smells of ammonia
Too much nitrogen: add carbon material and mix.
Compost not working
Too dry: add water.
Not enough nitrogen: add nitrogen rich material and mix.
Too many flies
Kitchen waste exposed: cover with dirt, leaves, etc.
Ants in the pile building a nest
Too dry: add water and mix.
Pale green mould in pile
Too wet: add dry material.

USING COMPOST

- Finished compost can be dug directly into the garden where flowers or vegetables are to grow.
- When screened it can be used as a mulch or a top dressing for a lawn. Aerate the lawn first.
- Equal amounts of screened compost, soil and vermiculite or peatite make a good planter mix.
- Water your plants with compost tea made from a bag of compost in a bucket of water.

COMPOSTING ALTERNATIVES

Mulching

Yard waste such as grass clippings and leaves can be used as a mulch around plants. The mulch will keep the soil moist, prevent the growth of weeds, prevent soil compaction and gradually break down into compost.

Trenching

Kitchen waste can be composted in a trench. The trench should be about 45cm deep. A layer of kitchen waste 15cm deep can be placed in the bottom and covered with soil. The following year this will be a good place to plant.

Vermicomposting

Composting with worms is a good way for apartment dwellers to dispose of their kitchen waste. The worms are kept indoors in a wood or plastic container filled with damp shredded newspaper or other bedding. Chopped kitchen waste is buried in the bedding and turned into worm castings. For more information contact the compost hotline.

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