



Agenda
Committee of Council
The Corporation of the City of Brampton

Date: Wednesday, April 24, 2024

Time: 9:30 a.m.

Location: Hybrid Meeting - Virtual Option & In-Person in Council Chambers – 4th Floor – City Hall

Members:

Mayor Patrick Brown (ex officio)

Regional Councillor R. Santos	Wards 1 and 5
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Regional Councillor P. Vicente	Wards 1 and 5
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Regional Councillor N. Brar	Wards 2 and 6
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Regional Councillor M. Palleschi	Wards 2 and 6
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Regional Councillor D. Keenan	Wards 3 and 4
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Regional Councillor M. Medeiros	Wards 3 and 4
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Regional Councillor P. Fortini	Wards 7 and 8
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City Councillor R. Power	Wards 7 and 8
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Regional Councillor G. Toor	Wards 9 and 10
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Deputy Mayor H. Singh	Wards 9 and 10
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For inquiries about this agenda, or to make arrangements for accessibility accommodations for persons attending (some advance notice may be required), please contact:

Sonya Pacheco, Legislative Coordinator, Telephone 905.874.2178, TTY 905.874.2130
cityclerksoffice@brampton.ca

Note: Meeting information is also available in alternate formats upon request.

1. Call to Order

2. Approval of Agenda

3. Declarations of Interest under the Municipal Conflict of Interest Act

4. Consent

The Meeting Chair will review the relevant agenda items during this section of the meeting to allow Members to identify agenda items for debate and consideration, with the balance to be approved as part of the Consent Motion given the items are generally deemed to be routine and non-controversial.

5. Announcements

6. Public Delegations

6.1 Possible Delegations re: Surplus Declaration for Transfer of Fee Simple Interest for Lands Located at Orenda Road (PIN 14032-0097 (LT) and PIN 14032-0027(LT)) – Ward 3

(See Item 10.2.1)

Note: Public Notice regarding this matter was published on the City's website on April 18, 2024

6.2 Delegation from Pavalaghanthan Murugupillai, President, and Shankari Srithayakumar, Director, Canadian Tamil Sports Association, re: Mullivaikkal Genocide Memorial Cup

6.3 Delegation from Mackenzie and Baileigh Nolan, Kids Help Phone, re: 'Walk So Kids Can Talk' and 'Million in May' Campaign

6.4 Delegation from Sandip Singh Sangha, Director, Inspirational Steps, re: Inspirational Steps Brampton Half Marathon - May 26, 2024

6.5 Delegation from Simmi Sekhon, Adham Diabas and Cara Desantis, Human Rights Advocates, Brampton4Ceasefire, Brampton4Palestine, re: Genocide in Gaza and Anti-Palestinian Racism

- 6.6 Delegation from Todd Kyle, Chief Executive Officer, Brampton Library, and Radha Tailor, Chair, Brampton Library Board, re: Brampton Library - Quarterly Update

7. Government Relations Matters

- 7.1 Staff Update, re: Government Relations Matters

To be distributed prior to the meeting

8. Legislative Services Section

(Councillor Santos, Chair; Councillor Palleschi, Vice Chair)

- 8.1 Staff Presentations

- 8.1.1 Staff Presentation re: Enforcement Operational Review

Presenter: Robert Higgs, Director, Enforcement and By-Law Services, Legislative Services

To be distributed prior to the meeting

(See Item 8.2.1)

- 8.2 Reports

- 8.2.1 Staff Report re: Enforcement Operational Review Findings and Recommendations

Recommendation

(See Item 8.1.1)

- 8.3 Other/New Business

- 8.4 Correspondence

- 8.5 Councillors Question Period

- 8.6 Public Question Period

5 Minute Limit (regarding any decision made under this section)

During the meeting, the public may submit questions regarding recommendations made at the meeting via email to the City Clerk at cityclerksoffice@brampton.ca, to be introduced during the Public Question Period section of the meeting.

9. Economic Development Section

(Regional Councillor G. Toor, Chair; Regional Councillor R. Santos, Vice Chair)

- 9.1 Staff Presentations
- 9.2 Reports
- 9.3 Other/New Business
- 9.4 Correspondence
- 9.5 Councillors Question Period
- 9.6 Public Question Period

5 Minute Limit (regarding any decision made under this section)

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10. Corporate Services Section

(Deputy Mayor Singh, Chair; Councillor Kaur Brar, Vice Chair)

- 10.1 Staff Presentations
- 10.2 Reports
 - 10.2.1 Staff Report re: Surplus Declaration and Disposal of City Owned Lands - Railway Spurs (PIN 14032-0097 (LT) and PIN 14032-0027 (LT)) - Ward 3

Recommendation

(See Item 6.1)
 - 10.2.2 Staff Report re: Land Tax Apportionments Pursuant to the Municipal Act, 2001

Recommendation

- 10.2.3 Staff Report re: Tax Adjustments, Cancellations and Reductions Pursuant to the Municipal Act, 2001

Recommendation

- 10.3 Other/New Business
- 10.4 Correspondence
- 10.5 Councillors Question Period
- 10.6 Public Question Period

5 Minute Limit (regarding any decision made under this section)

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11. Public Works and Engineering Section

(Councillor Vicente, Chair; Councillor Keenan, Vice Chair)

- 11.1 Staff Presentations
- 11.1.1 Staff Presentation re: Brampton Zero Emission Bus Strategy

Presenters: Heidi Dempster, General Manager, and Ivana Tomas, Director, Transit Services, Transit

Dr. Josipa Petrunic, President and CEO, Canadian Urban Transit Research and Innovation Consortium (CUTRIC)

To be distributed prior to the meeting

(See Item 11.2.1)

- 11.2 Reports
- 11.2.1 Staff Report re: Brampton Zero Emission Bus Implementation Strategy and Rollout Plan

Recommendation

(See Item 11.1.1)

- 11.2.2 Staff Report re: Budget Amendment - Developer Reimbursement - Spine Servicing Agreement - Block 47-1 Sub-Areas 1A and 1B - Ward 10

Recommendation

- 11.2.3 Staff Report re: Budget Amendment and Award Strategy for NRFP 2024-091 Winter Maintenance Services 2024 to 2034 – All Wards

To be distributed prior to the meeting

- 11.3 Other/New Business

- 11.3.1 Minutes - Environment Advisory Committee - April 2, 2024

To be approved

- 11.4 Correspondence

- 11.5 Councillors Question Period

- 11.6 Public Question Period

5 Minute Limit (regarding any decision made under this section)

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12. Community Services Section

(Councillor Santos, Chair; Councillor Kaur Brar, Vice Chair)

- 12.1 Staff Presentations

- 12.2 Reports

- 12.2.1 Staff Report re: Emancipation Day Memorial Artwork Design Concept

Recommendation

- 12.3 Other/New Business
- 12.4 Correspondence
- 12.5 Councillors Question Period
- 12.6 Public Question Period

5 Minute Limit (regarding any decision made under this section)

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13. **Referred Matters List**

Note: In accordance with the Procedure By-law and Council Resolution, the Referred Matters List will be published quarterly on a meeting agenda for reference and consideration. A copy of the current Referred Matters List for Council and its committees, including original and updated reporting dates, is publicly available on the City's website.

Current number of referred matters as of the last Council meeting (April 17, 2024) = 45

14. **Public Question Period**

15 Minute Limit (regarding any decision made at this meeting)

During the meeting, the public may submit questions regarding recommendations made at the meeting via email to the City Clerk at cityclerksoffice@brampton.ca, to be introduced during the Public Question Period section of the meeting.

15. **Closed Session**

Note: A separate package regarding these agenda items are distributed to Members of Council and senior staff only.

15.1 Open Meeting exception under Section 239 (2) (c) of the Municipal Act, 2001:

A proposed or pending acquisition or disposition of land by the municipality or local board.

15.2 Open Meeting exception under Section 239 (2) (c) of the Municipal Act, 2001:

A proposed or pending acquisition or disposition of land by the municipality or local board.

16. Adjournment

Next Regular Meeting: Wednesday, May 8, 2024

Delegation Request

For Office Use Only:

Meeting Name:

Meeting Date:

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Attention: City Clerk's Office, City of Brampton, 2 Wellington Street West, Brampton ON L6Y 4R2

Email: cityclerksoffice@brampton.ca Telephone: (905) 874-2100 Fax: (905) 874-2119

Meeting: ☒ City Council ☐ Planning and Development Committee
☐ Committee of Council ☐ Other Committee:

Meeting Date Requested: Wednesday April 10, 2024 Agenda Item (if applicable): Mullivaikkal Genocide Memorial C

Name of Individual(s): Pavalaghanthan Murugupillai
Shankari Srithayakumar

Position/Title: Pavalaghanthan - President of Canadian Tamil Sports Association
Shankari - Director at Canadian Tamil Sports Association

Organization/Person being represented: Canadian Tamil Sports Association

Full Address for Contact: [REDACTED] Telephone: 647-274-9366

Email: info@ctsa.ca

Subject Matter to be Discussed:	To host an annual sports tournament called "Mullivaikkal Genocide Memorial Cup" in the month of May in Brampton. This sports event will hold profound significance for the Tamil community, serving as a commemoration of the lives lost during the peak of the genocide against Tamils in 2009.
Request to Council/Committee:	To provide the facility and necessary support from the municipality that will help with execution of this event. We wish to host it as an annual event as a significance for the Brampton Tamil Community.

Attendance: ☒ In-person ☐ Remote

A formal presentation will accompany my delegation: ☐ Yes ☐ No

Presentation format: ☒ PowerPoint File (.ppt) ☐ Adobe File or equivalent (.pdf)
☐ Picture File (.jpg) ☐ Video File (.mp4)

☐ Other:

Additional information/materials will be distributed with my delegation: ☒ Yes ☐ No ☐ Attached

Note: Delegates are requested to provide to the City Clerk's Office **well in advance of the meeting date:**

- (i) all background material and/or presentations for publication with the meeting agenda and /or distribution at the meeting, and
- (ii) the electronic file of the presentation to ensure compatibility with corporate equipment.

Submit by Email

Once this completed form is received by the City Clerk's Office, you will be contacted to confirm your placement on the appropriate meeting agenda.

Personal information on this form is collected under authority of the Municipal Act, SO 2001, c.25 and/or the Planning Act, R.S.O. 1990, c.P.13 and will be used in the preparation of the applicable council/committee agenda and will be attached to the agenda and publicly available at the meeting and on the City's website. Questions about the collection of personal information should be directed to the City Clerk's Office, 2 Wellington Street West, Brampton, Ontario, L6Y 4R2, tel. 905-874-2100, email: cityclerksoffice@brampton.ca.



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Meeting: ☐ City Council ☐ Planning and Development Committee
☒ Committee of Council ☐ Other Committee:

Meeting Date Requested: Apr 24, 2024

Agenda Item (if applicable):

Name of Individual(s): Mackenzie Nolan & Baileigh Nolan

Position/Title:

Organization/Person being represented: Kids Help Phone "Walk so Kids can Talk"

Full Address for Contact:

Telephone:

Email:

Subject Matter to be Discussed:

Two Brampton Sisters, Mackenzie & Baileigh Nolan are raising awareness for youth mental health. Baileigh is member of Kids Help Phone Youth Council and Mackenzie is walking a million steps (from Apr 5 to May 5, 2024 to fundraise. That is approx 33,000 steps or 25 kms per day. Mackenzie walked 75km in one day to raise funds for the Legion during the pandemic.

Action Requested:

Mackenzie and Baileigh would like to make a presentation on their fundraising initiative.

A formal presentation will accompany my delegation: ☒ Yes ☐ No

Presentation format: ☐ PowerPoint File (.ppt) ☐ Adobe File or equivalent (.pdf)
☐ Picture File (.jpg) ☐ Video File (.avi, .mpg)

☒ Other: Canva

Additional printed information/materials will be distributed with my delegation: ☐ Yes ☒ No ☐ Attached

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- (i) 25 copies of all background material and/or presentations for publication with the meeting agenda and /or distribution at the meeting, and
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Kids Help Phone

Walk So Kids Can Talk

**Million in May
Campaign**

 **Kidshelpphone.ca**

Mackenzie & Baileigh Nolan



Steps we've taken...

We are two sisters from Brampton who are dedicated to serving our community as proud Missanabie Cree First Nation (MCFN) members.

We have volunteered with the City of Brampton Emergency Task Force and the Royal Canadian Legion. We mentor younger members of the Missanabie Band through our work with the MCFN Youth Council and coaching the Missanabie Maskwa Little NHL hockey team.

We know the importance of access to mental health resources for youth. Mackenzie was inspired to set up a fundraising campaign in support of Baileigh's work on the 2024 Kids Help Phone Youth Council.

**Taking 1 million steps leading into May
to raise awareness for kid's mental health
each step of the way!**

Meet Us!



Baileigh Kade Nolan

**Kids Help Phone
2024 Youth Council Member**

Grade 11 Student at Heartlake Secondary School. Senior Cadet. LGBTQ+ and Truth & Reconciliation Activist. Emerging Indigenous Artist.



Mackenzie Nolan

**'Million In May'
Event Creator**

Social Science Student at Dalhousie University. TD Community Service Scholar. Member of the Royal Canadian Navy & Royal Canadian Legion Br 27.



About Kids Help Phone

Canada's first and only 24/7 e-mental health service offering free, multilingual, and confidential support to help all young people.

Feel Out Loud

Vision

A future where every young person in Canada will access the support they need, in the way they need it most.

Mission

Always open, providing a safe and trusted place for young people in any crisis or need.

Values

Believe in being: courageous, collaborative, innovative, resilient and trustworthy.

Our Event

Mackenzie will be walking **one million** steps from April 5th until May 5th.

That's an average of 33,000 steps or 25kms a day!

Filming done during walks is posted with updates on various social media platforms.

All fundraising is done through the **Walk So Kids Can Talk** website.

Walking in many cities, including Halifax, Quebec, Brampton, and more!

Support a
Million in May
so kids
can have
their
say!



**THANK
YOU!**



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Meeting: ☒ City Council ☐ Planning and Development Committee
☐ Committee of Council ☐ Other Committee:

Meeting Date Requested: Apr. 17th 2024 Agenda Item (if applicable):

Name of Individual(s):

Sandip Singh Sangha

Position/Title:

Director

Organization/Person
being represented:

Inspirational Step

Full Address for Contact:

[Redacted Address]

Telephone:

[Redacted Telephone]

Email:

[Redacted Email]

Subject Matter
to be Discussed:

to Appreciate & thank for ABF Funding
for Brampton Half Marathon

Request to
Council/Committee:

to help us for spreading the message.
Also to join on the 26th May 2024

Attendance: ☒ In-person ☐ Remote

A formal presentation will accompany my delegation:

☐ Yes ☒ No

Presentation format:

☐ PowerPoint File (.ppt)
☐ Picture File (.jpg)

☐ Adobe File or equivalent (.pdf)
☐ Video File (.mp4)

☒ Other: in person

Additional information/materials will be distributed with my delegation: ☐ Yes ☐ No ☐ Attached

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Meeting: ☐ City Council ☐ Planning and Development Committee
☒ Committee of Council ☐ Other Committee:

Meeting Date Requested: April 24th 2024

Agenda Item (if applicable):

Name of Individual(s): Simmi Sekhon, Adham Diabas, Cara Desantis

Position/Title:

Human Rights Advocate

Organization/Person
being represented:

Brampton4Ceasefire, Brampton4Palestine

Full Address for Contact:

Telephone:

Email:

Subject Matter
to be Discussed:

Addressing the genocide in Gaza, Addressing anti-Palestinian racism, Addressing how Brampton is complicit economically in the genocide in Gaza.

Request to
Council/Committee:

Call for a permanent ceasefire, Call for 2-way arms embargo, lifting the siege in Gaza, Call for an increase in humanitarian aid.

Attendance: ☒ In-person ☐ Remote

A formal presentation will accompany my delegation:

☐ Yes ☒ No

Presentation format:

☐ PowerPoint File (.ppt)

☐ Adobe File or equivalent (.pdf)

☐ Picture File (.jpg)

☐ Video File (.mp4)

☐ Other:

Additional information/materials will be distributed with my delegation: ☒ Yes ☐ No ☐ Attached

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Meeting: ☐ City Council ☐ Planning and Development Committee
☒ Committee of Council ☐ Other Committee:

Meeting Date Requested: April 24, 2024

Agenda Item (if applicable):

Name of Individual(s): Todd Kyle
Radha Tailor

Position/Title:

Chief Executive Officer, Brampton Library
Chair, Brampton Library Board

Organization/Person
being represented:

Brampton Library

Full Address for Contact: 65 Queen St. E
Brampton, ON
L6W 3L6

Telephone:

Email:

mkwok@bramptonlibrary.ca

Subject Matter
to be Discussed:

Quarterly update to Committee of Council

Request to
Council/Committee:

Questions and Receipt of information

Attendance: ☒ In-person ☐ Remote

A formal presentation will accompany my delegation:

☒ Yes ☐ No

Presentation format:

☐ PowerPoint File (.ppt)

☐ Picture File (.jpg)

☒ Adobe File or equivalent (.pdf)

☐ Video File (.mp4)

☐ Other:

Additional information/materials will be distributed with my delegation: ☐ Yes ☒ No ☐ Attached

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Brampton Library

Update to Committee of Council April 24, 2024

Presented By:

Todd Kyle, CEO

Radha Tailor, Board Chair



The Brampton Library Board



**Chair
Radha Tailor**



**Vice Chair
Michael Ben**



**Regional Councillor
Paul Vicente**



**Regional
Councillor
Navjit Kaur Brar**

Board Trustees:

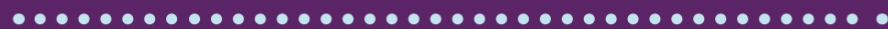
- **Tamanpreet Atwal**
- **Navdeep Dhaliwal**
- **Desiree Jones**
- **Nicole Russell**
- **Ameek Singh**
- **Megh Rathod**

Our vision

inspiring connections



Our mission



To build an inclusive community
by inspiring learning, literacy,
and social cohesion.



Performance Since November 2023

Market Penetration



35%
Dec 2023

34%
Aug 2023

Active Cardholders



120,000+
March 2024

117,000+
Oct 2023

Physical Borrowing



~210K monthly
Dec 2023

~230K monthly
Aug 2023

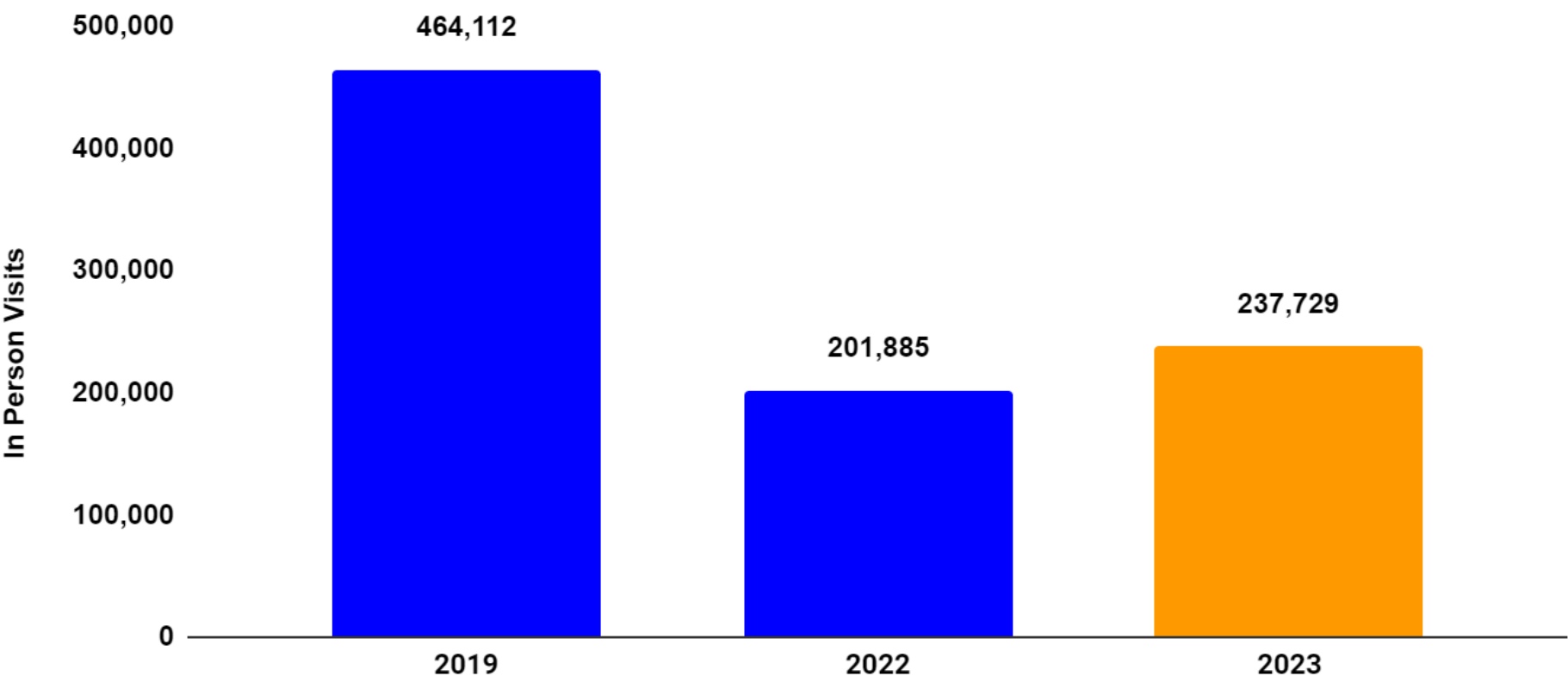
Digital Borrowing



Holding at
~65K monthly

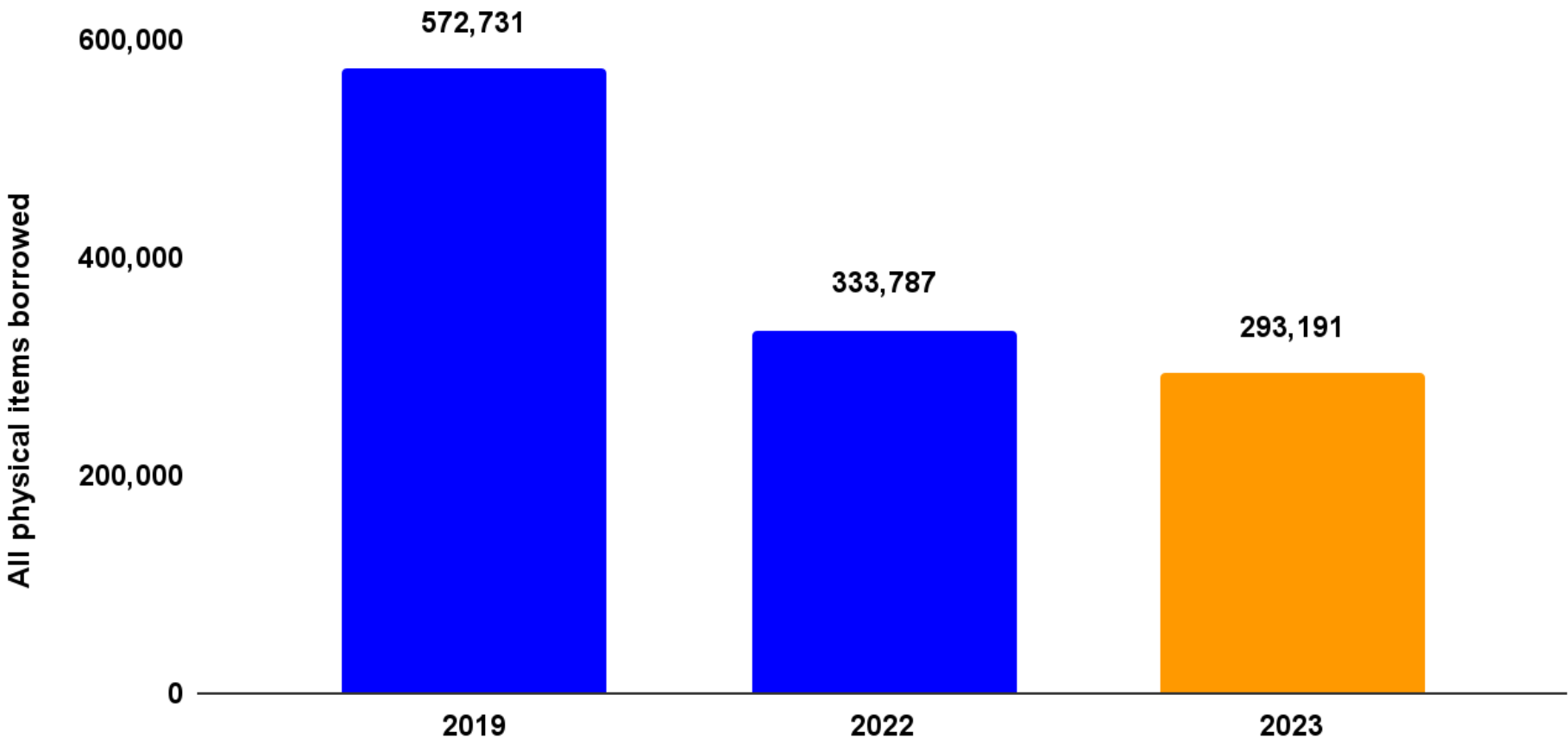
Chinguacousy Branch: Impact of Move

Chinguacousy received about half of the visits in 2023 vs 2019



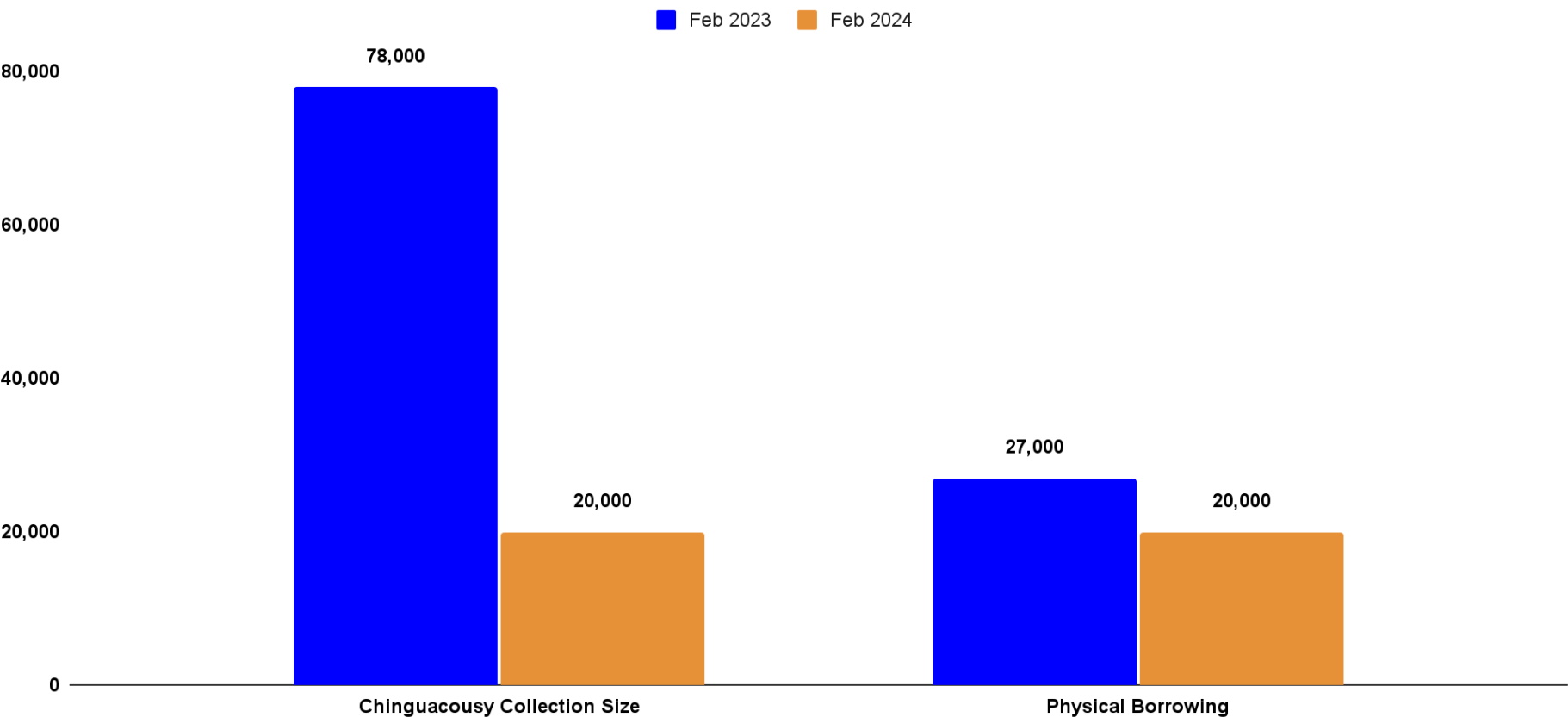
Chinguacousy Branch: Impact of Move

Chinguacousy customers borrowed 51% of 2019 levels



Chinguacousy Branch: Impact of Move

Chinguacousy has approximately 25% of the collection size in the temporary location



Our physical footprint has changed.



Brampton Ski Chalet, Chinguacousy Branch. Opened August 2023.

Library Capacity Changes

August 2023

Relocation from Civic Centre to Ski Chalet branch and 129 Glidden offices

September 2023

South West Branch increase to 6-day service

April 2024

Gore Meadows expansion completion

2024

Development of Branch #9

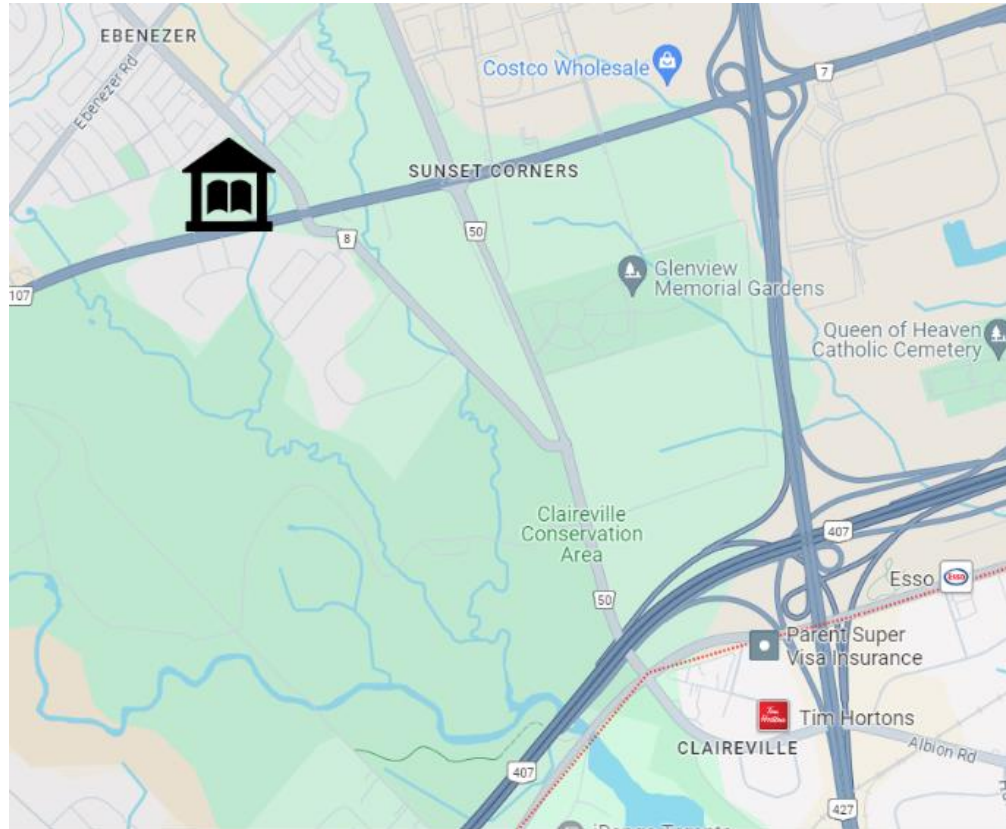
Process Underway

Search for a long-term site for the Chinguacousy Branch

Process Underway

Alignment with Recreation Master Plan and Urban Hubs planning

Library Capacity Changes



Branch #9: CLAIREVILLE BRANCH

8750 The Gore Rd – Projected opening fall 2024

Library Capacity Changes

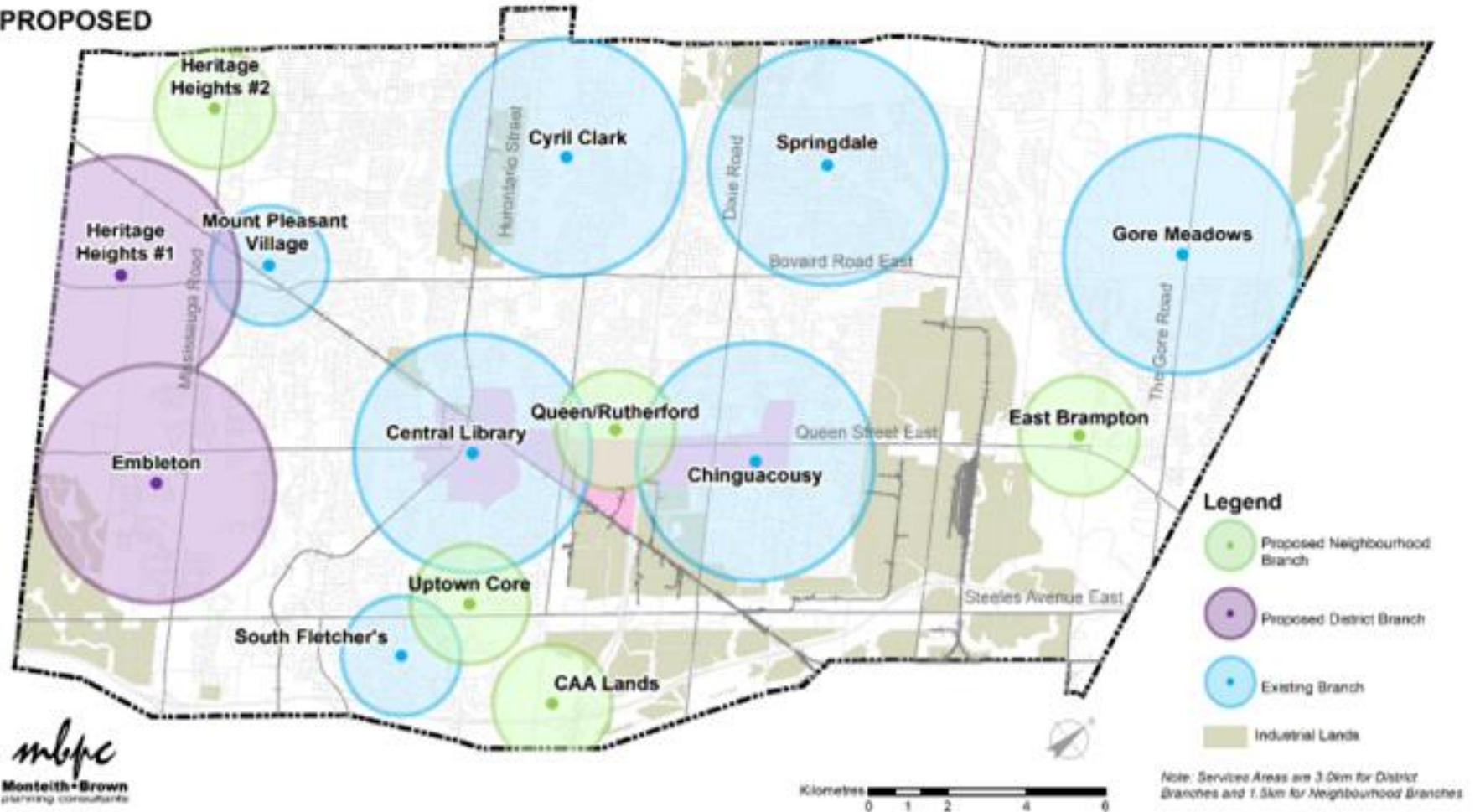


Library Capacity Changes



Expansion: Facilities Master Plan

PROPOSED



mbpc
Monteith-Brown
planning consultants

What's happening at the library?



CBC Toronto Listening Session. Photography by Jenny Jay.



"Reading Girl" by Abiola Idowu. Photography by Jennifer Williams.



Health & Well-Being

- CMHA at the Library workshops
- Queen Square Family Health Team workshops on CBT, managing stress
- Mindfulness and wellbeing workshops for seniors
- Investigating more community services: Service Canada, social isolation, employment counseling



Transit, Connectivity, Liveability

- Laptop + internet hotspot loans : plan to expand to loaning to general public
- Newcomer Bus Tour with Transit
- **Fine Free**



Growing Urban Centres & Neighbourhoods

- Partnership with Algoma University
- New makerspace at Gore Meadows
- Quiet study expansion
- Entrepreneur Zone with BEC
- Collaboration with Brampton's Innovation District



Environmental Resilience & Sustainability

- Video Game loaning collection to launch soon
- Cybersecurity improvements in collaboration with City IT including infrastructure, training and testing
- Looking into improvements for website user experience



Governance & Leadership

- November 29, 2023: CoC motion called for the integration of Library and City facility planning; and for the establishment of Service Levels Agreements (SLAs) for all services the City of Brampton provides, including Procurement
- Plans for 2024 include a review of existing and potential new SLAs with City depts including BDC (facility design), Recreation (alignment of Facility Master Plans), Procurement (alignment with City VORs), Legal, Realty
- Progress will continue to be reported in these updates including any approvals of Council required

Culture & Diversity

- Planning a second Artist in Residence with BAO
- Local Authors Showcase submission deadline
- Black History Month extensive programming
- *A National Crime* residential school exhibit
- Diversity Meter survey shows staff are diverse
- FOLD partnership



The deadline to submit for our

LOCAL AUTHORS Showcase 2024–25

is April 2.

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Report
Staff Report
 The Corporation of the City of Brampton
 4/24/2024

Date: 2024-04-08

Subject: **Recommendation Report - Enforcement Operational Review Findings and Recommendations**

Contact: Robert Higgs, Director, Enforcement and By-law Services

Report number: Legislative Services-2024-328

RECOMMENDATIONS:

1. That the report from Robert Higgs, Director, Enforcement and By-law Services to the Committee of Council Meeting of April 24, 2024, re: **Enforcement Operational Review Findings and Recommendations** be received;
2. That staff be directed to design a phased plan for implementing the recommendations outlined in the AtFocus Consulting report; and,
3. That staff be directed to report back to Council with a detailed implementation plan including the associated financial implications.

OVERVIEW:

- On December 7, 2023, a motion was proposed to direct staff to conduct a comprehensive operational review of Enforcement and By-law Services to enhance the efficiency, effectiveness, and consistency of operations.
- Staff engaged the services of an external management consultant to conduct the work, aiming to bring an impartial perspective to the review process.
- The operational review assessed the current state of service delivery within Enforcement and By-law Services, specifically focusing on the complete complaint resolution process.
- AtFocus Consulting prepared a report of their findings and a series of recommendations for implementation (Attachment 1).
- Staff will report back to Council with a comprehensive phased implementation plan with the associated resource requirements and financial implications.
- Implementing recommendations for long-term change will require support, effective change management, time for execution, and alignment with other corporate initiatives including the CX Strategy and accompanying action plan.

- **The new Commissioner of Legislative Services and the Director of Enforcement have proactively undertaken initiatives that address the key areas for improvement identified in the recommendations.**
- **There is no financial impact resulting from the adoption of the recommendations in this report. All costs associated with the implementation plan will be identified in a future report for Council's consideration.**

BACKGROUND:

At the Special Council Meeting held on December 7, 2023, a motion was proposed to direct staff to “conduct a comprehensive operational review of Enforcement and By-law Services to enhance efficiency, effectiveness, and consistency of operations, with a focus on optimizing use of resources, identifying potential service improvements (incl. proactive enforcement strategies), and establishing standard operating procedures and metrics to assess performance and promote accountability, and report back to Council in Q1 of 2024.” Staff engaged the services of an external management consultant, AtFocus Consulting, to conduct this work, aiming to bring an impartial perspective to the review process.

AtFocus Consulting is an experienced firm assisting organizations to achieve enterprise-wide continuous improvement. AtFocus has completed over 75 service delivery reviews and plans and has experience working with over 35 municipalities, towns, and regions across Canada. Their work includes strategic and business planning, process design and improvement, service delivery optimization, and customer relationship management. Their experience with the City of Brampton includes business planning with the Policy and Planning division and the Customer Experience Channel Strategy.

CURRENT SITUATION:

Scope of Review

Work began in January 2024, and concluded in March 2024. The review included a thorough examination of service request trends, 311 and enforcement data, customer complaints, and end-to-end business processes. Stakeholder engagement was achieved through interviews, web surveys, and focus groups with officers, supervisors, management, commissioners, business partners, and Councillors. The key focus areas of the review were mapping service levels, resource allocation, and business processes.

The findings of this review will aid the development of a comprehensive roadmap setting future actions and targeted improvements to service delivery. Improvements will also aim to strategically position enforcement processes to effectively address escalating service delivery demands and maintain high-quality customer service standards.

Overview of Findings

The report prepared by AtFocus highlights the intricate and complex nature of the challenges faced, including:

1. Increasing service requests;
2. Resource capacity for optimal enforcement response; and,
3. High number of callbacks and escalations to Councillors (as a result of 1 and 2)

The report recommends increasing staffing immediately to stabilize the organization and to bring relief to the current high pressure and increasing demand. The report also identifies that increasing full-time equivalents alone, over the long term, will not address the root causes affecting current customer issues. To address the root causes, AtFocus proposes that actions also be taken to:

1. Improve the culture;
2. Advance the use of technology; and,
3. Re-engineer key policies and processes.

Report Recommendations

The report provides 28 recommendations, categorized into Culture, Advancements, and Practices. Based on the review's scope, some recommendations require further analysis to ensure their effectiveness and implementation feasibility. The report recommends a comprehensive, phased approach to implementation, including specific implementation mechanisms. For a detailed analysis of the recommendations, see Attachment 1, "*Recommendations*".

Alignment with Other Corporate Initiatives

During the 2018-2022 Term of Council, staff were directed to develop a Customer Experience (CX) Strategy. This strategy emphasizes a customer-centric approach that aligns business goals and customer needs. Currently, the strategy and accompanying action plan are still being developed. The recommendations made in the Enforcement Operation Review align with and support the main ideas of this strategy.

Internal Audit is also currently undertaking its By-law Enforcement - Property Standards audit. The audit will review processes and controls related to Property Standards enforcement to ensure proper oversight is in place and processes are functioning as intended. This review will identify additional areas for improvement not addressed in the AtFocus operational review and propose solutions to address control issues or enhance processes.

Next Steps

Short-term implementation actions may commence without delay. However, mid-and longer-term implementation may require broader corporate investment and future budget consideration. Considering the impact, effort, and interdependencies of recommendations and other corporate initiatives, staff will develop a phased implementation plan. This comprehensive action plan, including a staffing analysis and associated financial and resource implications, will be reported back to Council in Q2 2024.

In recognition of the increasing demands on service delivery, the Commissioner of Legislative Services and the Director of Enforcement and By-law Services had already begun implementing some improvements prior to the final report. These improvements address the key areas for improvement subsequently identified in the report recommendations, including:

- Standard Operating Procedures and Process Improvements: An Enforcement and Service Delivery Committee was initiated in each service branch to address their specific portfolios with these items as core deliverables.

- **Evaluate 311 Support:** A 311 Working Group has been revitalized and tasked with specific directions to review how communications and efficiencies can be enhanced to improve the customer experience.
- **Staff Morale:** The new Director and Commissioner's active engagement within the work environment helps foster a positive narrative. Incorporating frontline personnel in committees aims to both enhance effectiveness and boost morale.
- **Expand on Automatic Licence Plate Readers (ALPR):** A second ALPR was put into service in April 2024 with enhanced capacity to be operated during night conditions. Further deployments are anticipated but have not yet entered the budget cycle.

CORPORATE IMPLICATIONS:

Financial Implications: There is no financial impact resulting from the adoption of the recommendations in this report. All costs associated with the implementation plan will be identified in a future report for Council's consideration.

STRATEGIC FOCUS AREA:

The work undertaken and the implementing actions support the City's strategic focus areas and priorities. Enhancing operational efficiency, effectiveness, and consistency fosters service excellence, innovation, efficiency, effectiveness, accountability, and transparency (Government and Leadership).

CONCLUSION:

The findings from the operational review underscore the value and importance of enhancing operational efficiency, effectiveness, and consistency. However, enforcement cannot be the sole solution in isolation from the other influencing factors, and implementing actions will require significant internal and Council support.

Authored by:

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Robert Higgs
Director, Enforcement and By-law
Services

Approved by:

Approved by:

Laura Johnston
Commissioner, Legislative Services

Marlon Kallideen
Chief Administrative Officer

Attachments:

- Attachment 1 – AtFocus Enforcement Review Final Report

- Attachment 2 – AtFocus Enforcement Review Final Report Electronic Appendix A, Process Maps



March 22, 2024

Project Overview

The City engaged AtFocus to conduct an operational review of the Enforcement and By-law Services Division. The scope of the review included the following:

- The 3 areas of the Enforcement Division (Municipal, Licensing and Property Standards). Gathering and analysis of available data on the number and types of Enforcement Service Requests
- Process mapping from initial 311 contact to closing the Service Request by Enforcement
- An enforcement staff web survey to understand the challenges and possible areas for improvement
- A focus group of the Enforcement Management team (Acting Commissioner, Acting Director, Acting/Permanent Managers)
- Discussions with 311 to determine their process and data
- Interview with the Chair and Vice Chair of Legislative Services
- Several other interviews, online staff engagement, and focus groups as necessary
- A final report outlining recommendations. Please note: due to the limited timing of the review, detailed research on some of the recommendations was not possible. As such, some of the recommendations point to areas of concern and recommend further review and analysis

The review began in early January 2024 and was to be completed by mid-March 2024 (a timeline set by the City in order to report back to Council within the specified timeframe). Typically, this type of review would take four+ months to complete. To assist in compacting the time to complete the review, the City reduced the scope of the review.

The scope of the review did not include

- External research (customer surveys, focus groups, experience mapping, best practice research, etc.)
- Detailed process mapping the steps conducted in the field by officers
- Detailed process review in specific areas such as dispatch, CRM, or Amanda functionality
- Detailed calculation/review of staffing requirements, staff skills, pay levels, or organization review
- The relationship/processes with other Divisions – although a short web survey was completed with those having dealings with the Enforcement Division
- A review of specific by-laws or enforcement sub-types
- A review of 311 operations and the support they provide to the Enforcement Division
- An implementation plan including the costing of recommendations

In support of this project, the City provided a subject matter expert to complete the majority of data gathering and the process mapping.

Definitions

Within this report, specific terms are used. These are:

- “Customers”. This is meant to represent residents, taxpayers, business owners, visitors, stakeholders, communities, and community groups
- “Service Request (SR)” is anything that is assigned to an Enforcement Officer (EO). These can be in the Customer Relationship Manager (CRM) system or in Amanada (the system integrated with CRM that the Enforcement Division uses to manage SRs). Internally, SRs are also referred to as files, cases, folders
- “Callback” are requests made by customers to have someone call them back with information. These are not logged in the CRM or Amanada as an SR. Complaints are included in Callbacks and are not separated from other types of Callbacks (e.g. information-only requests). Callbacks require the Enforcement Division to follow up on and call the customer back
- “Escalation” is used when Councillors email/call the Enforcement Division to follow up
- “311” is used to refer to Service Brampton
- “Enforcement Officer (EO)” means a municipal/by-law enforcement officer, including a property standards officer
- “Enforcement” includes all three areas of the Enforcement and By-law Services Division
- “Proactive” enforcement includes a model that involves using intelligence led enforcement (e.g. heat maps, identification of high complaint zones) education and collaboration with the community to establish a trusting environment where enforcement is seen as a positive action

Drivers of Customer Behaviour

Although customer research was not part of the scope of this project, it is important to point out some factors that will continue to have an impact on expectations from the Enforcement and By-law Services Division. The City, like all public sector organizations, is experiencing new customer expectations that are being driven by evolution and adoption in the private sector. In the past, customers tolerated a different expectation of the public and the private sector in the area of customer service. This was before major innovation took place in the private sector. As customers were exposed to more online self-serve, 24x7 service availability, multi-channel experiences, faster/immediate service delivery, and technology- driven services, they became more demanding of the public sector. As demographic shifts occurred and in particular in this age of convenience, additional pressures to keep up with the private sector settled in and now customers have equal expectations from both the private and public sector.

Findings and Analysis

A significant amount of data was collected during the review process. This data has been grouped into the following 2 areas:

- Interviews, Focus Groups, and Web Surveys (Enforcement staff and staff who have dealings with the Enforcement Division)
 - Process Maps and Processes, including Standard Operating Procedures (SOPs)
- Enforcement Data and Operational Information
 - Hours of Operation
 - Service Request Profile
 - Service Expectations
 - SR Volume and Trends
 - EO Staffing and Workforce Management

The external environment is contributing to the challenges faced by the Enforcement Division. Some of the root causes are steeped in the growth of the City. As the number of residents and business increase so does the need for parking and business licenses. If these needs are not met, infractions increase. In addition, other infractions increase such as loud noise, refuse, and snow removal. But those are not the only root causes of dissatisfaction. This ever-increasing demand on Enforcement poses a real dilemma ... how to support the needs of the customer/citizen cost-effectively, balanced with the need to enforce and maintain its necessary by-laws and requirements in a City of a growing population (residents, visitors, businesses).

The findings and analysis detailed in the section that follows have been instrumental in developing the recommendations that follow later in this report.

An overview of the findings and analysis shows that:

- The challenge facing the Enforcement Division and the City is complex and multifaceted
- There is no quick fix to the issues facing the Enforcement Division. A multi-prong approach is required to make a significant and sustainable impact
- Staff morale is an issue that must be addressed. Creating a more supportive environment is a first step to improving the division's culture
- An increase in staffing (FTEs) is immediately required to stabilize the organization and to bring relief to the current high pressure/demand. An increase in FTEs is also required in order to implement some of the recommendations in this report. However, increasing FTEs alone, over the long term, will not address the root cause affecting current customer issues
- Attention to improved internal operating practices and improved supporting technology must be addressed
- Improved communication, both internal and external, is essential for success

Towards the end of this review, a permanent Commissioner and Director were hired. Although these individuals were not part of the initial review, we were able to discuss the work and were provided with initiatives that have already begun to address some of the issues highlighted in this report. The following are examples of steps that already have been taken which should contribute to both customer service and improving the culture.

- **More comprehensive information is being provided to the customer:** An increase in the level of detail provided by Enforcement staff when callbacks are requested. Previously, the update would be a standardized statement, and if additional information was requested, customers would be directed to submit an FOI request. For example, this included instances where there was no enforcement taken as the vehicle owner had appropriately obtained a parking permit. This left the complaining customer believing that no action was taken as no tow or ticket occurred. Responses are now to include what specific action was taken (e.g. warn or issue a violation) or an explanation as to why no enforcement action was taken (e.g. owner appropriately obtained a parking permit)
- **Improved communications with EOs:** A regular practice of the Director visiting each work group, including the night shift teams, has begun. The intent of these visits is to improve communication with EOs. Information is provided that otherwise EOs may not easily be exposed to. In addition, EO questions are answered and a positive environment is being focused on by reinforcing that EOs are appreciated and are a valuable part of what makes the community work
- **New committees to implement change:** New committees have been established to begin to address the culture and work environment. The committees include:
 - Enforcement and Service Delivery Committee
 - Vehicle Users Committee
 - 311 Working Group

Results of Interviews, Focus Groups, and Web Survey

Below is a summary of the themes that emerged from the information gathered from staff and Councillors in the interviews, focus groups, and web surveys (please note, these are not recommendations).

- **Brampton is a Growing City:** The growth of the City is causing a significantly increased demand for enforcement: With the addition of housing/rental units, new legislation/policies, population growth, number of vehicles, buildings, etc., comes a significant pressure on enforcement
- **The Situation is Critical:** Overwhelming recognition by all participants that the situation is critical and improvements are required
- **Recent/Planned Improvements Will Have an Impact:** There are a number of projects/upgrades that are currently being worked on that are expected to assist with enforcement (e.g. GPS in vehicles, electronic ticketing, improved website, weekly staff meetings, the establishment of a training committee to address what EOs need training on, the establishment of a staff resource network and enhancement committee)
 - Enhanced Service Request Status documentation/codes have been implemented in September 2023 which may assist in reducing Callbacks and escalations as they provide improved reasons for SRs that have been closed
- **Organizational Stability is Required:** The organization has many positions at the management level in an acting capacity. At the time of the review, the Commissioner, Director, and 2 of the Manager positions were filled by acting assignments (please note, subsequently, as the review was ending, the Commissioner, Director, and 1 Manager position were filled permanently)
- **A Proactive Model is Needed:** The enforcement model should transition toward a more proactive approach, utilizing a progressive enforcement model whereby education and collaboration are prioritized (Moving from a transactional service provider to a transformational service provider) However, increasing proactive enforcement, even if phased, will impact SR response times without additional EOs, potentially increasing escalations. As with any change, effective communication strategies will be crucial to manage customer expectations throughout the transition. If transitioning to a fully proactive model immediately is not acceptable, then securing additional EOs will be necessary to begin implementing the progressive enforcement model we outlined.
- **Customers Need to See Enforcement as Supporting a Safe Community:** For a long-term behavioural change, customers need enforcement support to ensure community safety, health, and well-being. This may require a change in the EO uniform, the command and control model and culture. In addition, by-laws should be communicated in a manner that reaffirms and supports what the City is striving towards (healthier, safer communities)
- **Communication With the Community and Internally Must Improve:** Communication improvements are required to be more effective. More specifically, communication improvements are required:
 - With EOs by involving them in problem-solving, meeting with them, supporting them, and accompanying them on the road
 - Across the City in dealings with Enforcement to promote an improved understanding, a more collaborative and cohesive network when changes to policy and procedures occur
 - With customers to manage expectations by communicating the priority definitions for SR and the approximate response time by priority level for municipal enforcement e.g. overnight parking is a priority 3

- **EOs do not Have Sufficient Capacity:** The level of Service Requests (SRs) has significantly increased over the past several years and a large number of those SRs are not being actioned (e.g. being closed without investigation). The capacity of EOs must be increased to meet the SR volume. Suggestions provided include:
 - Hire additional EOs to keep up with the increasing number of SRs
 - Improved ability to address the high level of time away from enforcement duties (this would include project work, sick days, additional time off, etc)
 - Consider re-implementing 3 shifts and/or tiered staffing model to manage backlog that occurs between the current 2 shift model
- **Technology Improvements are Required:** Outdated or lack of supporting technology exists. This includes areas such as outdated cars, insufficient connectivity while out on patrol, useful in field technology such as mobile applications and tablets, CRM/Amanda capability (e.g. authentication), lack of management technology such as staffing calculators and workforce management tools contribute to inefficiency of officers
- **A Stronger Relationship with Council is Needed:** A more cohesive and aligned relationship is required to solve the root cause of problems facing enforcement in a growing city. A significant amount of time is being spent on Councillor enquiries. Councillors indicated that they need more detailed information such as knowledge about the process for handling SRs and the adherence to Standard Operating Procedures (SOPs). Council requires assurances that Enforcement is following approved procedures
- **Customer Expectations Must Be Aligned:** High expectations of customers are not aligned with the priority coding of SRs resulting in an increased number of complaints and escalation to Councillors. Improved communication back to the customer on the status of the SR and how it was resolved is necessary
- **There is an issue with Fairness and Equity:** A feeling of possible inequity in dealing with customers and the distribution of SRs
- **Accuracy of SR Issuance Needs Addressing:** Many areas require improvement during the SR intake process. In particular, the information gathered for SRs is missing/inaccurate which causes delays in attending to the SR. The dispatch process, the priority ranking system, and the time it takes to complete an SR are in need of review
- **Staff Morale Has Deteriorated:** Staff feel overworked, and undervalued (e.g. staff felt underappreciated during COVID-19 as they were working in the field enforcing COVID-related rules while other staff were able to work from home). In addition, there is a perceived inequity in the implementation of work-from-home policies among the staff. Coupled with a sense of insufficient recognition as staff are mandated to report in person for the full workweek

Process Maps & Processes

5 process maps were developed by the City. These included

- Enforcement and By-law Services Current State Process Map Callback Requests and Complaints
- Enforcement and By-law Services Current State Process Map Licensing
- Enforcement and By-law Services Current State Process Map Municipal Enforcement
- Enforcement and By-law Services Current State Process Map Property Standards
- Enforcement and By-law Services Current State Process Map Parking

The current state process maps demonstrate the differences in how SRs are received and assigned to EOs (more details are contained in the *electronic Appendix A file*). Highlighted differences include:

- Some are much more automated than others. Municipal is the most technology dependant and has fewer handoffs than Property Standards and Licensing
- Some SRs are dispatched from 311 to EOs others are not. Some are reviewed by a supervisor and/or a clerk while others are directly assigned to an EO using Amanda
- It appears that duplication exists in some of the steps and the use of a more automated/direct assignment should be adopted
- Online/Mobile SRs are sent directly to Enforcement & By-law Services
- Phone/Email/In-Person SRs are received by 311 before it is sent to the Enforcement Division
- SR for Property Standards are received by Enforcement Clerks and assigned to an Enforcement Officer (if the SR is life/health safety related it is assigned to a Supervisor)
- SRs for Licensing are received by Enforcement Clerks and assigned to a Supervisor for review who assigns it to an officer. There are some SRs that are sent directly to a Supervisor and bypass an Enforcement Clerk
- Mobile Licensing is assigned by dispatch over the radio from 7:00 am – 12:00 am
- Between 7:00 am to 11:59 pm Municipal SRs are dispatched by 311. From 12:00 am to 7:00 am, non-urgent SRs are created via the online 311 portal and mobile app and are self-assigned by officers (urgent calls are still dispatched by Security Services)

From the current state maps, there are a number of opportunities that could result in time savings, faster response rate, and reduction of error/missing information. These include:

- Eliminating the use of spreadsheets
- Improving/automating SR assignment
- Improved basic/required information gathering as many SRs are delayed/not followed up on due to the lack of required information
- Review the dispatching process to either eliminate or reduce when used
- Elimination of additional processing steps by various individuals (e.g. a review by the supervisor and/or clerk)
- Improved response time to customers (e.g. reduced use of mail)
- Improved management of customer expectation through the establishment of service response levels and understanding of priority designations
- Improve self-serve for customers to understand status

There are a number of limitations in the current processes that add to the time it takes to assign and/or respond to customers. These include:

- Limited 311 access to SR real-time information. 311 can only view the status of an SR once assigned to the Enforcement Division. As they have a restricted view of the SR they are not able to provide any additional information to a customer that a customer can obtain on their own if they choose to. In the past, 311 had access to the “notes” section of the SRs, however, there was an issue of confidentiality/protected information, and as such, their access to information was limited

- Councillors are not able to check the status of SR that customers are calling about to be able to inform the customer. Access to the SR status through CRM (provided that the customer has provided councillors with appropriate permission) would allow pertinent information to be communicated to the customer in accordance with privacy regulations, and possibly avoid an escalation to Enforcement.
- Customers can only view their own SR if they sign up, not on demand. This increases calls to 311 to enquire about SR status. If 311 cannot provide full information on status, this increases callbacks. Ensuring easier access to SR information will allow customers to self serve

Standard Operating Procedures (SOPs)

The current SOPs are outdated and it is not clear if they are being used. A project to review and update the SOPs was completed in 2022. A total of 73 SOPs were updated or created where required. However, only 16 of these have been reviewed and approved. The remaining are still pending review. The newly created Enforcement and Service Delivery Committees will be tasked with reviewing the SOPs relevant to their areas and ensuring they are updated and embrace best practices. Once confirmed, these SOPs will first be made available to City Councillors and then the public at large.

Data & Information

Detailed data and information gathering were conducted to complete the review. The analysis of the current state relied on the data provided by the Enforcement Division and 311. This data was used to understand the environment, staffing levels, the volume of work and the areas most affecting the ability to provide full quality services. In cases where data has been provided from the CRM and Amanda system, it should be reliable. However, some of the data requested was not available or was estimated (such as the number of complaints, escalations, and time to handle specific SR). An overview of the data/information is summarized as follows.

Data and Information Summary

- The majority of SRs for the Enforcement Division are in the area of Municipal (83%)
- 4 SR parking subtypes represent 68% of the total SRs for the Enforcement Division
- None of the 4 SR parking subtypes are designated a level 1 priority (3 of the 4 SR subtypes are designated a priority 3)
- Over 50% of the 74,676 parking SRs are closed and not attended to
- 63% of all Callback requests are for Municipal
- 42% of all Callback requests are for Parking
- Although data is not available, from the interviews and focus groups, the majority of Councillor requests are in the area of Municipal
- The highest reason a request for a Callback is a lack of information, not receiving a Callback once requested, and/or lack of action taken on an SR
- 51% of all SRs are completed either through mobile/web, indicating a high take-up rate for “self serve”. The phone channel is also used 42% of the time
- SRs are increasing over 20% each year over the past several years
- FTE levels have not increased to keep up with SR demand over the past few years. A net decrease in FTEs has occurred in 2023 over 2022
- There is a high rate of days away significantly impacting the number of hours available to conduct enforcement

The 3 areas related to the review (Property Standards, Licensing, and Municipal) are very different in not only what they enforce, but also their work schedules and processes. The following provides a more detailed overview of the 3 areas, operating practices, their volume of work, and management of the work, specifically:

- Hours of Operation
- Service Request Profile
- Service Expectations
- SR Volume and Trends
- EO Staffing and Workforce Management

Hours of Operation

Property Standards

- Monday to Friday 8:30 am to 4:30 pm
- Wednesday and Thursday 8:30 am to 8:00 pm

Licensing

- Sunday to Sunday 7:00 am to 12:00 am

Municipal Enforcement

- Sunday to Sunday 24 hours (rotating days/nights with no afternoon shifts)
- Dispatch/311 Sunday to Sunday 7:00 am to 11:59 pm. Note: Service Optimization started July 17, 2023 to optimize services for efficiencies during the hours of 12:00 am and 7:00 am, whereby only urgent calls received by phone are dispatched by Security Services (e.g. blocked driveway and internal snow clearing). Residents are directed to submit all other non-urgent service requests through the 311 portal, mobile app or email between 12:00 am and 7:00 am.

Service Request Profile

Peak periods refer to the time of the day and month of the year with the highest incoming SR Volume. The following are peak periods for the Enforcement Division

- Property Standards: Highest SR volume occurs at 10:00 am, 11:00 am, and 3:00 pm (a total of about 4,700 SR during these times). The highest months for SRs are May, June, and July
- Licensing: Highest SR volume occurs at 4:00 pm, 5:00 pm, and 8:00 pm (a total of about 407 SR during these times). The highest months for SRs are May, June, and July
- Municipal: Highest SR volumes occur at 8:00 am, and 9:00 to 11 pm (a total of about 20,498 during these times). The highest months for SRs are March, August, September

Service Expectations (sometimes referred to as Service Levels) refers to what the customer can expect once the SR is created. This should be set by the Enforcement Division. Service expectations often include when the SR will be assigned and the estimated timeframe of when the SR will be investigated. It is not clear as to what Service Expectations exist and/or being monitored. The following have been provided, but there is ambiguity on who established these, if they are communicated to the customer, or if they are monitored and achieved.

- Property Standards: 311 advises the customer that it will take up to 7 days to assign to an Enforcement Officer unless the SR deals with a vital service or pool
- Licensing: do not have any established service expectations (see below for Callbacks)
- Municipal: do not have any established service expectations
- Callback requests: 311 advises the customer that it will be between 3 and 5 business days, depending on area

SR Volume and Trends

Enforcement SRs are increasing significantly. The table that follows shows the number of SRs in Amanda and CRM, the number of Callback requests, and the number of calls handled by 311 that are not passed onto Enforcement in the years 2021, 2022, and 2023. There is a significant increase in SR year over year and a major increase in Callback requests in 2022. At the same time, the total of information-only calls has significantly decreased in 2022 and continue to slightly decrease in 2023. It is reported that this is due to online /mobile service offerings and the transition to CRM and SharePoint. During the same timeframe there has not been a significant increase in EO FTEs, in 2023 there was a net decrease of 2 EO FTEs since 2021.

SR Volumes & Trends			
	2021	2022	2023
Total SRs (in Amanda)	72,399 (represents a 22% increase since 2020)	89,811 (represents a 24% increase since 2021)	109,402 (represents approximately a 22% increase since 2022 or approximately a 51% since 2021)
Total SRs (in CRM) Note: the number is higher in CRM as duplicate SRs can be created, however, most of these duplicates are corrected by Amanda by linking them to each other. This demonstrates a workload issue for 311 and that multiple people are calling for the same SR	83,947	105,044 (represents a 25% increase since 2021)	133,493 (represents a 27% increase since 2022 or a 59% increase since 2021)
Total Callback Requests (means when a customer is asking to speak to someone from Enforcement, also referred to as a "Complaint" but does not generate an SR)	1,153	5,609 (represents a 386% increase since 2021)	5,537 (represents a 1.3% decrease since 2022 or a 380% increase since 2021)
Total Information Only Calls (logged in CRM only. These calls are handled by 311 and no SR is created for Enforcement)	88,001	39,435 (represents a 55% decrease since 2021)	38,890 (represents a 1.4% decrease since 2021 or approximately a 56% decrease since 2021)
EO FTEs	83	85	81 (Note: reduction in staffing of -4 in 2023 due to the dissolution of the cannabis unit)

A breakdown of 2023 SRs by channel is provided in the following table. Note that this data is from CRM as it is not available in Amanda.

Distribution of SRs by Channel in CRM							
2023	Phone	Online	Mobile	Email	In Person	Dispatch	Total
Total CRM SRs	55,640	35,148	32,615	4,947	111	5,032	133,493

The table that follows illustrates that the 2023 highest volume of SRs is primarily from 4 SR subtypes. In particular, 72% of SR are parking-related within 4 subtypes. As parking is such a large area of concern, the table separates parking from Municipal.

SRs by Subtype							
Licensing 1,528 Total SRs With 33 Subtypes		Property Standards 17,577 Total SRs With 33 Subtypes		Municipal (without parking) 15,621 Total SRs With 37 Subtypes Note: duplicates may exist as they are not linked to an existing SR when received		Parking 74,676 Total SRs With 39 subtypes Note: all individual” new” SRs as no duplicates exist as these are added to an existing SR when received	
SR Subtype	#SR	SR Subtype	#SR	SR Subtype	#SR	SR Subtype	#SR
Short Term Rental	262	Refuse	4,235	Excessive Loud Music	5,770	3-hour	23,953
Tow	254	Excessive Growth	3,887	Fail to Remove Snow	1,747	2 am – 6 am	22,043
Auto Body Repair	185	Exterior Offences	2,461	Fireworks	1,657	Sidewalk	4,308
Proactive	160	Garbage Containers	1,513	Illegal Signs	1,478	Prohibited Area	3,829
861 (56%) SRs of the total SRs are within 4 subtypes.		12,096 (69%) SR of the total SRs are within 4 subtypes.		10,652 (68%) SR of total SRs are within 4 subtypes		54,133 (72%) SR of the total SRs are within 4 subtypes	
The remaining 667 SR of the total SRs are within 29 subtypes.		The remaining 5,481 SR of the total SRs are within 29 subtypes.		The remaining 4,969 SR of the total SRs are within 33 subtypes		The remaining 20,543 SR of the total SRs within 35 subtypes	
By way of summary: <ul style="list-style-type: none">▪ Parking represents 83% of SRs for Municipal (74,676 out of a total of 90,297)▪ Municipal (with parking) represents 83% of the total SRs (90,297 SRs of a total of 109,402 SRs)							

Municipal (including parking) uses a priority designation for SR (developed by Municipal). All SRs are assigned to EOs. All priority 1 SRs are attended to as much as possible, if they are not they are escalated to a supervisor for action. Priority 2 and 3 are often not attended to due to resourcing constraints. As the table below illustrates, none of the 4 subtypes that result in 72% of all parking-related SR are classified as priority 1. As such, this portion, although assigned to an EO, is not attended to and is subsequently closed. It was reported that, in 2023, at least 31,000 of the 74,676 Parking SRs were closed as they were not able to be attended to.

SR Priority Designation							
Licensing		Property		Municipal		Parking	
SR Subtype	Designated Priority	SR Subtype	Designated Priority	SR Subtype	Designated Priority	SR Subtype	Designated Priority
Short Term Rental	Do not use priority designation	Refuse	Do not use priority designation	Excessive Loud Music	1	3-hour	3
Tow	Do not use priority designation	Excessive Growth	Do not use priority designation	Fail to Remove Snow	1	2 am – 6 am	3
Auto Body Repair	Do not use priority designation	Exterior Offences	Do not use priority designation	Fireworks	1	Sidewalk	2
Proactive	Do not use priority designation	Garbage Containers	Do not use priority designation	Illegal Signs	3	Prohibited Area	3

The main reasons for Callback requests are illustrated in the table that follows. Municipal has the highest number of Callback requests representing 7,786 (63%) out of 12,340 requests. The main reason cited for the Callback is a request for more information about the action is taken/outcome as a result of continued offences and complaints about not receiving a Callback after the request. Similarly, lack of information, lack of resolution, and status update requests are the primary reasons for a request for Callback in Property Standards.

Callbacks	
Area/Volume	Main Reasons For Callback Request
Mobile Licensing Volume of 611	<ul style="list-style-type: none"> Due to unsuccessful attempts to reach the relevant Department and they do not receive a call back after leaving a voicemail (so of this is due to no contact information being provided by the customer) Complaints about delays in receiving Callbacks or updates on reported issues Other themes include: towing and licensing issues, general licensing and permit inquiries, vehicle inspection process concerns
Property Standards Volume of 3,943	<ul style="list-style-type: none"> Requesting the status of files Lack of resolution/action Closed no resolution or explanation
Municipal Volume of 2,564	<ul style="list-style-type: none"> Frequent Callback requests made for closed files with no explanation Frequent call-back requests made for inaction/continuing offense Customers requesting a Callback from the officer/supervisor for more information
Parking Volume of 5,222	<ul style="list-style-type: none"> Frequent Callback requests made for more information about action taken/outcome as a result of continued offences Complaints about not receiving a call-back after requested

EO Staffing and Workforce Management

- Based on the estimated inspection time required to handle the total number of service requests compared to the available inspection time for the complement of FTEs the Enforcement Division is significantly understaffed for the volume of SRs. This does not account for the number of required re-inspections for any given service request. However, the required data for accurately calculating FTE requirements does not currently exist because inspection time is not tracked. Examples of data requirements to accurately calculate total FTE (both FT and PT) include
 - The average length of time to complete an SR including any follow-up work
 - Average planned unavailable time to complete enforcement duties (e.g. staff meetings, vacation, lieu, assigned project work)
 - Average unplanned time to complete enforcement duties (e.g. sick, long/short term disability, emergency issues)
 - Total available time to complete enforcement duties (the number of hours and days a FTE works)
 - The arrival pattern of all SRs (e.g. the kind of SRs and the time of day they are created)

- In addition, to properly (most effectively/efficiently) manage EOs an automated workforce management tool is required. Currently, most of this type of workforce management is completed using Excel and is provided to 311 multiple times a day via email in order to dispatch SR accurately. This is a time-consuming and not an optimal method for workforce management. A workforce management tool allows accurate planning for how many EOs are required and available. When shortages occur, a plan to manage these can be developed. This allows for a more proactive way of managing the workforce (e.g. appropriately scheduling meetings in lower SR times, scheduling vacations due to operational needs, proactively managing possible days away, and understanding the impact of project work on SR management)
- Directly and critically impacting the required number of staff and the calculation of being significantly understaffed is the total days when EOs are not able to conduct enforcement activity. These are as follows (for 2023)
 - Municipal and Licensing 2,583 days (this includes vacation, sick, ST/LT disability, and leave of absence). This does not include hours spent on projects or meetings which also accumulate to hours/days not available to conduct enforcement activity
 - Property Standards 1,323 days (this includes vacation, sick, ST/LT disability, leave of absence, and union executive business days not in office). This does not include hours spent on projects or meetings which also accumulate to hours/days not available to conduct enforcement activity

The total number of days not available for enforcement activity is 3,906 days. If it is assumed that an average FTE has 240 available days to work, these numbers represent about 20 FTEs.

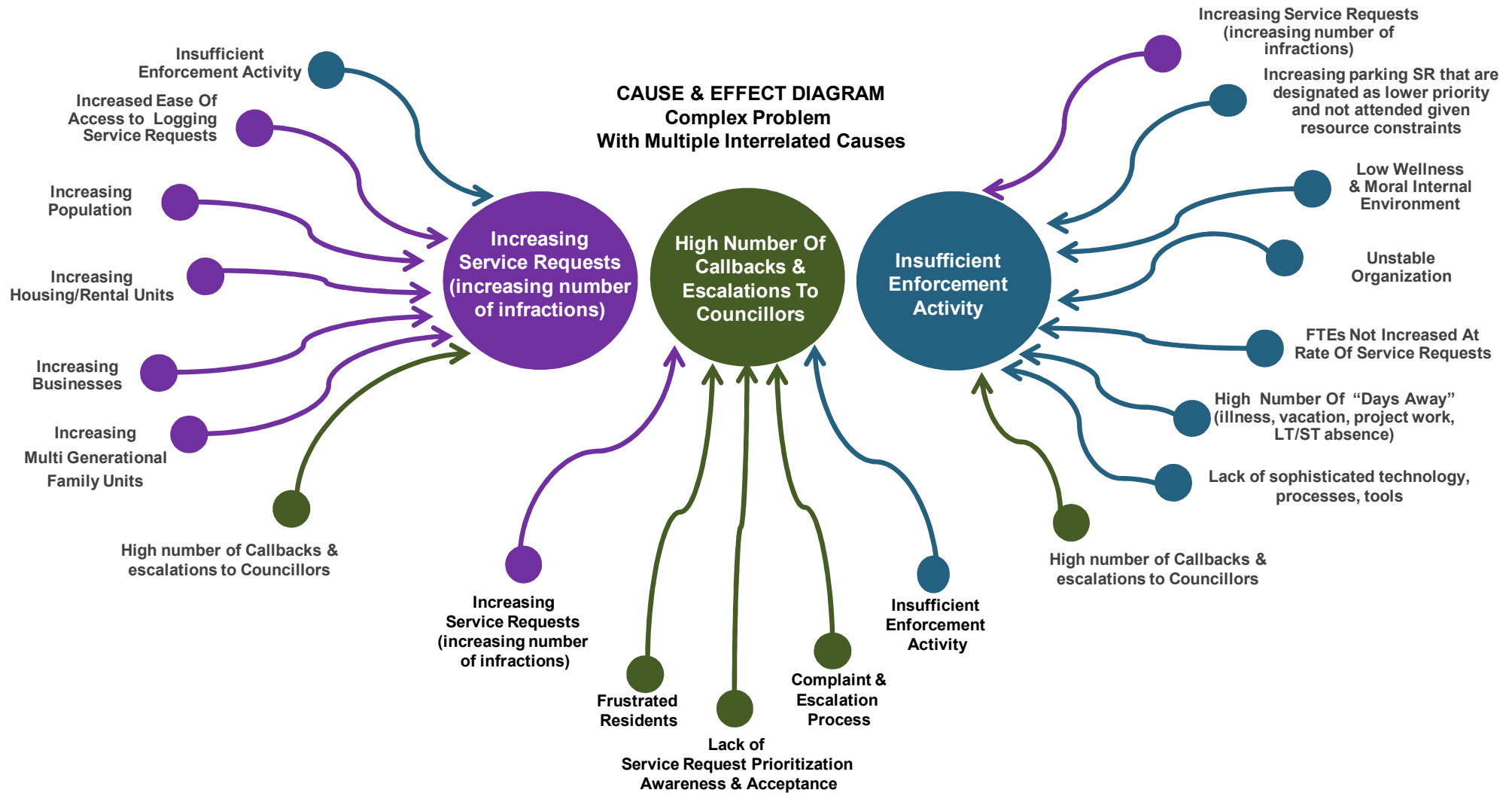
The Current Challenge

The current challenge can be grouped into 3 main components. Those being:

- Increasing Service Requests (which is a direct result of increasing infractions and/or assumed infractions)
- Insufficient enforcement activity
- High number of Callbacks and escalations to Councillors (as a result of the 2 previous bullets)

The solution may appear to be simple at first glance. Increase the number of EOs, which would result in more SRs being handled, which would subsequently decrease the number of Callbacks and escalations to Councillors. Although additional EOs are required to provide stability to the organization and allow for some improvements to be worked on without further reducing the time to enforce, continued increasing EOs is not sustainable without process improvements, investments in technology, improved linkages with 311 and enhanced relationships with both Council and the community. The current challenge, although on the face has 3 main components, each component has a number of impacting factors that together result in a complex challenge facing the Enforcement Division and the City.

The review resulted in the understanding that the current challenge is very complex and the cause is both multidimensional and multifaceted. The diagram that follows illustrates our findings. The diagram that follows, shows the route causes for each of the 3 main components (increasing SRs, high number of Callbacks and escalations to Councillors, and insufficient enforcement activity) and also shows that each main component impacts each other, resulting in a highly complex problem.

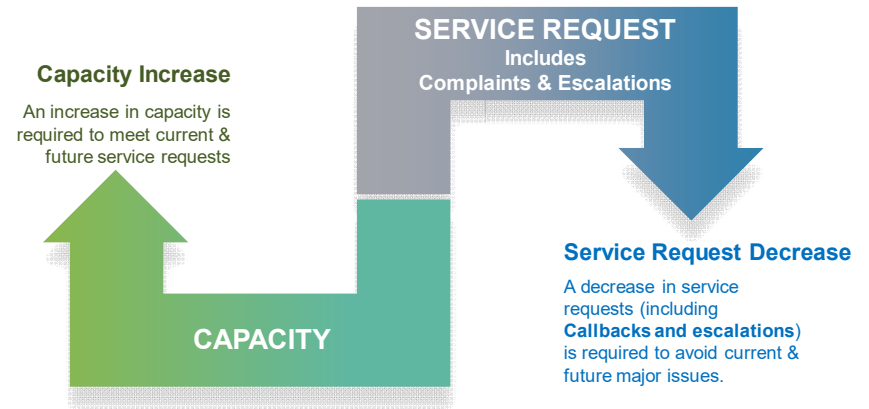


However complex the current challenge is, the solution can be grouped into 2 critical requirements. The solution requires the City to increase enforcement capacity (by increasing **the time** to enforce, not simply increasing FTEs) while **also** decreasing service requests. This relationship is critical and is represented in the diagram to the right. Increasing capacity by adding FTEs may address the issues in the very short term, but will not provide a sustainable solution.

In order to tackle these 2 critical requirements, actions taken must result in

- Improvements to the Culture
- The addition of further advancements such as technology
- The evaluation and re-engineering of processes, rules (e.g. by-laws), and techniques

These are discussed in detail in the next section, **Recommendations**.



Recommendations

The City would benefit from a more holistic, proactive, teaching approach as to why by-laws and compliance are necessary components for a safe, healthy community and to maintain the quality of the City must be adopted. In an ideal world, enforcement activities would be a last resort, however, that is not the current reality. A number of enforcement or safety organizations are moving to a more proactive, engaged community-based approach. In this model, the desired outcome is one where the community understands and buys into the need for by-laws and sees these as positively and absolutely required for the overall good. As such, they will more willingly comply and much fewer infractions/violations will occur.

The current problem facing the City of Brampton Enforcement Division is a systemic problem that has resulted from an accumulation of components over the past number of years. Changes in legislation, regulations, downloading to municipalities from the Province, longer-term planning and policy development, inadequate funding of staff and technology and COVID have all played major roles, cumulating to the current problem of the number of SRs (including Callbacks and escalations) has drastically outnumbered the ability of the Enforcement Division to respond appropriately to all the demands.

A holistic longer-term vision for enforcement results in the proactively co-ordinated policy and procedures, technology, City wide planning, and implementation of new changes. This results in a compliance-based community that is working together to ensure safety, well-being, and a quality City. However, this long-term vision requires substantial support, change management, and time. More specifically it requires:

- Increased trust and engagement between customers and the City
- Increased trust and engagement between Council and the Enforcement Division where Council understands the work enforcement is doing and that it will take time to for positive results to be seen
- Change management internally – improved morale, wellness, culture shift
- Long-term external policy/by-law changes to encourage builders, businesses, and residents to make the city safer, with fewer infractions
- A desire for change by City administration and Council
- Patience and a long-term implementation plan that is managed and accounted for ... One which allows for individual changes and improvements to accumulate into longer-term success

The current model in the City mainly operates as a reactive complaints-based model. This type of model is not sustainable given the complexity of why SRs are increasing and why the time to enforce is decreasing. In 2023, Council directed staff to implement a proactive property standards enforcement pilot, however, the results of this pilot are yet not available. With the current staffing complement and a significant reduction in time to enforce (e.g. days away), proactive enforcement would be at the additional expense of current SRs resolution. A balanced approach is necessary and an acknowledgment that there will be slippage in reactive enforcement before the benefits of a proactive model can be realized. However, some proactive enforcement activity could begin in the short term to realize quick efficiency benefits while also addressing the frustration levels of customers.

A longer term vision should be adopted and worked towards, as the desired end state for enforcement in the City.

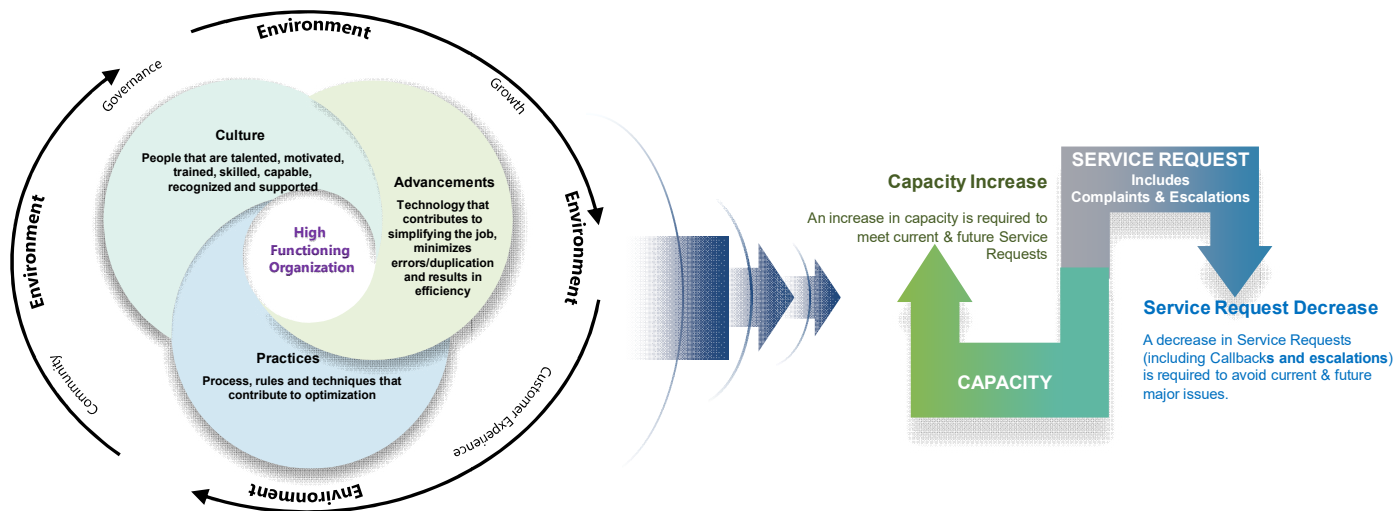
Increasing Capacity While Decreasing Service Requests

Based on the findings of this review, there are 3 drivers required to move the Enforcement Division to a high-functioning organization. These are:

- **Advancements:** This includes technology that contributes to simplifying the job, minimizing errors and duplication, and results in efficiency
- **Practices:** This includes updating processes, rules, and techniques that are outdated, not being adhered to, or eliminating cumbersome time-consuming steps
- **Culture:** This includes focusing on people and how they are supported, organized, and motivated.

High Functioning Organization:
An organization (or sub unit of a bigger entity) that delivers quality services, have highly motivated and capable staff, has stability, and one that is trusted.

The diagram that follows demonstrates the relationship between these 3 drivers. In addition, the current environment is a key influencer and highly impacts success. The environment is made up of things that significantly impact the ability to perform well. The environment considers elements such as **Growth** (population, infrastructure, housing, business), **Customer Experience** (what customers want, their experiences with other organizations/businesses, their expectations around speed, accuracy, and quality of service), **Community** (how involved the community is, the level of trust and engagement they have with the City and their tolerance levels) and **Governance** (how decisions are made, relationship/interactions within the City, legislation, regulations, governing policies, by-laws and budget approvals/direction).



Specific Recommendations

The following recommendations are categorized into the 3 primary drivers for a high-functioning organization (Advancements, Practices, Culture). There is no quick fix to the issues facing the Enforcement Division. A multi-prong approach is required to make a significant impact. Although the scope of this review did not include calculating the number of FTEs required, an increase to EOs is required to stabilize the organization and to be in a position to begin implementation of the recommendations. In total, there are 28 recommendations, 16 in the area of Advancements, 5 in the area of Practices, and 7 in the area of Culture.

ADVANCEMENTS	
Recommendation	Impact
<i>Improve Quick Access To Heatmaps:</i> Ensure easy access to regular (on demand) heatmaps. Investigate automating this in CRM/Amanda.	<ul style="list-style-type: none"> ▪ Allows for proactive enforcement ▪ Allows for distribution of EO to most required areas ▪ Increases data/knowledge on what does or doesn't work and allows for improved management activities ▪ Allows for real time SR management
<i>Implement An Automatic Distribution For SR:</i> Investigate Computer-Aided Dispatch/ CAD Systems that integrate dispatch/mapping with GPS to replace the current radio and dispatch process. The current overnight SR self-assignment process should be evaluated and expanded to daytime if appropriate. As an additional short-term solution, establish dedicated enforcement dispatch staff with subject matter knowledge to check SR required information before being dispatched and filter SR to correct staff in the most efficient manner.	<ul style="list-style-type: none"> ▪ Improves accuracy of SR assignment ▪ Ensures fairness and equity of assigned SR ▪ Increases EO safety ▪ Reduces the need for manual/paper/excel drive SR assignment ▪ May increase the ability of EO to complete multiple SRs in the same area ▪ Increases efficiency and time to dispatch ▪ Eliminates SR review prior to being dispatched in most cases

ADVANCEMENTS	
Recommendation	Impact
<p><i>Continue To Implement The Auto Key Distribution (AKD):</i> Ensure that the current project to implement Auto Key Distribution for cars continues. This allows for a “universal car” or “one fleet” model. Note: this recommendation assumes a “business case” was completed for the AKD and demonstrated value.</p>	<ul style="list-style-type: none"> ▪ More equitable model in terms of who has access to better-equipped cars ▪ May improve fleet management (predictive wear and tear on cars making it easier to service and replace) ▪ Provides an opportunity to reduce the need to start a day/shift in particular locations ▪ May decrease travel time at to start and end of day, which increases time to enforce
<p><i>Determine An Improved Approach To Parking:</i> Investigate innovative options for creating additional parking (some of the options could include various models of on-street parking, designated on-street parking zones, increased days for parking permits, and community-based parking areas). Conduct a best practice search across other enforcement organizations to determine possible solutions.</p>	<ul style="list-style-type: none"> ▪ Decrease in SRs ▪ Increase in compliance with by-laws ▪ Increases capacity to complete additional SRs ▪ Decreases complaints, escalations, and number of Callback requests ▪ Increases morale ▪ Improves frustration levels of customers
<p><i>Expand Automatic License Plate Readers (ALPR):</i> ALPR should be used to conduct proactive parking enforcement with possible dedicated shifts and/or EOs. Using heatmaps, trends in SR determine when and how ALPR can be used most efficiently. Equip additional cars with ALPR to eventually complete all parking enforcement using this technology. This technology investment should only be explored in conjunction with any changes to the current parking by-laws (e.g. if the three hour parking rule is eliminated, this investment may not be as valuable).</p>	<ul style="list-style-type: none"> ▪ Reduce time to ticket ▪ Increases the number of SR completion ▪ Increases accuracy ▪ Increases safety ▪ Adds time to enforce resulting in increased SR completion
<p><i>Review High Volume Callbacks And By-laws:</i> Evaluate where changes to by-laws, procedures, policies, and regulations can result in a more productive and positive solution and assist in compliance and enforcement (e.g. public nuisance, garbage bin storage). In addition, review prohibitions and enforcement processes that are currently not resulting in the desired outcomes/compliance (e.g. weekend party and nuisance complaints).</p>	<ul style="list-style-type: none"> ▪ Increases efficiency and effectiveness ▪ Reduces “closed” SR that are not attended to ▪ Improves trust and engagement of customers where by-laws, procedures, and policies are viewed as unrealistic ▪ Reduces the number of SRs ▪ Increases enforcement capacity

ADVANCEMENTS	
Recommendation	Impact
<p><i>Procure A Custom Mobile Solution:</i> The current process for in-field notes/photos/access to information and uploading is cumbersome with poor connectivity at times and multiple devices, adding significantly to the time requires to complete an SR. A mobile solution that accesses Amanda data allowing officers to take photos and notes in the field , to eliminate transferring information and data between devices and providing better customer service with access to data. To accompany this, appropriate supporting field technology is required (e.g. mobile phones that support full use or tablets).</p> <p>Work on procuring a new mobile (phone) application is underway in the Building Division. The Enforcement Division should be part of a possible overall solution, as the business needs are very similar.</p>	<ul style="list-style-type: none"> ▪ Increases efficiency ▪ Reduces time spent on a SR ▪ Increases time spent in the field and reduces time in the office at the start and end of the day ▪ Reduces the possibility of human errors
<p><i>Investigate Outsourcing Parking Enforcement:</i> Evaluate cost-benefit model and ability to implement. Review areas where a form of outsourcing currently is being done to assist in the evaluation (e.g. plaza/private property parking). Conduct research into what cities are outsourcing currently and their evaluation of it.</p> <p>If this option is not viable, establish a dedicated parking unit, separated from Municipal to action parking service requests. This isolates the main issue facing enforcement currently and allows for a more dedicated, targeted solution-focused approach.</p>	<ul style="list-style-type: none"> ▪ Most impactful recommendation on capacity to complete other SR ▪ Immediately increases the effectiveness of parking enforcement once implemented ▪ Significantly reduces SR for Enforcement to attend to ▪ Increases ability to effectively enforce ▪ Increases satisfaction of customers ▪ Reduces complaints, escalation and Callbacks ▪ Easier accountability and cost model (built into contract) ▪ May result in long-term savings

ADVANCEMENTS	
Recommendation	Impact
<p><i>Improve CRM/Amanda:</i></p> <ul style="list-style-type: none"> ▪ Ensure email & phone number a required field in CRM ▪ Implement contact validation to accurately capture customer information and to enable EOs/311 to provide customer updates ▪ Enable officers to input updates easily to CRM when in the field ▪ Enable residents and councilors to query a service request status with the COBI number online. Review process for call-backs to decrease hand-offs and lead time ▪ Increase information provided to customers during stages of the complaint resolution process through CRM or Service Brampton (i.e. order issued, clean up performed, etc.) 	<ul style="list-style-type: none"> ▪ Increases customer ability to self-educate on SR status ▪ Decreases requests for Callbacks, escalations, and complaints ▪ Minimizes/avoids multiple handoffs (311 can do more or the customer can contact the EO supervisor directly) ▪ Improves reputation of enforcement activities in the community (they can see progress and understand delays) ▪ Improves 311 ability to respond to customer inquiries on SRs
<p><i>Evaluate Escalation Process:</i> Evaluate the current escalation practice of using email. Use the CRM system to flag an issue that is directed to the Director of Enforcement. In addition, investigate if Councillors can access a specific customer's SR if permission (e.g. through a waiver) is provided to them by the customer. Reviewing SR status and noting areas may avoid an escalation to the Enforcement Division.</p>	<ul style="list-style-type: none"> ▪ Ensure fairness and equity within the SR queue by not reprioritizing service requests that have been designated as lower priority to a higher priority ▪ Escalations can be better coordinated and resolved. Improved tracking of data used to investigate trends and possible “hot spots” which can be proactively managed ▪ Frees up Manager/Supervisor and Enforcement Officer time to continue to manage the SR Queue

ADVANCEMENTS	
Recommendation	Impact
<p><i>Affirm Priority Designations:</i> Evaluate the current SR priority ranking system. If appropriate, reaffirm the use of priority designations. Once affirmed, educate on priority designations. Ensure all priority designations have an estimated service response level. Provide education so that customers, Councillors, and staff understand priority levels and estimated response time.</p> <p>Determine how to continue to enforce lower priority SRs, such as proactively blitz, and attend to specific areas at regular intervals (e.g. on a specific day of the week).</p> <p>Asses Amanda/CSR SR Codes/Messages. In September 2023, the CRM status messaging was enhanced to provide a more detailed explanation of how an SR was handled and why it was closed. Evaluate if these new codes are assisting in reducing the number of complaints/escalations by customers. Review if more specific coding is required for lower-priority SRs.</p>	<ul style="list-style-type: none"> ▪ Focuses available enforcement capacity on safety and health SR (these are designated as highest priority (#1)) ▪ Assist in managing customer expectations ▪ Should result in a significant reduction in escalations by Council on lower priority SR (there is an agreement that these may not be enforced in real-time as they are received) ▪ Appropriate responses can be provided (by 311, Councillors, and enforcement staff) if a customer escalates a lower-priority SR
<p><i>Evaluate 311 Support:</i> Provide expanded access to Amanda notes section so that 311 can provide additional information to customers (note: provide instruction/training on what not to disclose). Consider what other tasks 311 can do on behalf of the Enforcement Division that result in increased capacity of enforcement to attend to SRs.</p>	<ul style="list-style-type: none"> ▪ Improved customer service at the point of contact ▪ Reduced Callback requests, escalations and complaints
<p><i>Begin to Implement Small Scale Proactive EO Enforcement Process:</i> Provide EOs direction to create an SR if the officer is in an area to attend to an SR.</p> <p>Implement SR blitzes and hot spot proactive enforcement activity.</p>	<ul style="list-style-type: none"> ▪ Proactive Approach to Enforcement ▪ Faster response time for some SR ▪ Positively impacts the reputation of EO in the community

ADVANCEMENTS	
Recommendation	Impact
<p><i>Investigate Enhanced Automated Scheduling Tools:</i> An automated staff scheduler that assists with the distribution of EO, planned absentees, and staff peaks and valleys accordingly should be evaluated. In addition, 311 can access the schedule and better understand availability. The current process of using Excel and email to communicate schedules can then be eliminated.</p>	<ul style="list-style-type: none"> Improves management capabilities to appropriately schedule staff Eliminates manual processes using Excel to schedule and increases management staff time Improves 311 understanding of availability Provides more accurate data for staffing requirements overall and in peaks and valleys May positively impact the number of SR completed as peak times can be more proactively planned for
<p><i>Invest In Drones:</i> Investigate the effectiveness and efficiency of using drones to proactively conduct enforcement. Conduct research as to where Drones are being used successfully.</p> <p>Pilot in high areas of risk or complete a blitz. Drones may also be used to flag non-compliant vehicles and alert EO who can then proceed to the area.</p>	<ul style="list-style-type: none"> Increased enforcement activity Increases time of EO to complete SRs Provides “real-time data” in higher-risk areas or highly non compliant areas Improves overall efficiency and effectiveness of enforcement Reduces time wasted attending SR that are no longer viable (e.g. parked car is no longer there)
<p><i>Include in the longer term strategy an evaluation of Multiple Detachments/Satellite Offices.</i> Travel time to and from locations can significantly reduce the time available to enforce. Assuming on average, 30 minutes to cross the City to begin to enforce results in up to hours a day for each EO that requires this type of travel resulting in a reduced capacity to enforce. Consider unconventional satellite offices (e.g. community centers, other government offices, other city offices, quadrants/areas/zones) instead of East and West. The evaluation of this model should take into account the impacts on a one fleet model that provides economies of scale and the value of having all EOs located together, while balancing this with increased time to enforce and a more community based approach to enforcement.</p>	<ul style="list-style-type: none"> Substantially increases time to enforce Assist in EO health and wellness by reducing travel time Allows for faster time to react (enforcement on timed SRs can begin immediately at the start of a shift) Introduces a more community based model of enforcement

PRACTICES	
Recommendation	Impact
<p><i>Process Improve:</i> Review process maps and implement improvement opportunities. Focus on opportunities that:</p> <ul style="list-style-type: none"> Standardize process across the Division Eliminating the use of manual processes and spreadsheets Automate SR assignment Improve basic/required information gathering Improve the dispatching process Elimination of extra steps in the review process (e.g. a review by the supervisor and/or clerk) Improve response time to customers (e.g. reduced use of mail and handoffs between departments/divisions) Improve management of customer expectation through the establishment of service response levels and understanding of priority designations Improve self-serve for customers to understand what action is being taken and/or why action is not being taken 	<ul style="list-style-type: none"> Increases efficiency and effectiveness Increases speed of SR assignment Increases enforcement capacity
<p><i>Provide/Enhance Training:</i> Determine what type of training is required and requested and once provided evaluate the effectiveness of training. Utilize various methods of training to ensure minimal impact on available staff and possibly allow virtual training while working from home. More specifically, develop a consistent and effective onboarding training model and provide regular real-time/seasonal training where required.</p>	<ul style="list-style-type: none"> Improves staff ability and capability Increases staff competency Increases accuracy of work Increases staff confidence Increases effectiveness and efficiency of EOs Impacts positively on EOs in particular new/recently hired EOs
<p><i>Review Municipal Shift Schedules:</i> Currently there is no overlap between shifts and this contributes to backlogs in SR. Determine if the current shift schedule is efficient and consider changes to the schedule (e.g. adding an afternoon shift), evaluate reducing the overnight shift with on-call availability for emergency SRs. To assist in the evaluation review of SR arrival trends (time of day, day of week).</p>	<ul style="list-style-type: none"> Reduces backlog in SR Reduces “closed” SR without action Increases enforcement when most required Increases efficiency and effectiveness of shifts

PRACTICES	
Recommendation	Impact
<p><i>Evaluate Benefits Of Tiered Staffing Model:</i> Evaluate the viability of establishing junior, mid, and senior EO positions to execute various SRs. Junior positions would have fewer requirements as they would be considered entry-level responding to minor violations. As junior EOs are trained and gain experience they can apply for mid positions who respond to more complex violations. This will increase the pool of available candidates, and make it easier/faster to hire and train. Students are currently used to executing specific SRs in the summer and this has been reported as being very effective. A pool of junior EOs could be established for PT/on-call work when SRs are escalating, to complete targeted blitzes or to backfill for EO days away.</p>	<ul style="list-style-type: none"> ▪ Increases capacity to complete SRs ▪ Increases enforcement capacity ▪ Minimizes risk and impact of high days off ▪ Assist in succession planning ▪ Allows for proactive enforcement activity without significant drain on EO capacity ▪ Reduces FTE budget requirements
<p><i>Establish Building and Zoning Investigation Unit(s):</i> Evaluate the benefits of re-establishing a Building Code enforcement unit/task force within the Building Inspection Services unit and establish a similar model for Zoning Services to execute enforcement-related zoning reviews. As of this review, approximately 600-800 zoning files are awaiting the follow-up.</p>	<ul style="list-style-type: none"> ▪ Reduce time to complete SR ▪ Closter match of enforcement specialists and policy specialists ▪ Improved customer service

CULTURE

Recommendation	Impact
<p><i>Focus on Staff Morale:</i> A high percentage of staff feel undervalued and this is causing low morale. Regular wellness check-ins to determine what staff require to feel supported and valued should be conducted. COVID significantly impacted staff morale. The current City work at home policy also impacts staff morale as the majority of enforcement staff cannot take advantage of this policy and feel they have not been acknowledged for this. The Enforcement Division management should work with others in the City and Council where needed to focus on staff wellness. In addition, increased involvement of staff in problem-solving should be implemented.</p> <p>Determine how staff would like to be engaged and in what areas. Ensure a 360-degree feedback loop once engaged.</p> <p>Note: The culture may improve now that the Division is mostly stabilized with the new permanent Commissioner, Director some of the managers, and supervisors.</p>	<ul style="list-style-type: none"> ■ An increase in staff morale results in an improved culture and staff feeling acknowledged and supported, which can increase motivation at work ■ Improvement to staff morale and wellness, contributes positively to teamwork, the customer experience and internal customer relationships ■ May positively impact and reduce the rate of absenteeism ■ As staff are more fully engaged, this will increase trust ■ Moves towards a solution-focused team
<p><i>Develop an Enforcement Long-Term Strategy:</i> The challenge that faces the Enforcement Division requires a long-term multi-pronged solution. A longer-term strategy is required ...one that establishes a vision, purpose, and desired outcome. Included in the Strategy should be a review of:</p> <ul style="list-style-type: none"> ■ How to move towards a proactive service delivery model ■ The organization, determining the best fit for the Enforcement Division in the City organizational structure if a proactive model is to be adopted ■ How to better organize and allocate resources ■ The requirements to achieve long-term success 	<ul style="list-style-type: none"> ■ Alignment of Council, staff, customers ■ A year-over-year implementation plan to achieve the vision ■ An understanding of where the Division is heading ■ An improved use of resources

CULTURE	
Recommendation	Impact
<p>Evaluate Attendance Management Program (AMP): Review the AMP taking into consideration the health impacts of shift work and the inability to work from home when slightly under the weather as other City staff do. Although the rule is to take a sick day when you are not able to work, in practice, some staff work from home when they are still able to work, but not travel to the office. This is not possible for EOs.</p>	<ul style="list-style-type: none"> ▪ Recognition of staff who are required to work differently assists in increasing morale ▪ Recognizing the impacts of shift work and little access to work from home programs positively impacts morale ▪ May highlight changes to the AMP to accommodate the impacts of shift work, which may reduce the rate of absenteeism
<p>Address Unavailability of EOs: A detailed review of the cause of unavailable staff is required. The high rate of unavailable EO time has a significant impact on the ability to complete SRs and on the morale of those who are available. Unavailability is comprised of vacation, earned time off, sick days, long/short term absences, and participating in project work and the union. The recommendation is not intended to reduce appropriate time away but to ensure appropriate time away and to determine an approach that minimizes the impact.</p> <p>The detailed review should explore and evaluate alternative methods to mitigate the risk of unavailability such as developing a pool of past-trained staff (e.g. summer students, part-time staff, and retired persons within the community with a background in enforcement).</p>	<ul style="list-style-type: none"> ▪ Increase availability of EO ▪ Increase completion of SRs ▪ Positive impact on morale ▪ Improved management of EOs
<p>Implement Revised/New SOPs: Finalize/approve outstanding revised/new SOPs and ensure adherence to these. SOPs were updated in 2022 and have not been implemented. A priority should be to approve these, train where necessary, and implement them. Once implemented, adherence to the SOPs should be monitored.</p> <p>Review possible additions to SOPs to direct officers to contact the customer with resolution activity and require supervisors to be on the road and review service requests.</p>	<ul style="list-style-type: none"> ▪ Improves accountability ▪ Improves communication with customers ▪ Increases satisfaction of customers ▪ Reduces complaints, escalation and Callbacks ▪ Allows supervisors to understand improvement requirements firsthand ▪ Increases communication between enforcement management and EOs ▪ Increases morale and adds to a supportive work environment

CULTURE	
Recommendation	Impact
<p><i>Determine Staffing Requirement:</i> Using an appropriate staffing calculator, determine overall staffing requirements, full-time/part-time mix and the number of FTEs required at peak and valley intervals to accurately calculate staffing requirements investigate:</p> <ul style="list-style-type: none"> ▪ Average length of time to attend to highest volume SR investigations ▪ SR peaks and valleys (volume of SR on specific time of day, days of the week, months) ▪ Staff “time off” (include all time away from enforcement actions) 	<ul style="list-style-type: none"> ▪ Results in an understanding of how many FTEs (FT/PT mix) is the optimal number required ▪ If staffing increases are required and acknowledged, but due to budget constraints cannot be met, models to minimize the staff shortage gap can be developed and more readily accepted ▪ If the current FTE complement is sufficient, brings an acceptance that overall enforcement practices require different approaches
<p><i>Ensure Accountability:</i> Establish realistic response time service levels for all SR types and priority levels. Also, establish service expectations for EOs. Once established, monitor and adjust if necessary.</p>	<ul style="list-style-type: none"> ▪ Open communication (external and internal) on what are reasonable expectations and what the processes are to support work ▪ Improves management of EOs ▪ Improves management of SRs and may increase completion of SRs ▪ Positive impact on morale ▪ Improves ability to onboard and train ▪ May decrease the number of complaints/escalations ▪ Ensures fairness and equity among staff ▪ Helps to communicate effectively with the public (both in 311 and EOs) ▪ Provides a baseline to determine future requirements

Implementation

The following are suggestions for implementation and moving forward:

- Approve a dedicated implementation project manager who will in turn determine what is needed from a staffing and budget perspective
- Design a 3-phase implementation plan. Report-back progress to Council every quarter
- Focus the implementation plan on easy to implement, high impact recommendations for Phase 1 in order to provide some relief
- Advise Council on recommendations that require additional budget considerations or major changes in by-laws, policy, or procedure
- Ensure Council and staff work cooperatively together to allow for implemented changes to take effect and realize benefits

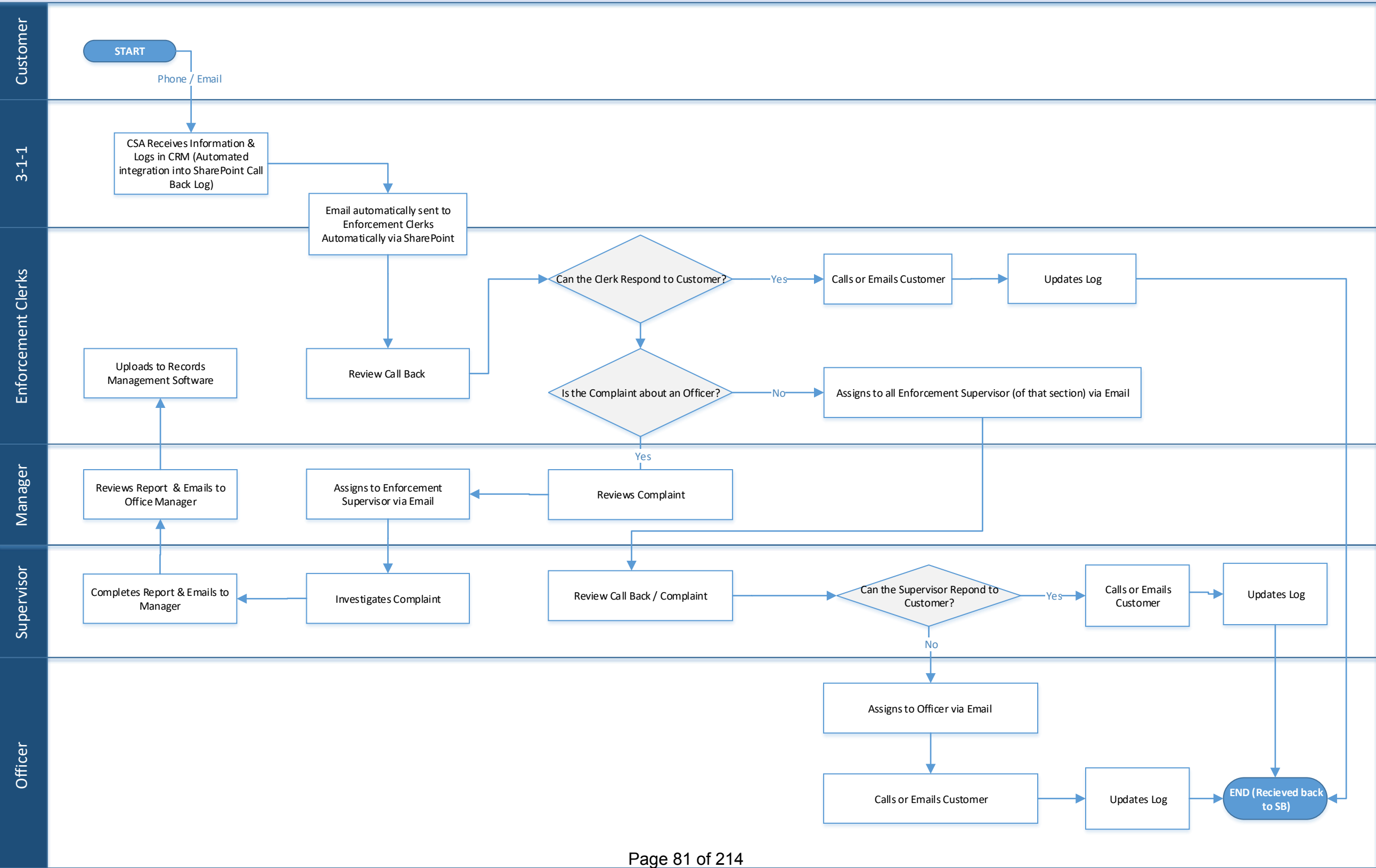
Final Point of View

As a final note, we would be remiss not to include the following points which can have a significant impact on success.

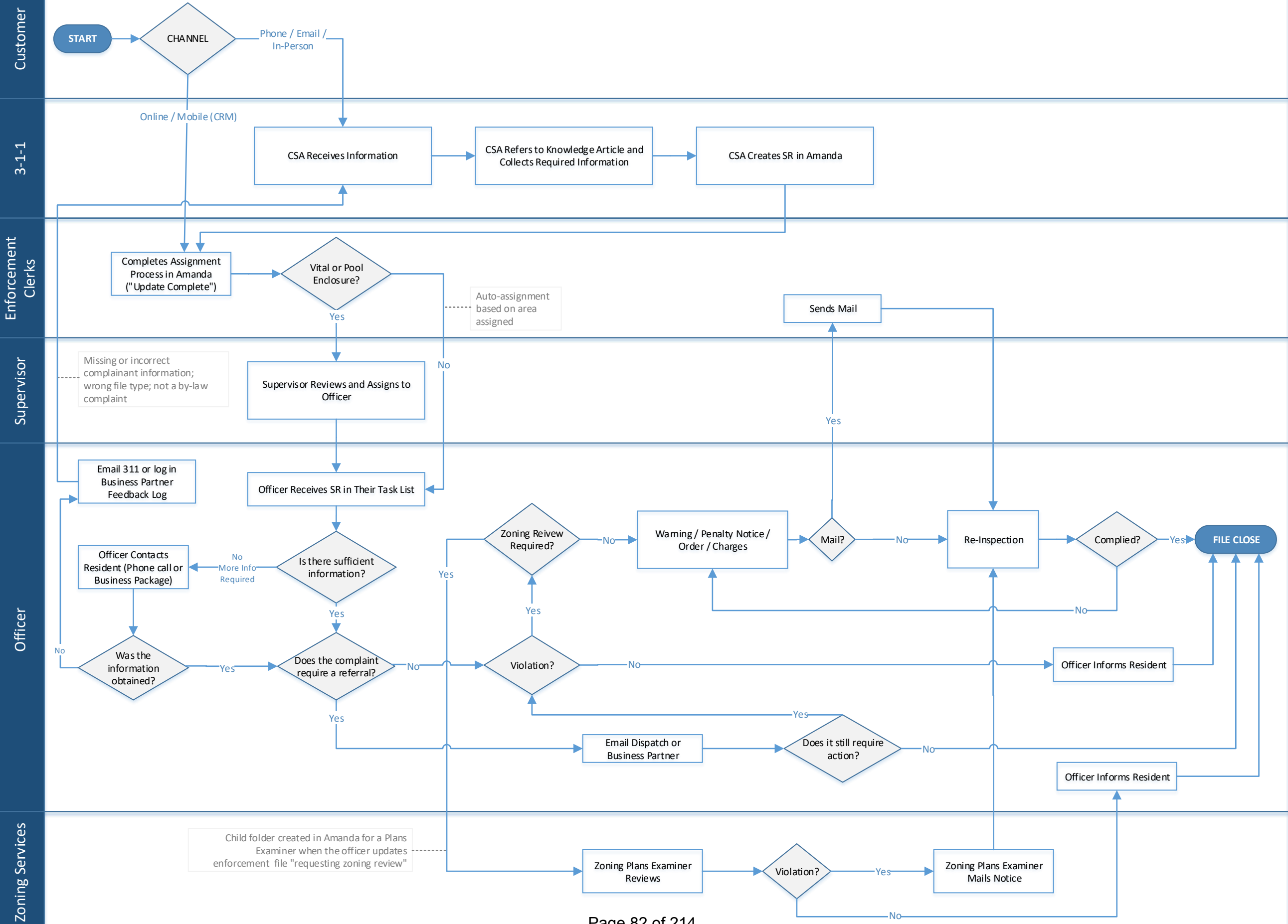
- A holistic long-term vision and solution are required to sustain positive change. Enforcement cannot be the sole solution in isolation of other influencing factors that impact the demand on enforcement. EOs will most likely never be able to keep up with demands unless additional changes occur
- Only recently has the organization stabilized. With the addition of the permanent Commissioner and Director, positive impacts should occur in the Enforcement Division. Changes have already begun. Examples of these changes include:
 - **More comprehensive information is being provided to the customer:** An increased in the level of detail provided when callbacks are requested. Responses are now to include what specific action was taken (e.g. warn or issue a violation) or an explanation as to why no enforcement action was taken (e.g. owner appropriately obtained a parking permit). As much information as possible will be provided, without a FOI breach
 - **Improved communications with EOs:** A regular practice of the Director visiting each work group, including the night shift teams, has begun. The intent of these visits is to improve communication with EOs. Information is provided that otherwise EOs may not easily be exposed to. In addition, EO questions are answered and a positive environment is being focused on by reinforcing that EOs are appreciated and are a valuable part of what makes the community work
 - **New committees to implement change:** New committees have been established to begin to address the culture and work environment. The committees include:
 - Enforcement and Service Delivery Committee
 - Vehicle Users Committee
 - 311 Working Group
- There are several other corporate initiatives underway that may advance the Enforcement Division, including the CX Strategy and Action Plan and an Internal Audit of Property Standards. These should be supported and monitored to ensure a positive impact, and alignment with implementation initiatives. These include establishing training committees, reviewing technology upgrades and building on internal continuous improvement, and digital innovation working groups
- The Customer Experience Strategy Project being led by Organizational Performance can provide valuable external information and data on what customers actually expect and where their points of pain exist. This can be used to develop service expectations, training, and education material
- The recently approved Brampton Parking Plan should bring a positive impact to the Enforcement Division. Alignment with the Division and the Plan is critical
- The Division should adopt a leading not lagging approach to metrics and workload management moving towards acquiring data and information to assist in a move to a more proactive approach to enforcement and an improved managed enforcement activity environment with additional data
- Council support and commitment to continue working with the Enforcement Division to implement changes. The recent approval of additional staff demonstrates an early commitment to working with the Enforcement Division to work towards a solution

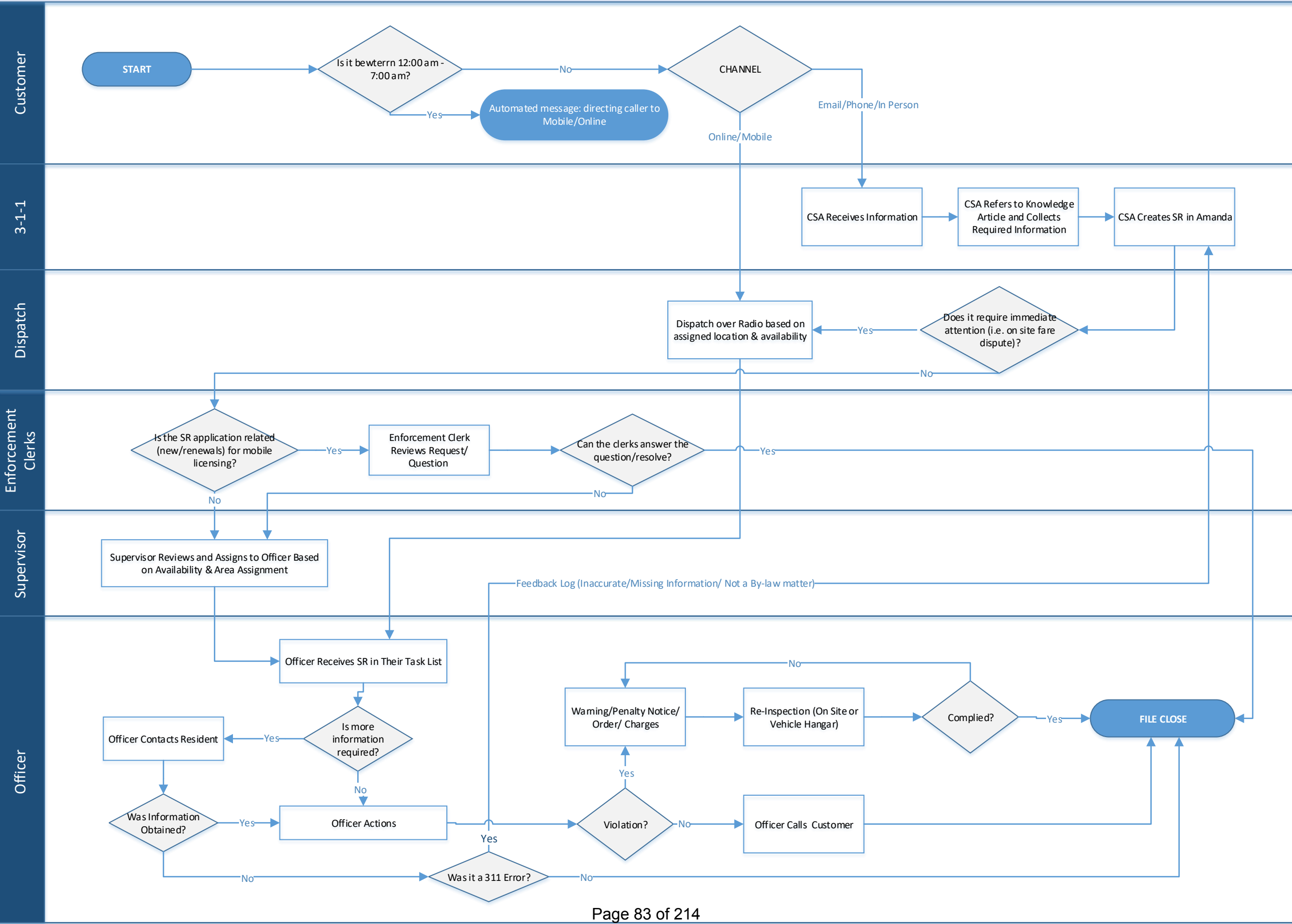
Enforcement and By-law Services Current State Process Map

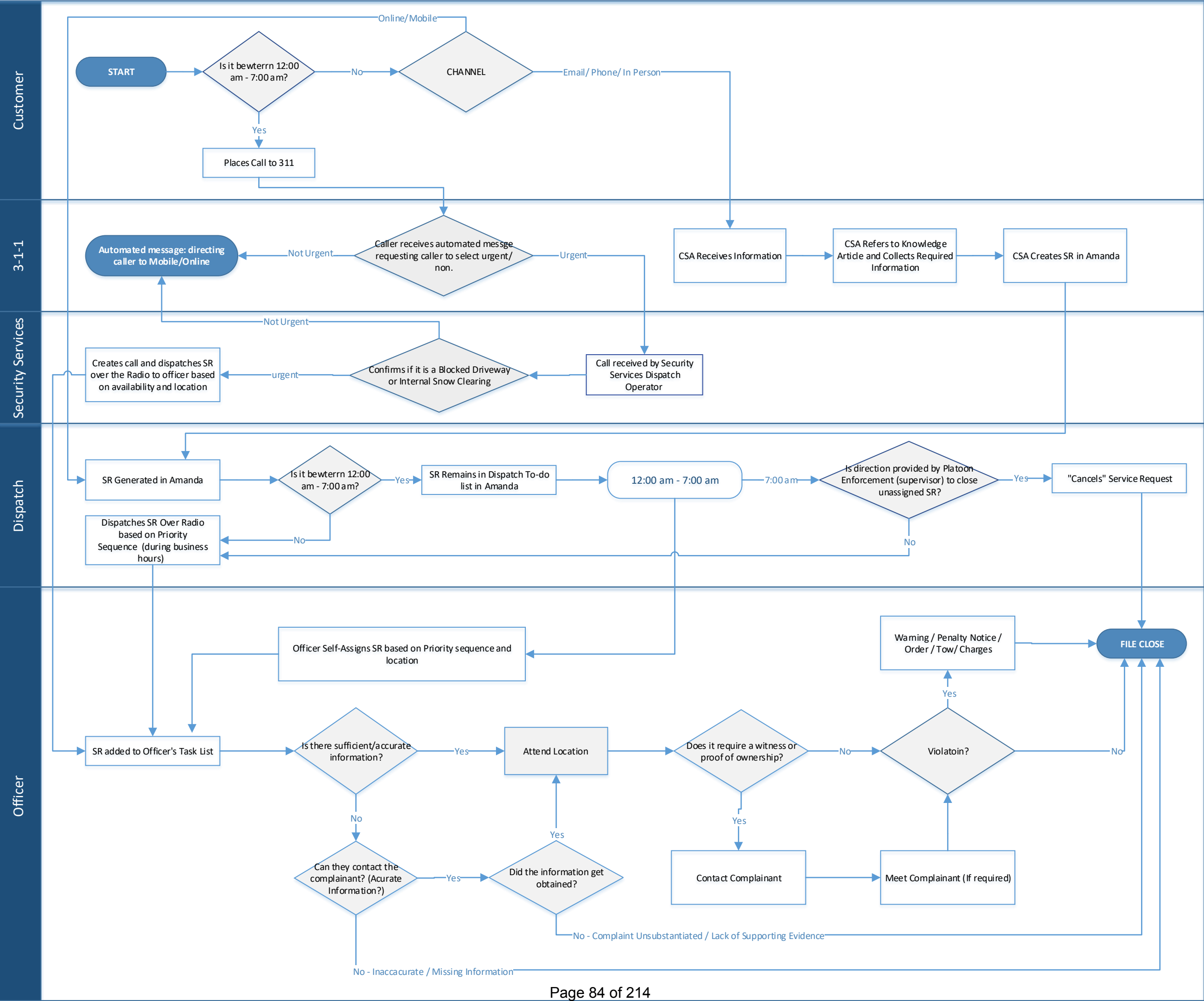
Call Back Requests and Complaints (Not "SR")

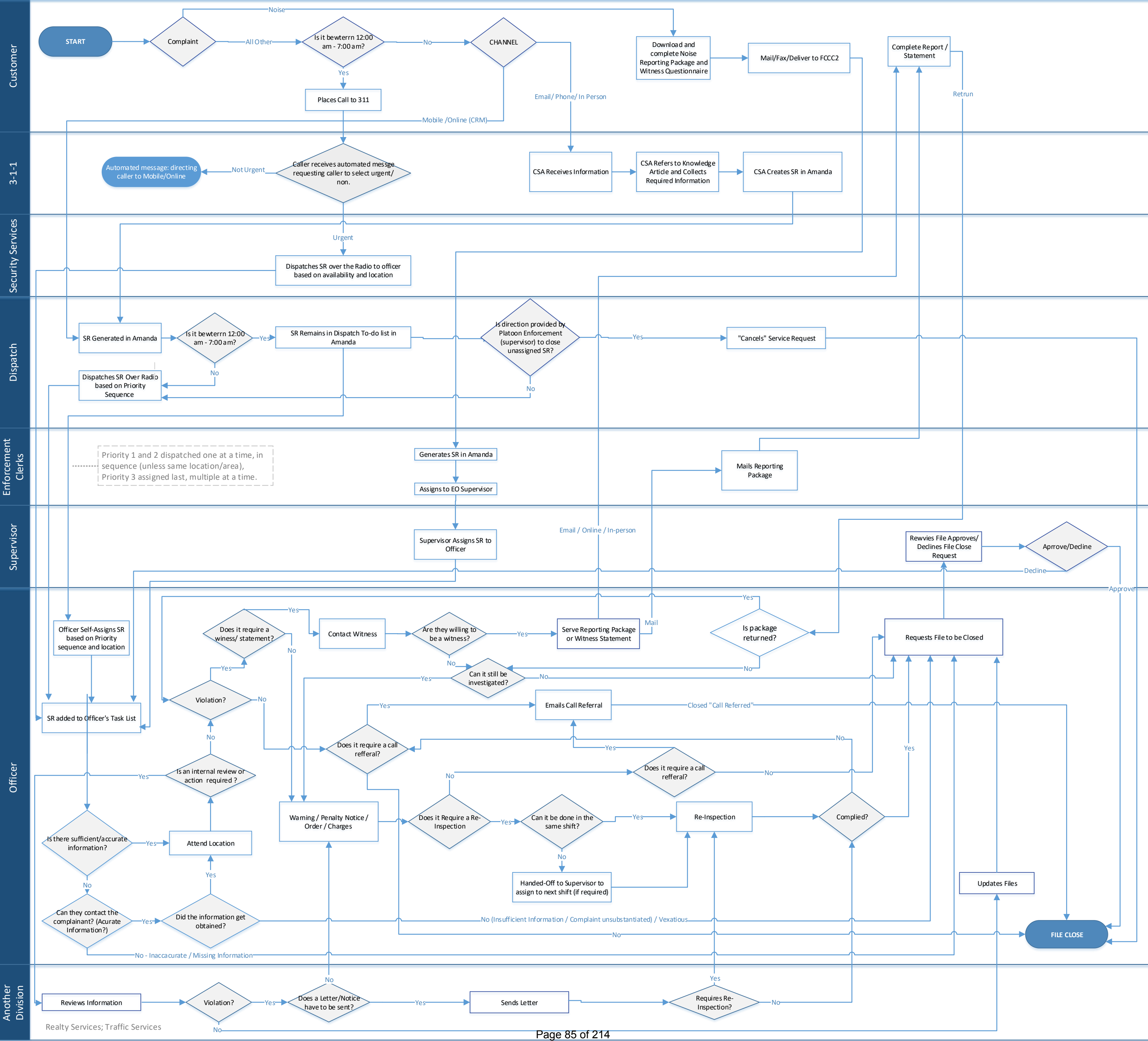


Enforcement and By-law Services Current State Process Map











Report
Staff Report
 The Corporation of the City of Brampton
4/24/2024

Date: 2024-03-29

Subject: **Surplus Declaration and Disposal of City Owned Lands – Railway Spurs – Ward 3**

Secondary Title: **PIN 14032-0097 (LT) and PIN 14032-0027 (LT)**

Contact: Sanjeev Kumar, Senior Real Estate Coordinator, Strategic Services & Initiatives

Report number: CAO's Office-2024-370

RECOMMENDATIONS:

1. That the report from Sanjeev Kumar, Senior Real Estate Coordinator, Strategic Services & Initiatives to the Committee of Council Meeting of April 24, 2024, re: **Surplus Declaration and Disposal of City Owned Lands – Railway Spurs – Ward 3**, be received;
2. That a by-law be enacted to declare surplus to the City's requirements for all of the City's properties identified as Southerly Spur, PIN 14032-0097(LT), approximately 0.571 acres in accordance with previous Council direction, and Northerly Spur, PIN 14032-0027(LT) with approximately 0.655 acres;
3. That staff be directed to negotiate the terms of the Agreement of Purchase and Sale for the disposal of the Southerly Spur and Northerly Spur at fair market value to the adjacent property owners of 71 Orenda Road and 72 Orenda Road, respectively, on an as-is-where-is basis; and
4. That staff report back for Council approval to ratify the Agreement of Purchase and Sale for the Northerly and Southerly Spurs once negotiated.

OVERVIEW:

- **The City owns and maintains the lands supporting a rail spur line that branches off of the Canadian National Railway Company Mainline. See Attachment 1. In June 2021, Council directed staff to terminate the Siding Agreement with the Canadian National Railway which governs the Southerly Spur and Northerly Spur and to commence the surplus declaration process.**

- **As per the City's Real Estate policy, Staff is seeking authorization for the surplus declaration of the Northerly Spur with a dimension of 30.04 ft x 941.48 ft x 34.53 ft x 958.06 ft (approximately 0.655 acres) and Southerly Spur with a dimension of 279.67 ft x 5.13 ft x 483.43 ft x 34.53 ft x 500.47 ft x 5.01 ft x 226.35 ft x 86.08 ft (approximately 0.571 acres) in order to negotiate a Fair Market Value Agreement of Purchase and Sale (based on an independent property appraisal) for a fee simple transfer to the adjacent property owners on an as-is-where-is basis as directed by Council.**
- **The relevant circulations and notifications have been published and no concerns were received.**
- **Any future re-development of Northerly Spur Lands will be subject to compliance with City's policies, plans, By-laws, and approval process.**
- **There is no financial impact resulting from the adoption of the recommendations in this report. Any future revenues collected arising from any potential sale agreement(s) will be deposited in Reserve #12 – Land Sale Proceeds, subject to Council approval.**

BACKGROUND:

The City owns and maintains the lands supporting a rail spur line that branches off of the Canadian National Railway Company (CNR) Mainline, terminating at Eastern Avenue. Please see Attachment 1. The City entered into an Industrial Siding Agreement with CNR in 1956, which governed the Southerly Spur that extends north from the CNR Mainline to Orenda Road, and the Northerly Spur that extends north from the southerly limit of Orenda Road to the northern terminus of the siding.

CURRENT SITUATION:

In accordance with Council direction from June 2021, staff completed the termination of the Siding Agreement with CNR and initiated the surplus declaration for the Southerly Spur Lands to negotiate a fair market value Agreement of Purchase and Sale for a fee simple transfer to the adjacent property owner on an as-is-where-is basis. Since then, staff have received interest from the adjacent property owner for the Northerly Spur as well.

Circulation was made to the City's Real Estate Coordinating Team and priority notification was given to Infrastructure Ontario, The Peel District School Board, Dufferin Peel Catholic District School Board, The Library Board, The Regional Municipality of Peel and the Utility Companies. The following was received:

- The Region of Peel, Peel District School Board and Dufferin-Peel Catholic District School Board have no interest in the property.

- Alectra Utilities and Rogers Communications do not have any existing infrastructure on the property, and no easement protection is required.
- Infrastructure Ontario circulated within their internal stakeholders with no response.
- No response was received from Enbridge and Brampton Library.

Staff is seeking Council approval on the surplus declaration for both the Southerly Spur, legally described as Block P, Plan 518 Brampton being all of PIN 14032-0097(LT), with a dimension of 279.67 ft x 5.13 ft x 483.43 ft x 34.53 ft x 500.47 ft x 5.01 ft x 226.35 ft x 86.08 ft (approximately 0.571 acres), and Northerly Spur, legally described as Block Q, Plan 518 Brampton being all of PIN 14032-0027(LT), with a dimension of 30.04 ft x 941.48 ft x 34.53 ft x 958.06 ft (approximately 0.655 acres).

A title search has revealed that the PIN 14032-0027 (LT) was acquired by expropriation in 1954. However, s. 42 of the *Expropriations Act* that requires the expropriating authority to give the owners from whom the land was taken the first chance to repurchase the lands, was added to the *Expropriations Act* later and came into effect in 1968. The Ontario Superior Court of Justice has held that there is no retroactive application of section 42. It only applies to expropriations occurring after 1968. PIN 14032-0097 (LT) was not acquired by expropriation. Disposal of both PINS can proceed. Public notice of intent to declare surplus has also been made in accordance with the City's Procedure By-law 160-2004.

Following the disposition, staff will negotiate the terms of the Agreement of Purchase and Sale for the disposal of the properties at fair market value to the adjacent property owners on an as-is-where-is basis, and report back for the ratification of the Agreement of Purchase and Sale at a future meeting.

The City's Planning, Building and Growth Management Department, Economic Development, and Public Works department support the recommendations made in this report.

A site survey, reference plan and an independent property appraisal to determine the fair market value, boundaries and part(s) of the properties to be transferred shall be completed in due course.

CORPORATE IMPLICATIONS:

Financial Implications:

There is no financial impact resulting from the adoption of the recommendations in this report. Any future revenues collected arising from any potential sale agreement(s) will be deposited in Reserve #12 – Land Sale Proceeds, subject to Council approval.

Other Implications:

Legal Implications – Legal Services will approve as to form the surplus declaration by-law.

Communications Implications – Public notice of intent to declare surplus has been made in accordance with the City's Procedure By-law 160-2004.

STRATEGIC FOCUS AREA:

The recommendations of this report support the Government & Leadership initiative by practicing proactive, effective, and responsible management of municipal assets and services.

CONCLUSION:

Staff are requesting that Council approve this report and that a by-law be enacted to declare the Northerly and Southerly Spurs surplus to the City's requirements and proceed with disposition of the properties at fair market value.

Authored by:

Reviewed by:

Sanjeev Kumar,
Senior Real Estate Coordinator,
Realty Services
Strategic Services & Initiatives

Rajat Gulati,
Senior Manager, Realty Services
Strategic Services & Initiatives

Approved by:

Approved by:

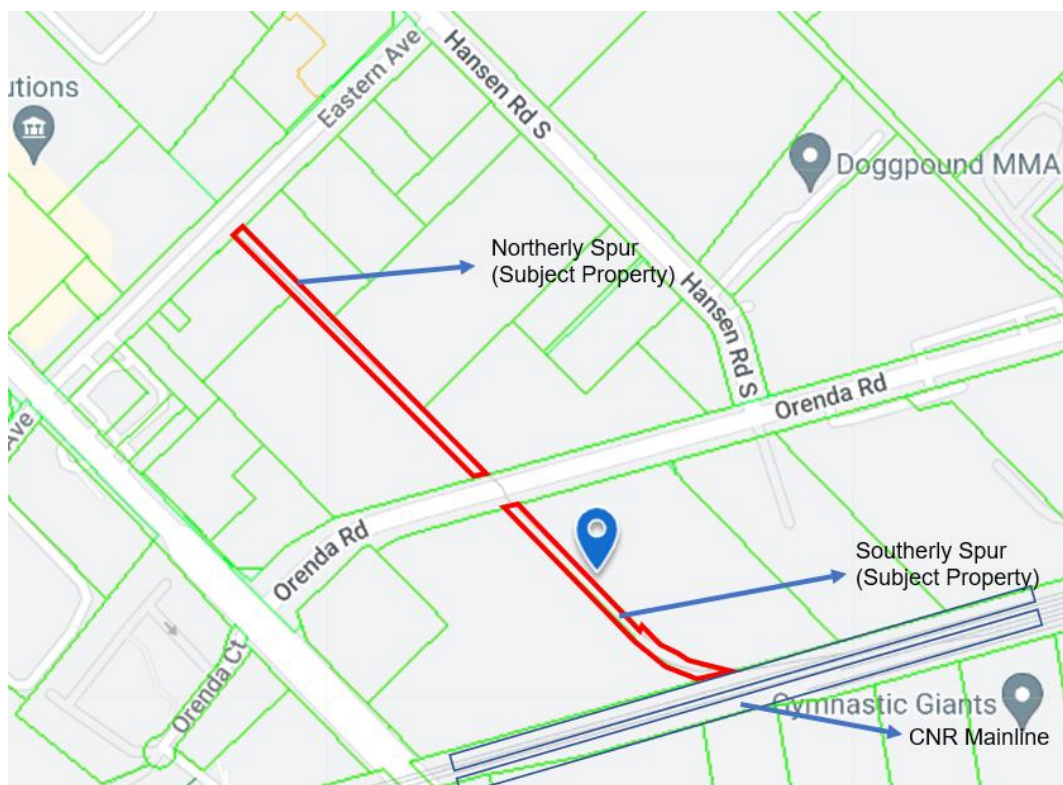
Melissa Qi
Director
Strategic Services & Initiatives

Marlon Kallideen
Chief Administrative Officer
Office of the CAO

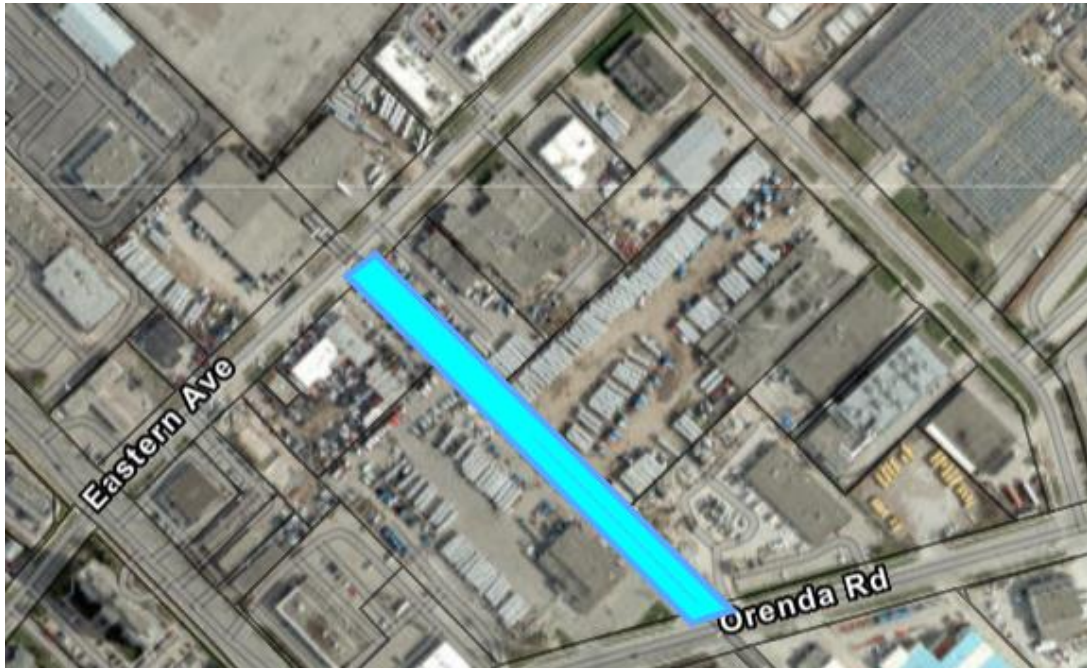
Attachments:

- Attachment 1 – Location of Spur Line

Attachment 1 – Location of Spur Line



Northerly Spur



Southerly Spur





Report
Staff Report
 The Corporation of the City of Brampton
 4/24/2024

Date: 2024-03-11

Subject: Land Tax Apportionments Pursuant to the Municipal Act, 2001

Contact: Nash Damer, Treasurer, Finance

Report number: Corporate Support Services-2024-249

RECOMMENDATIONS:

1. That the report from Jennifer Anderson, Property Tax Account Analyst, Corporate Support Services to the Committee of Council Meeting of April 24, 2024, re: **Land Tax Apportionments Pursuant to the *Municipal Act, 2001***, be received; and
2. That the unpaid taxes for the lands encompassed by the assessment roll numbers listed in **Schedule A** to this report be apportioned according to their relative value for each year as indicated in Schedule A.

OVERVIEW:

- This report is to obtain Council approval for the apportionment of unpaid taxes on certain subdivided land in accordance with Section 356 of the *Municipal Act, 2001*.
- Apportionments are required when properties originally assessed in one lot or block has the land assessment split into two or several additional portions to reflect their actual final configuration. These transactions only re-distribute existing assessment and do not create any new assessment.

BACKGROUND:

Apportionments are required when properties originally assessed in one lot or block have the land assessment split into two or several additional portions to reflect their actual final configuration. These transactions only re-distribute existing assessment therefore the re-allocation to the tax base is revenue neutral.

The Municipal Act, 2001 sets out the procedures to be followed for the re-allocation of assessment through an apportionment. The procedure includes: notifying property

owners of the report being submitted to Council, Council's review and approval of the apportionment, notification to the property owner(s) of Council's decision, and property owner appeal rights to the Assessment Review Board (ARB).

CURRENT SITUATION:

The attached schedule (Schedule A) summarizes the information provided on the Apportionment of Assessment forms received from the Municipal Property Assessment Corporation (MPAC) for properties identified as requiring land assessment/tax recalculations for various tax year(s) as indicated.

Subsection 356 of the *Municipal Act, 2001* provides as follows:

"Upon application by the treasurer of a local municipality or to the treasurer by an owner of land, the local municipality may,

- (a) divide, for the purposes of this section, land which is assessed in one block into two or more parcels if each parcel is one that can be legally conveyed under the Planning Act,*
- (b) apportion the unpaid taxes on the land among the parcels:*
 - (i) in proportion to their relative value at the time the assessment roll for the year in which the application is made was returned, or*
 - (ii) if council is of the opinion that an apportionment under sub clause (i) is not appropriate due to special circumstances, any other manner; and*
- (c) direct what proportion of any part payment of taxes on the land is to be applied to each of the parcels."*

Applicants and owners of each of the properties listed on the schedule have been notified by mail at least 14 days before the meeting at which the matter will be considered. A second letter will be sent to each of the property owners affected by this transaction to indicate the amount of unpaid taxes assigned to their property and that if they wish to appeal this decision to the ARB, they must do so within 35 days of the Council decision.

CORPORATE IMPLICATIONS:

Financial Implications:

There are no immediate corporate implications. The apportionment of taxes does not affect other departments. The re-allocation of the total taxes is revenue neutral.

STRATEGIC FOCUS AREA:

This report supports the strategic focus area of government and leadership, focusing on service excellence with equity, innovation, efficiency, effectiveness, accountability, and transparency.

CONCLUSION:

This report supports the strategic focus area of government and leadership, focusing on service excellence with equity, innovation, efficiency, effectiveness, accountability, and transparency.

Authored by:

Reviewed by:

Jennifer Anderson,
Property Tax Account Analyst
Corporate Support Services

Nash Damer,
Treasurer
Corporate Support Services

Approved by:

Approved by:

Alex Milojevic,
Commissioner
Corporate Support Services

Marlon Kallideen,
Chief Administrative Officer

Attachments:

- Attachment 1 – Schedule A: Summary of Apportionment of Taxes

Summary of Apportionment of Taxes Schedule A

For Hearing on April 24, 2024

Page 1 of 3

Jennifer Anderson
(905)874-2205

FINANCE TAX & ASSESSMENT

March 7, 2024 12:12

Apportionment No	Roll No	Location	Legal Dscr	Ward	Tax Year	Assessment	Recommended Apportionment of Taxes	Recommended Apportionment of Payments
9989	10-07-0-007-07383-0000	25 NEWKIRK CRT 13	PSCP1135 LVL 1 UNIT 13	02	2023	296,812	6,479.05	- 6,479.06
	10-07-0-007-07385-0000	25 NEWKIRK CRT 15	PSCP1135 LVL 1 UNIT 15	02	2023	350,599	7,653.15	- 7,653.14
	10-07-0-007-07378-0000	25 NEWKIRK CRT 8	PSCP1135 LVL 1 UNIT 8	02	2023	276,004	6,024.83	- 6,024.82
	10-07-0-007-07379-0000	25 NEWKIRK CRT 9	PSCP1135 LVL 1 UNIT 9	02	2023	276,004	6,024.83	- 6,024.82
	10-07-0-007-07396-0000	20 NEWKIRK CRT 11	PSCP1135 LVL 1 UNIT 26	02	2023	385,934	8,424.46	- 8,424.46
	10-07-0-007-07375-0000	25 NEWKIRK CRT 5	PSCP1135 LVL 1 UNIT 5	02	2023	276,004	6,024.83	- 6,024.82
	10-07-0-007-07377-0000	25 NEWKIRK CRT 7	PSCP1135 LVL 1 UNIT 7	02	2023	276,004	6,024.83	- 6,024.82
	10-07-0-007-07376-0000	25 NEWKIRK CRT 6	PSCP1135 LVL 1 UNIT 6	02	2023	276,004	6,024.83	- 6,024.82
	10-07-0-007-07386-0000	20 NEWKIRK CRT 1	PSCP1135 LVL 1 UNIT 16	02	2023	343,925	7,507.46	- 7,507.45
	10-07-0-007-07387-0000	20 NEWKIRK CRT 2	PSCP1135 LVL 1 UNIT 17	02	2023	296,812	6,479.05	- 6,479.06
	10-07-0-007-07372-0000	25 NEWKIRK CRT 2	PSCP1135 LVL 1 UNIT 2	02	2023	276,004	6,024.83	- 6,024.82
	10-07-0-007-07381-0000	25 NEWKIRK CRT 11	PSCP1135 LVL 1 UNIT 11	02	2023	276,004	6,024.83	- 6,024.82
	10-07-0-007-07393-0000	20 NEWKIRK CRT 8	PSCP1135 LVL 1 UNIT 23	02	2023	276,004	6,024.83	- 6,024.82
	10-07-0-007-07392-0000	20 NEWKIRK CRT 7	PSCP1135 LVL 1 UNIT 22	02	2023	276,004	6,024.83	- 6,024.82
	10-07-0-007-07394-0000	20 NEWKIRK CRT 9	PSCP1135 LVL 1 UNIT 24	02	2023	276,004	6,024.83	- 6,024.82
	10-07-0-007-07388-0000	20 NEWKIRK CRT 3	PSCP1135 LVL 1 UNIT 18	02	2023	296,812	6,479.05	- 6,479.06
	10-07-0-007-07391-0000	20 NEWKIRK CRT 6	PSCP1135 LVL 1 UNIT 21	02	2023	276,004	6,024.83	- 6,024.82
	10-07-0-007-07389-0000	20 NEWKIRK CRT 4	PSCP1135 LVL 1 UNIT 19	02	2023	276,004	6,024.83	- 6,024.82
	10-07-0-007-07390-0000	20 NEWKIRK CRT 5	PSCP1135 LVL 1 UNIT 20	02	2023	276,004	6,024.83	- 6,024.82
	10-07-0-007-07374-0000	25 NEWKIRK CRT 4	PSCP1135 LVL 1 UNIT 4	02	2023	276,004	6,024.83	- 6,024.82
	10-07-0-007-07384-0000	25 NEWKIRK CRT 14	PSCP1135 LVL 1 UNIT 14	02	2023	296,812	6,479.05	- 6,479.06
	10-07-0-007-07382-0000	25 NEWKIRK CRT 12	PSCP1135 LVL 1 UNIT 12	02	2023	276,004	6,024.83	- 6,024.82
	10-07-0-007-07380-0000	25 NEWKIRK CRT 10	PSCP1135 LVL 1 UNIT 10	02	2023	276,004	6,024.83	- 6,024.82
	10-07-0-007-07395-0000	20 NEWKIRK CRT 10	PSCP1135 LVL 1 UNIT 25	02	2023	276,004	6,024.83	- 6,024.82
	10-07-0-007-07371-0000	25 NEWKIRK CRT 1	PSCP1135 LVL 1 UNIT 1	02	2023	392,222	8,561.72	- 8,561.70
	10-07-0-007-07373-0000	25 NEWKIRK CRT 3	PSCP1135 LVL 1 UNIT 3	02	2023	276,004	6,024.83	- 6,024.92
9991	10-12-0-003-12346-0000	6475 MAYFIELD RD D110	PSCP1137 LVL 1 UNIT 22	10	2023	57,229	1,161.54	- 563.68

Summary of Apportionment of Taxes

For Hearing on April 24, 2024

Apportionment No	Roll No	Location	Legal Dscr	Ward	Tax Year	Assessment	Recommended Apportionment of Taxes	Recommended Apportionment of Payments
	10-12-0-003-12337-0000	6461 MAYFIELD RD	PSCP1137 LVL 1 UNIT 13	10	2023	54,985	1,115.99	- 541.57
	10-12-0-003-12355-0000	6475 MAYFIELD RD D201	PSCP1137 LVL 2 UNIT 1	10	2023	31,918	647.82	- 314.38
	10-12-0-003-12354-0000	6461 MAYFIELD RD	PSCP1137 LVL 1 UNIT 30 PYLON SIGN	10	2023	124	2.51	- 1.21
	10-12-0-003-12352-0000	6445 MAYFIELD RD E105	PSCP1137 LVL 1 UNIT 28	10	2023	54,486	1,105.87	- 536.66
	10-12-0-003-12357-0000	6475 MAYFIELD RD D203	PSCP1137 LVL 2 UNIT 3	10	2023	32,292	655.41	- 318.06
	10-12-0-003-12325-0000	6455 MAYFIELD RD A101	PSCP1137 LVL 1 UNIT 1	10	2023	63,463	1,288.06	- 625.08
	10-12-0-003-12327-0000	6455 MAYFIELD RD A103	PSCP1137 LVL 1 UNIT 3	10	2023	60,097	1,219.75	- 591.93
	10-12-0-003-12359-0000	6461 MAYFIELD RD	PSCP1137 LVL 2 UNIT 5	10	2023	34,537	700.98	- 340.17
	10-12-0-003-12349-0000	6445 MAYFIELD RD E102	PSCP1137 LVL 1 UNIT 25	10	2023	49,873	1,012.24	- 491.23
	10-12-0-003-12350-0000- 1	6461 MAYFIELD RD	PSCP1137 LVL 1 UNIT 26	10	2023	65,209	1,323.50	- 642.28
	10-12-0-003-12333-0000	6465 MAYFIELD RD C103	PSCP1137 LVL 1 UNIT 9	10	2023	74,934	1,520.89	- 738.07
	10-12-0-003-12335-0000	6465 MAYFIELD RD C105	PSCP1137 LVL 1 UNIT 11	10	2023	65,458	1,328.55	- 644.73
	10-12-0-003-12326-0000	6455 MAYFIELD RD A102	PSCP1137 LVL 1 UNIT 2	10	2023	54,112	1,098.28	- 532.98
	10-12-0-003-12342-0000	6475 MAYFIELD RD D106	PSCP1137 LVL 1 UNIT 18	10	2023	78,301	1,589.23	- 771.23
	10-12-0-003-12341-0000	6475 MAYFIELD RD D105	PSCP1137 LVL 1 UNIT 17	10	2023	56,980	1,156.48	- 561.23
	10-12-0-003-12358-0000	6461 MAYFIELD RD	PSCP1137 LVL 2 UNIT 4	10	2023	33,913	688.31	- 334.03
	10-12-0-003-12329-0000	6455 MAYFIELD RD A105	PSCP1137 LVL 1 UNIT 5	10	2023	66,331	1,346.28	- 653.33
	10-12-0-003-12356-0000	6475 MAYFIELD RD D202	PSCP1137 LVL 2 UNIT 2	10	2023	34,661	703.49	- 341.40
	10-12-0-003-12330-0000	6455 MAYFIELD RD A106	PSCP1137 LVL 1 UNIT 6	10	2023	66,830	1,356.40	- 658.24
	10-12-0-003-12336-0000	6465 MAYFIELD RD C106	PSCP1137 LVL 1 UNIT 12	10	2023	57,478	1,166.59	- 566.13
	10-12-0-003-12332-0000	6465 MAYFIELD RD C102	PSCP1137 LVL 1 UNIT 8	10	2023	74,934	1,520.89	- 738.07
	10-12-0-003-12362-0000	6461 MAYFIELD RD	PSCP1137 LVL 2 UNIT 8	10	2023	26,931	546.60	- 265.26
	10-12-0-003-12331-0000	6465 MAYFIELD RD C101	PSCP1137 LVL 1 UNIT 7	10	2023	49,748	1,009.70	- 490.00
	10-12-0-003-12334-0000	6465 MAYFIELD RD C104	PSCP1137 LVL 1 UNIT 10	10	2023	114,479	2,323.51	- 1,127.57
	10-12-0-003-12360-0000	6475 MAYFIELD RD D206	PSCP1137 LVL 2 UNIT 6	10	2023	24,562	498.52	- 241.93
	10-12-0-003-12361-0000	6475 MAYFIELD RD D207	PSCP1137 LVL 2 UNIT 7	10	2023	34,661	703.49	- 341.40
	10-12-0-003-12344-0000	6475 MAYFIELD RD D108	PSCP1137 LVL 1 UNIT 20	10	2023	56,356	1,143.82	- 555.09
	10-12-0-003-12351-0000	6461 MAYFIELD RD	PSCP1137 LVL 1 UNIT 27	10	2023	53,489	1,085.63	- 526.84
	10-12-0-003-12340-0000	6461 MAYFIELD RD	PSCP1137 LVL 1 UNIT 16	10	2023	66,954	1,358.93	- 659.48

Summary of Apportionment of Taxes
For Hearing on April 24, 2024

Apportionment No	Roll No	Location	Legal Dscr	Ward	Tax Year	Assessment	Recommended Apportionment of Taxes	Recommended Apportionment of Payments
	10-12-0-003-12345-0000	6475 MAYFIELD RD D109	PSCP1137 LVL 1 UNIT 21	10	2023	57,104	1,159.01	- 562.45
	10-12-0-003-12338-0000	6461 MAYFIELD RD	PSCP1137 LVL 1 UNIT 14	10	2023	52,616	1,067.91	- 518.24
	10-12-0-003-12347-0000	6461 MAYFIELD RD	PSCP1137 LVL 1 UNIT 23	10	2023	59,598	1,209.62	- 587.02
	10-12-0-003-12348-0000	6445 MAYFIELD RD E101	PSCP1137 LVL 1 UNIT 24	10	2023	52,616	1,067.91	- 518.24
	10-12-0-003-12339-0000	6475 MAYFIELD RD D103	PSCP1137 LVL 1 UNIT 15	10	2023	52,117	1,057.79	- 513.34
	10-12-0-003-12343-0000	6475 MAYFIELD RD D107	PSCP1137 LVL 1 UNIT 19	10	2023	56,107	1,138.77	- 552.63
	10-12-0-003-12328-0000	6455 MAYFIELD RD A104	PSCP1137 LVL 1 UNIT 4	10	2023	47,878	971.75	- 471.58
	10-12-0-003-12353-0000	6461 MAYFIELD RD	PSCP1137 LVL 1 UNIT 29	10	2023	92,639	1,880.23	- 912.42
			HERITAGE UNIT					
9992	10-06-0-003-21489-0000	62 CALLANDAR RD	PLAN 43M2022 BLK 422	06	2023	737,000	8,346.72	- 8,000.66
			PLAN 43M2074 BLK 334					
						Total	216,788.90	- 194,859.69



Report
Staff Report
 The Corporation of the City of Brampton
4/24/2024

Date: 2024-03-12

Subject: **Tax Adjustments, Cancellations and Reductions Pursuant to the Municipal Act, 2001**

Contact: Nash Damer, Treasurer, Corporate Support Services

Report number: Corporate Support Services-2024-255

RECOMMENDATIONS:

1. That the report from Jennifer Anderson, Property Tax Account Analyst, Finance, to the Committee of Council Meeting of April 24, 2024, re: **Tax Adjustments, Cancellations and Reductions Pursuant to the Municipal Act, 2001**, be received; and
2. That the tax account adjustments as listed on **Appendix A** of this report be approved.

OVERVIEW:

- The purpose of this report is to obtain approval by Committee to adjust and/or write-off the balance of various tax accounts as set out in the attached Appendix A. Total adjustments are approximately \$339,978.09 including \$105,750.91 in City of Brampton taxes.

BACKGROUND:

Sections 334, 354, 357 and 358 of the *Municipal Act, 2001* provide the authorities and reasons for the write-off, cancellation, reduction or refund of taxes.

CURRENT SITUATION:

Appendix A outlines adjustments to be made to property tax accounts. Many of these adjustments are due to properties becoming exempt from taxation. For example, certain properties acquired by the City of Brampton, Region of Peel, School Boards, and religious organizations are not required to pay property taxes. Other adjustments are due to changes or errors in assessment values or tax classification. City staff has researched these accounts and is satisfied with the Municipal Property Assessment Corporation's (MPAC) recommendations regarding the changes in assessment. Lastly, adjustments

may be made to correct an error in tax capping calculations which are also verified by City staff.

The total tax amount to be cancelled is \$339,978.09. The total amount will be allocated approximately as follows:

City of Brampton:	\$ 105,750.91
Region of Peel:	\$ 94,224.06
School Boards:	<u>\$ 140,003.12</u>
	<u>\$ 339,978.09</u>

Appendix A outlines adjustments to be made to property tax accounts. Many of these adjustments are due to properties becoming exempt from taxation. For example, certain properties acquired by the City of Brampton, Region of Peel, School Boards, and religious organizations are not required to pay property taxes. Other adjustments are due to changes or errors in assessment values or tax classification. City staff has researched these accounts and is satisfied with the Municipal Property Assessment Corporation's (MPAC) recommendations regarding the changes in assessment. Lastly, adjustments may be made to correct an error in tax capping calculations which are also verified by City staff.

CORPORATE IMPLICATIONS:

Financial Implications:

The City portion of taxes refunded due to these appeals is approximately \$105,750.91 and is within budget.

STRATEGIC FOCUS AREA:

This report supports the strategic focus area of government and leadership, focusing on service excellence with equity, innovation, efficiency, effectiveness, accountability, and transparency.

CONCLUSION:

The tax levy of the municipality is based on the assessment roll delivered by MPAC to the City in December of the previous year. While taxation is based on that assessment roll, it is very common for changes to occur after the return of the roll that may affect the taxation of a particular property. The *Municipal Act, 2001* provides the municipality the authority to cancel, reduce, or refund taxes for applications made in accordance with the legislation. Examples of change events that may result in refunds include property class changes, newly exempt properties, demolished structures, and gross or manifest errors made in the assessment. The owners of properties within this report have made application for refund under the *Municipal Act, 2001*. All applications have been

investigated and, where applicable, the appropriate refunds of taxes have been calculated and are presented for Council approval.

Authored by:

Reviewed by:

Jennifer Anderson
Property Tax Account Analyst,
Finance

Nash Damer,
Treasurer, Finance

Approved by:

Approved by:

Alex Milojevic,
Commissioner
Corporate Support Services

Marlon Kallideen
Chief Administrative Officer

Attachments:

- Attachment 1 – Appendix A: Tax Adjustments

COMMITTEE OF COUNCIL - APRIL 24, 2024 - TAX ADJUSTMENTS APPENDIX A

APPEAL NO.	TAX ROLL NO.	TAX YEAR	PROPERTY ADDRESS	REASON FOR APPEAL	TOTAL ADJ (\$)
7038	10-010-002-13000-0000	2023	42 Main St N	Became Exempt - City of Brampton	-\$ 2,079.30
7045	10-020-005-01820-0000	2023	341 Heart Lake Rd S	Became Exempt - Region of Peel	-\$ 141,855.19
7057	10-020-005-05200-0000	2023	9 Hansen Rd S	Became Exempt - City of Brampton	-\$ 3,346.23
7034	10-020-009-01700-0000	2021	14 Hillcrest Ave	MPAC Error, Structure Area Corrected	-\$ 404.32
7035	10-020-009-01700-0000	2022	14 Hillcrest Ave	MPAC Error, Structure Area Corrected	-\$ 411.93
7048	10-020-016-22000-0000	2023	7 Core Cres	Damaged by Flood - March 9, 2023	-\$ 763.68
7069	10-030-022-04900-0000	2022	501 Main St S	Became Exempt - City of Brampton	-\$ 946.96
7070	10-030-022-04900-0000	2023	501 Main St S	Became Exempt - City of Brampton	-\$ 1,751.57
7046	10-030-025-15500-0000	2023	93 Frederick St	Structure Demolished - Oct 3, 2023	-\$ 179.39
7032	10-030-030-17200-0000	2023	48 Queen St W	Damaged by Fire - Feb 2, 2023	-\$ 699.39
7056	10-040-034-05700-0000	2023	8 Nelson St W	Became Exempt - City of Brampton	-\$ 269.44
7068	10-060-001-08550-0000	2023	175 Sandalwood Pky W	Became Exempt - City of Brampton	-\$ 12,164.61
7067	10-060-001-26820-0000	2023	0 Allness Rd	Became Exempt - City of Brampton	-\$ 135.57
7050	10-070-008-12952-0000	2022	66 Puffin Cres	Omitted Assessment Effective Date Revised	-\$ 3,017.84
7072	10-070-023-34684-0000	2023	61 Mainard Cres	Damaged by Fire - Sept 29, 2023	-\$ 706.61
7060	10-080-011-63042-0000	2021	0 Queen St W	Became Exempt - City of Brampton	-\$ 226.23
7059	10-080-011-63042-0000	2022	0 Queen St W	Became Exempt - City of Brampton	-\$ 230.49
7058	10-080-011-63042-0000	2023	0 Queen St W	Became Exempt - City of Brampton	-\$ 244.24
7063	10-080-011-63043-0000	2021	0 Adamsville Rd	Became Exempt - City of Brampton	-\$ 226.23
7062	10-080-011-63043-0000	2022	0 Adamsville Rd	Became Exempt - City of Brampton	-\$ 230.49
7061	10-080-011-63043-0000	2023	0 Adamsville Rd	Became Exempt - City of Brampton	-\$ 244.25
7066	10-080-011-63044-0000	2021	0 Adamsville Rd	Became Exempt - City of Brampton	-\$ 226.23
7065	10-080-011-63044-0000	2022	0 Adamsville Rd	Became Exempt - City of Brampton	-\$ 230.49
7064	10-080-011-63044-0000	2023	0 Adamsville Rd	Became Exempt - City of Brampton	-\$ 244.25
7042	10-080-012-35613-0000	2023	0 Libby Rd	Became Exempt - City of Brampton	-\$ 5,251.68
7054	10-090-023-06000-0000	2021	8000 Dixie Rd	MPAC Error, Lot Size Corrected	-\$ 8,492.98
7044	10-090-024-03010-0000	2023	0 Central Park Dr	Became Exempt - TMU Medical School	-\$ 4,505.92
7076	10-100-025-00600-0000	2022	9050 Airport Rd	Repairs/Renovations	-\$ 1,843.93
7026	10-100-025-03800-0000	2021	9893 Torbram Rd	Became Exempt - Religious Place of Worship	-\$ 40,882.08
7027	10-100-025-03800-0000	2022	9893 Torbram Rd	Became Exempt - Religious Place of Worship	-\$ 41,379.68
7071	10-100-033-21300-0000	2023	27 Davenport Cres	MPAC Error, Structure Area Corrected	-\$ 717.13
7036	10-120-002-11225-0000	2022	0 New Forest Terr	Became Exempt - City of Brampton	-\$ 1,044.76
7040	10-140-096-01540-0000	2023	7700 Hurontario St	Became Exempt - Peel District School Board	-\$ 63,308.35
7052	10-140-117-83200-0000	2023	15 Hartford Trail	Damaged by Fire - June 23, 2023	-\$ 1,716.65
					<u><u>-\$ 339,978.09</u></u>



Report
Staff Report
The Corporation of the City of Brampton
4/24/2024

Date: 2024-04-10

Subject: **Brampton Zero Emission Bus Implementation Strategy & Rollout Plan**

Contact: Heidi Dempster, General Manager, Transit

Report number: Brampton Transit-2024-346

RECOMMENDATIONS:

1. That the report from Heidi Dempster, General Manager, Transit to the Committee of Council Meeting of April 24, 2024, re: **Brampton Zero Emission Bus Implementation Strategy & Rollout Plan**, be received;
2. That Council endorse the *Brampton Transit Zero Emission Bus Implementation Strategy and Rollout Plan* prepared by the Canadian Urban Transit Research & Innovation Consortium to help guide the City's transition to an environmentally sustainable transit service; and
3. That Council adopt and commit to a net zero objective by transitioning to a zero emission bus fleet for Brampton Transit as early as 2040 with full fleet transition required no later than 2050, if possible; and
4. That Council consider the capital and operating financial commitments outlined in the Brampton Transit Zero Emission Bus Implementation Strategy and Rollout Plan Summary Report corporate priorities during the City's annual budget process, noting that future capital and operating requests are subject to change and require approval through the annual budget process; and
5. That the General Manager, Transit, be directed to update the *Brampton Transit Zero Emission Bus Implementation Strategy and Rollout Plan* on a five-year cycle, subject to future funding approval during the annual budget process.

OVERVIEW:

- The purpose of this report is to provide an update on the status of the Phase 1 - eBus Trial, and two key planning studies required to transition Brampton Transit buses to a full zero emission fleet.
- Through this report, staff are seeking Council endorsement of the *Zero Emission Bus Implementation Strategy & Rollout Plan (ZEB Strategy)* prepared by the Canadian Urban Transit Research and Innovation Consortium (CUTRIC).
- Council's endorsement of the ZEB Strategy includes the adoption of and commitment to achieving a net zero objective for the Brampton Transit bus fleet as early as 2040 and no later than 2050, subject to the capital and operating commitments required.
- The ZEB Strategy recommends, based on existing route structure and geographic location (in relation to our local energy grid), that the City proceeds to electrify the bus fleet using a mixed fleet of Zero Emission Buses (ZEBs); both Battery Electric Buses (BEBs) and hydrogen Fuel Cell Electric Buses (FCEBs).
- The ZEB Strategy will be executed in a phased approach, as outlined in this report and subject to change based on the annual fleet plan, required funding and/or financing, commercial supply chain availability, technology innovation, and Energy-as-a-Service (EaaS) requirements.
- The transition to ZEBs will require more buses given the limited kilometer range of ZEBs that are commercially available today, compared to diesel and hybrid-electric buses.
- The mixed fleet transition provides for the fewest number of ZEBs within the three fleet electrification scenarios examined, and will require:
 - More buses: approximate 21% increase in fleet to provide same level of service as clean diesel/hybrid electric buses; and
 - More service hours: approximate 7% additional incremental service hours; and
 - More staff: increased labour expenditures to support additional service hours.
 - More facilities and equipment:
 - New Third Transit Facility: storage limits are anticipated to reach near capacity in 2034 (973 buses forecasted). Advancing Phase 2 build to support electrification is needed.
 - Future Additional Facilities: Further assessment will need to be completed to determine the fleet storage strategy beyond 2034, including potential for expansion and/or relocation options for

existing facilities, and/or the need for a potential New Fourth Transit Facility.

- **The zero emission target for achieving full electrification as outlined in the ZEB Strategy is achievable, and ambitious. This target will however require significant funding and financing to achieve, as the City alone will be unable to generate sufficient funds from the tax base and current funding sources.**

BACKGROUND:

Brampton Transit is committed to achieving an environmentally sustainable transit service by electrifying its fleet. With the transportation sector being a major contributor to greenhouse gas (GHG) emissions, the electrification of Brampton Transit's fleet is crucial in achieving the City of Brampton's GHG reduction targets in support of the federal government's 2050 emissions targets.

This report provides an update on Brampton Transit's current activities related to zero emission buses and presents key findings of the City's inaugural ZEB Strategy, now completed.

History

The City of Brampton provides sustainable public transit services to over 40 million passengers per year (based on 2023 ridership) with its fleet of nearly 500 buses:

Clean Diesel Buses:

- Although clean diesel buses emit GHGs, there are significant environmental benefits in using public transit in the first place.
- One standard 12-metre (40-foot) bus at full capacity takes the place of 70 single occupancy cars¹.
- Clean-diesel buses of today (based on stringent EPA emission requirements) produces less than 1/10th the emissions per passenger than a personal vehicle.

Hybrid-Electric Buses (HEBs):

- In 2010, Brampton Transit was the first transit agency in North America to use New Flyer's clean diesel-electric hybrid (HEB) buses and currently have 133 HEBs in our Züm Bus Rapid Transit (BRT) fleet, making up about one-third of our fleet today.
- HEBs generate additional GHG savings compared to clean diesel buses and comparatively save approximately 3,400 tonnes of CO₂e per year.

¹ [Toronto Transit Commission, Green Initiatives, Fun Facts](#)

Zero Emission Bus Trials

Phase 1 - Battery Electric Bus (BEB) Trial

- In July 2021, the City fully launched its first 8 BEBs into revenue service as part of CUTRIC's Pan-Canadian BEB Demonstration and Integration Trial.
- Brampton Transit's deployment, at that time, was the largest global deployment of fully interoperable BEBs and high powered (450kW) overhead pantograph-style chargers.
- This 2.5-year trial was coordinated by CUTRIC and included Brampton Transit, York Region Transit, TransLink, ABB E-mobility, Siemens Canada, New Flyer Industries, and Nova Bus. The Phase 1 trial officially ended in December 2023.
- This \$15.95M project was successfully delivered during COVID, with 70% (\$11.15M) funded by Natural Resources Canada (NRCan). This project is being closed off with CUTRIC and NRCan in Q2/2024.
- During the 30-month trial period, our eight (8) BEBs accumulated over 920,000 revenue service kilometres and CUTRIC estimates savings of over 448,000 litres of diesel fuel resulting in savings of over 1,400 tonnes of GHGs (CO₂e).

Phase 2 – Additional eBuses

- 2024 BEB Procurement:
 - On January 15, 2024, a Purchase Order was issued to Nova Bus Inc. (RFP2023-011) for the supply and delivery of the City's next ten (10) BEBs (\$16M). Pre-production meetings are underway and these new BEBs are anticipated for delivery in early 2025 based on the suppliers manufacturing window.
 - Additional BEBs will be ordered as per the ZEB Strategy, and annual budget process, and phased into the annual fleet plan (for scheduled replacement and growth buses) during the early and mid-phases of the fleet transition.
 - Although not part of an official trial with CUTRIC, the empirical data from these 10 BEBs (and any others procured by the City) will continue to be monitored and reported by CUTRIC on a quarterly basis until June 2025.
- Fuel Cell Electric Bus (FCEB) Trial:
 - Brampton Transit remains interested in undertaking a small FCEB trial of 1-2 buses, although significant challenges currently exist regarding the supply chain of hydrogen in Ontario that would not support the use of FCEBs.
 - Based on industry engagement the availability of low carbon hydrogen is anticipated to become more readily available within the next 1-3 years.
 - FCEBs may be procured as per the ZEB Strategy, associated facility, fuel, and dispensing infrastructure required, and annual budget process.
 - Based on the ZEB Strategy, FCEBs may be phased into the annual fleet plan (for scheduled replacement and growth buses) during the latter phase of the fleet transition, beginning service in 2034.

- Clean Diesel to Battery Electric Bus Conversion Trial:
 - A Request for Information (RFI2023-010) was issued in early 2023, limited responses (two) were received.
 - Staff have prepared the technical and business requirements and following recent Council approval (on February 28, 2024) of the required Begin Procurement Report, a competitive public Request for Proposals (RFP2024-112) is to be issued.
 - At the time of authoring this report, only one other transit agency in Canada (Milton Transit) has initiated a similar project.
 - Dependent on the success of Brampton's conversion trial, this innovative approach to transitioning our existing diesel fleet to fully electric may result in an ability to advance some of our fleet transition timelines.

Feasibility Studies

- The required feasibility studies have been completed by CUTRIC which assessed the feasibility of using ZEBs across the entire Brampton Transit route network.
- In July 2022, Brampton welcomed investments from the Government of Canada and the Federation of Canadian Municipalities (FCM) to support the prerequisite feasibility studies, which are required prior to commencement of the ZEB Strategy.
- This is a requirement of the federal government prior to submission and consideration of any Zero Emission Transit Fund (ZETF) capital project applications.

Implementation Strategy & Rollout Plan

- The Government of Canada selected CUTRIC as the National ZEB Planning service.
- Following completion of the Feasibility Studies, Council approved further engagement with CUTRIC to undertake the comprehensive ZEB Strategy. The ZEB Strategy will guide the City on how to electrify the Brampton Transit fleet using ZEBs.
- This strategy has been conducted based on information available now. Given the rapid innovation in this space (both bus and charging equipment), based on CUTRIC's guidance, staff are recommending the strategy be refreshed every five (5) years to track progress. The strategy will also need to:
 - coexist with and support the Brampton Transit Business Plan (also on a five (5)-year cycle).
 - influence existing and future corporate strategic priorities (such as Community Energy & Emissions Reductions Plan, Brampton Grow Green Environmental Management Plan, Mobility Plan, etc.).
- Key findings of the strategy are presented within this report.

CURRENT SITUATION:

Strategy Overview

1. Overview of 3 scenarios for electrification

The ZEB Strategy as developed by CUTRIC lays out a pathway towards a zero emissions future for Brampton Transit achieving 100 per cent fleet electrification as early as 2040, subject to securing the funds and electrification supply chain required.

As part of this study, Deloitte was engaged by CUTRIC to complete the full life cycle economic analysis component. This analysis considered 15-year and 18-year life cycle options, both with and without supplementary heating.

Under this study CUTRIC has assessed our base case along with three (3) potential scenarios for Brampton Transit's fleet electrification as follows:

- Base Case: ongoing procurement of diesel and HEBs for growth and replacement to 2041 ("base case")
- Scenario 1: full transition to BEBs ("full BEB solution")
- Scenario 2: full transition to FCEBs ("full FCEB fleet")
- Scenario 3: full transition to a mixed fleet of BEBs and FCEBs ("mixed fleet").

a) Support for mixed ZEB fleet option:

- Through the findings of this study, CUTRIC supports an approach to full fleet decarbonization that prioritizes Scenario 3 (mixed BEB/FCEB solution).
- This solution balances the advantages and disadvantages of both BEB and FCEB technologies to deploy a flexible future fleet.
- CUTRIC's recommendation is based on their comprehensive analysis, inclusive of total cost of ownership and the full lifecycle economic analysis undertaken by Deloitte under each scenario.
- Leveraging both BEB and FCEB technologies will provide the greatest flexibility as rollout occurs and enable Brampton Transit to pivot as required based on future federal and provincial policy and industry innovation and supply chain considerations.
- Staff support and recommend adoption of the Mixed ZEB Fleet approach for Brampton Transit's electrification pathway.

b) Vehicles:

- One of the major challenges in achieving fleet electrification is that the ZEBs commercially available today present a significantly shorter range when compared to diesel and HEBs.
- Another major challenge is supply chain. Currently there are only two original equipment manufacturers (OEMs) manufacturing and supplying BEBs to the Canadian public transit industry, and only one supplying FCEBs.

- As reported by CUTRIC through the study, Table 1 provides a comparison between 12-metre (40-foot) diesel, diesel hybrid electric, BEB and FCEB technologies according to the manufacturer data available in Canada today*.

	Fuel capacity	Fuel efficiency	Range
Diesel	400 L	60 L/100km	600-700 km
Diesel Hybrid	400 L	45 L/100km	800-900 km
BEB	500 kWh	1.7 kWh/km	200-300 km
FCEB	35 kg	10 kgH ₂ /100km	300-400 km

** Note: These values are approximate averages as specific circumstances and local operating conditions result in variability (including the number of passengers on board, weather, road conditions. etc.)*

Table 1: National averages for 12-metre bus comparison fuel capacity, fuel efficiency, and range*

- Incremental capital and operating cost increases must therefore be anticipated to occur with the transition to ZEBs:
 - Capital – more ZEBs will be required to perform the same amount of service kilometers that our current fleet of clean diesel and HEBs perform today.
 - Operating - additional ZEBs will require additional service hours, over and above growth related service hours, that will be required to allow for on-route charging, refuelling and block splitting. Future budget requests for increased service hours tied to growth will now also denote those required for electrification. This is discussed further in Section 5 of this report.
- Supplemental Heating
 - To maximize the range of BEBs and minimize the total number of BEBs required in the fleet, supplementary heating using self-contained diesel fired auxiliary heaters (DFAH) are utilized.
 - According to CUTRIC:
 - the use of DFAHs on BEBs can reduce the energy consumption rate (as less energy is drawn from the battery required for propulsion) from approximately 12 per cent to 25 per cent.
 - Employing DFAH on BEBs assigned to on-route charging blocks can also help decrease the amount of service (block) splitting between two vehicles.
 - The overall effect is to reduce the system's total energy consumption and the minimum number of vehicles required to electrify the system.
 - With the use of DFAHs, the estimated BEB growth fleet will be reduced by approximately 5%.
 - BEBs with DFAHs are fully recognized as ZEBs. DFAH use a very small amount of clean diesel and there are zero tailpipe emissions with use of DFAHs.

- The DFAH are programmed and will not operate above an ambient temperature of 4.5 degrees Celsius.
- Therefore, it will be the City's approach to continue procuring BEBs equipped with DFAH, as this is typical practice for transit agencies operating in Canada today to maximize capital investment and BEB range, while minimizing additional incremental operating costs.

c) Environmental and Operational GHG reductions:

- Transit electrification builds on Council's Climate Emergency declaration in support of building a Green City and helps to achieve the goals established by the Government of Canada including the goal of becoming net zero emissions by 2050.
- As part of the ZEB Strategy, CUTRIC has calculated both operational and lifecycle emissions for the base case and each of the transition scenarios.
 - Operational emissions are directly controlled by Brampton Transit and are proportional to the distances travelled and the energy/fuel consumed.
 - The environmental lifecycle analysis (LCA), also known as "well to wheel", is more comprehensive capturing aspects not controlled by Brampton Transit, such as vehicle and infrastructure manufacturing.
- As Brampton Transit generates about 70% of total corporate operational GHG emissions, the electrification of our transit fleet is a critical milestone in the City of Brampton's plan to reduce community-wide emissions by 50% from 2016 levels by 2041 and establish a pathway to reduce emissions by at least 80% by 2050 to meet or exceed federal and provincial targets.
- Based on the current fleet (base case), refer to Table 2 which provides a comparison of operational and fuel GHG emissions estimated for each scenario, with DFAH. These values represent the emissions that the current clean diesel fleet would emit under full fleet electrification.

	Base Case (Diesel Fleet)	Scenario One (full BEB solution)	Scenario Two (full FCEB solution)	Scenario Three (Mixed Solution)
BEBs with DFAH	55.67	2.49	Green H2: 5.40 Blue H2: 18.01 Grey H2: 36.01	Green H2: 3.02 Blue H2: 6.20 Grey H2: 10.73

Note: Scenario Three (mixed green fleet solution) considers emissions from both BEBs and FCEBs. The hydrogen production method is used to analyze emissions across different categories; however, the full impact of BEBs is included with each type of hydrogen.

Table 2: Operational and Fuel GHG emissions by scenario for current fleet per year (KtCO₂eq)

- Based on the projected fleet growth requirements to 2041, the operational GHG emissions, with DFAH, are estimated to reach the following levels:
 - Base case –
 - existing diesel/HEB fleet increased to forecasted future fleet of 938 buses.

- existing diesel/HEB operational GHGs estimated to increase by 98%, from approximately 56 ktCO₂e/year (or about 13,000 passenger cars²) to approximately 111 ktCO₂e/year (or about 26,000 passenger cars¹).
- Scenario 1 – Full BEB Solution:
 - Emissions estimated to be about 3 ktCO₂e/year, or about 97% reduction compared to future fleet GHGs (or about 25,400 passenger cars¹).
- Scenario 2 – Full FCEB Solution
 - Emissions using green H₂ estimated to be about 16 ktCO₂e/year, or about 85% reduction compared to future fleet GHGs (or about 22,250 passenger cars¹).
- Scenario 3 – Recommended BEB/FCEB Mixed Fleet Solution
 - Like the emission reduction results under the full BEB solution, the mixed BEB/FCEB solution, using green H₂, mixed fleet emissions are estimated to be about 5 ktCO₂e/year, or about 95% reduction compared to future fleet GHGs (or about 24,800 passenger cars¹).
- Based on the proposed mixed fleet solution, estimated GHG reductions during the following time periods are estimated:
 - Short term: 2025 – 2030 = 25%
 - Medium term: 2031 – 2035 = 95%
 - Long-term: 2036 – 2050 = 130%
- Refer to Chart 1, which depicts the number of buses per year anticipated, and the potential GHG reductions.

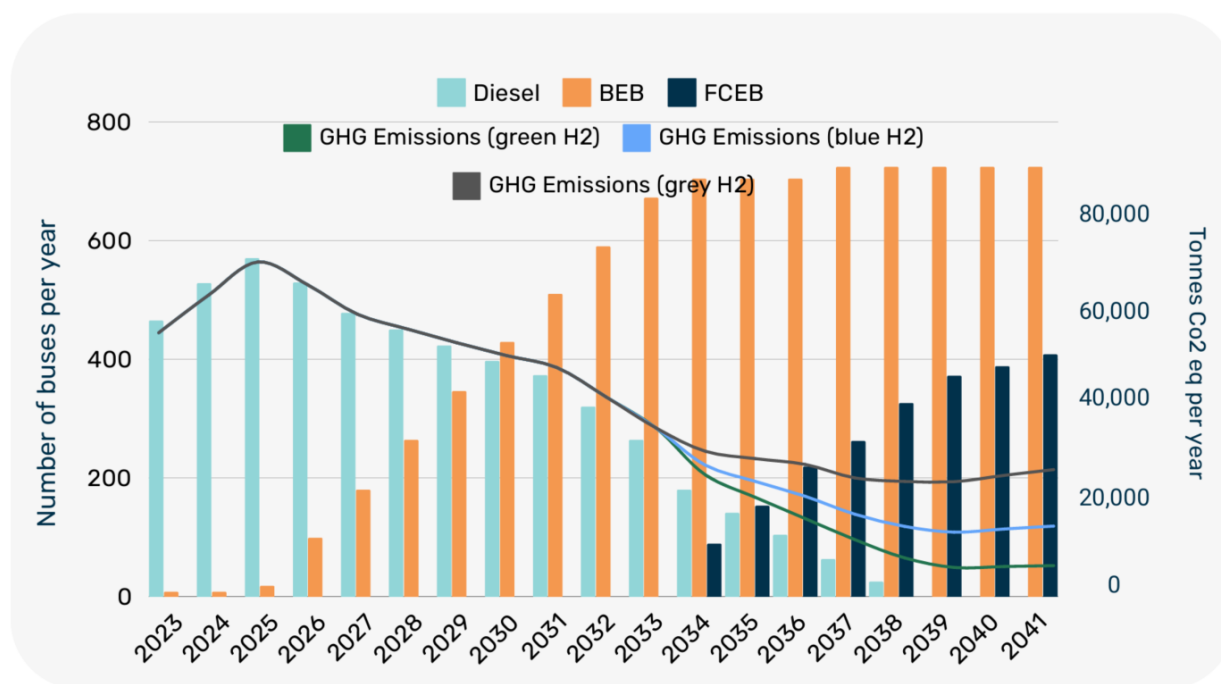


Chart 1 – Rollout and operational GHG emissions profile – Mixed Fleet

² Brampton Transit Zero Emission Bus Implementation Strategy & Rollout Plan, Volume 1 – Strategic, CUTRIC, 2024. “Assuming that the typical Canadian passenger car consumes 8.6 L/100km and travels approximately 15,200 km/year, considering that the energy density of gasoline is 46MJ/kg and the volumetric density of gasoline is 0.743 kg/L. Therefore, the average Canadian cars emit approximately 4.24 tCO₂e/year”

d) Phased in approach:

- ZEBs will be introduced into the fleet under normal replacement & growth bus acquisition schedules. Replacing diesel or HEBs prior to the end of useful life, without significant additional funding, is not recommended.
- Diesel to BEB conversion trial project to begin procurement in 2024 will inform future potential of zero emission conversions during diesel bus mid-life refurbishments.

2. Charging Strategy for Mixed Fleet

- In planning the fleet transition using BEBs each transit agency must carefully consider and decide on the appropriate charging strategy which is driven by the type of service the bus is expected to perform.
 - This decision must be made prior to procurement of the BEBs as part of each order of buses purchased; there are two distinctly different strategies (which are outlined below); a) In-Depot Charging and b) On-Route Charging.
 - The recommended mixed fleet solution leverages both in-depot and on-route charging for BEBs, as well as hydrogen fuelling on-site, to ensure a high level of service and minimal disruption to service frequency.
- a) BEB Charging Strategy 1 – In-Depot:
- Primary focus during short term rollout (2025-2030). Deployment may continue into the medium term (2031-2035).
 - Preferred BEB charging strategy to be fully utilized to the extent operationally possible.
 - When combined with high-capacity long range, BEBs will yield the lowest electricity prices (currently about \$0.14/kWh or 50% less than on-route charging).
- b) BEB Charging Strategy 2 – On-Route (Opportunity):
- Through a charger optimization analysis, CUTRIC has determined the need for eight optimal locations, including the on-route chargers already in operation as part of the Phase 1 BEB trial, for a total of an additional 18 on-route chargers.
 - As the primary focus during the short and medium term rollout will remain in-depot charging, these potential on-route chargers would need to be considered also during the medium term and most likely the longer term (2036-2050), dependent on overall operational demands and scheduling requirements.
 - On-route charging is currently about twice the cost (approximately \$0.31/kWh). This is due to the high demand charges.
- c) FCEB – On-Site Fuelling:
- A mixed fleet solution can leverage grey hydrogen supplies in Ontario while shifting toward increasingly lower carbon intense (green) hydrogen supplies by 2040.

- Based on the recommended fleet rollout plan discussed in the next section of this report, the first order of FCEBs is expected to enter revenue service in 2034.
- Requirements for FCEB on-site fuelling may be considered during the latter part of the short term rollout (for planning/design) and early part of the medium term rollout plan (for construction/commissioning).

3. Recommended Fleet Rollout Plan

- The proposed mixed fleet solution will be implemented in the following time periods:
 - Short term: 2025 – 2030
 - Medium term: 2031 – 2035
 - Long-term: 2036 – 2050
 - Additionally, within the strategy CUTRIC has developed three groups for determining the prioritization of routes to be electrified with ZEBs, as follows:
 - Group 1: routes that only deploy BEBs using Charging Strategy 1 (depot-only charging).
 - Group 2: routes that deploy BEBs using both Charging Strategy 2 and Charging Strategy 2 (depot and on-route charging) but do not deploy FCEBs.
 - Group 3: routes that deploy both BEBs and FCEBs.
 - The classification scheme above considers that routes requiring FCEBs are the hardest to electrify given Ontario's currently undeveloped hydrogen fuel supply chain for transit applications.
 - It also considers that routes requiring BEBs charging on-route are more challenging (and more costly) to electrify than routes for which BEBs charging only at the depot suffice.
- a) Base Case:
- During the eighteen (18) year period from 2024-2041, to sustain anticipated system growth and associated ridership pressures, Brampton Transit is projecting estimated increases of:
 - 76% total fleet size (from 533 buses in 2024 to 938 buses in 2041); and
 - 14% of 18-metre (60-foot) articulated buses within the fleet.
- b) Recommended Mixed Fleet (BEB/FCEB) Rollout Plan, with DFAH:
- A mixed fleet requirement of 1,132 ZEBs in 2041 is projected:
 - Estimated 724 BEBs and 408 FCEBs, this ratio is subject to change as the ZEB landscape evolves.
 - Refer to Chart 2 below which illustrates the proposed phasing of the bus fleet decarbonization rollout plan under the preferred Scenario 3 Mixed BEB/FCEB fleet, based on 18-year useful life, with DFAH:

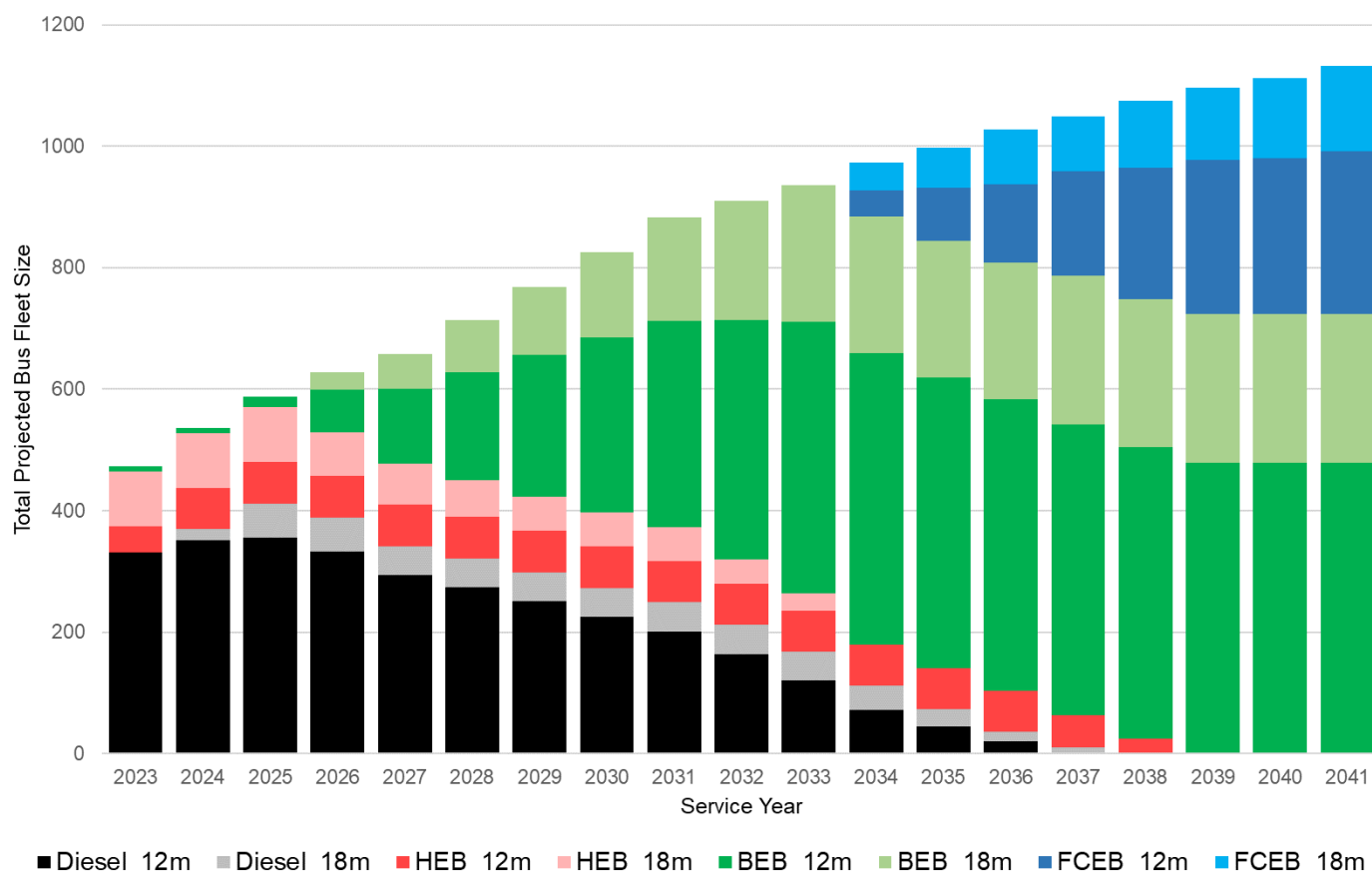


Chart 2 – Proposed Mixed Fleet Decarbonization Rollout Plan

c) Costs (Operating and Capital):

- Scenario 3, the recommended mixed fleet solution requires the fewest ZEBs and is the most financially viable overall, costing less than Scenario 1 (full BEB solution) or Scenario 2 (full FCEB solution).
- Refer to Attachment 1, Section 08 pertaining to the total cost of ownership and economic analysis completed by CUTRIC and Deloitte, respectively.
- The economic analysis completed by Deloitte for preferred scenario 3 mixed fleet, 18-year life cycle, using BEBs with DFAH (which is the preferred approach) is summarized in net present value as follows:

CAPEX:	\$3.40 billion	OPEX:	\$5.71 billion
Residual:	\$(161 million)	TOTAL:	\$8.94 billion

d) Land acquisitions:

- Some property acquisition may need to be considered to permit the possible locating and operation of the on-street chargers.
- Other transit agencies (GO Transit, MiWay) would need to be consulted to identify potential shared charging locations. Approvals and agreements may be required for charging operations within their terminals.

- As part of the study CUTRIC conducted a real estate assessment of the various land parcels necessary for Brampton Transit to implement the proposed electrification solution using BEBs and on-route charging considering the current service levels.
- Given on-route charging is being considered in the latter phases of electrification, expanding the scope of this study to consider future service levels with the potential inclusion of new routes and/or terminal stations where on-route charging will be necessary would be beneficial.
- A total estimated market value of \$0.51 million (\$2023) to potentially acquire lands required are identified for future consideration.

4. Facilities Requirements

As the ZEB evolution continues, transit agencies must be flexible in their approach to full electrification to adopt new facilities standards to support the storage and maintenance of ZEBs.

There are currently no specific standards for the design of facilities when considering transition to ZEBs. The Canadian Standards Association (CSA) is currently working collaboratively with the public transit industry to develop two new standards that will support the storage and maintenance of ZEBs in the short term:

- CSA B401.3 – Hydrogen Vehicle and Trailer Maintenance Facilities Code
- CSA B401.4 – Battery Electric Vehicle Maintenance and Storage Facility Code

Capital costs presented in the ZEB Strategy are not inclusive of the considerations above. The need for additional capital funding and/or financing will need to be considered at the appropriate time to follow future codes and safety standards.

a) Sandalwood Transit Facility Retrofit (2026):

- Based on the Class C Reference Concept Design (75% design) CUTRIC estimates for the proposed Scenario 3 mixed fleet:
 - \$86 million total retrofit cost, for further review and adjustment by staff to include ancillary project costs (such as legal, project management, etc.) that would need to be included.
 - Note: this estimate does not presently include the facility enhancements that would be required to store and maintain FCEBs inside this facility.
 - Additional engineering assessment required will result in higher capital costs, to be confirmed per the rollout plan timing to support FCEBs.
 - 20,000 kg of hydrogen storage capacity
 - 17 MW of installed charging power and 11 MW of estimated peak service demand.

- This is the equivalent energy to power approximately 17,000 residential homes per year in Ontario³.
 - \$60 million electrification retrofit Expression of Interest (EOI) was previously submitted to Infrastructure Canada through the Zero Emission Transit Fund (ZETF) in 2021.
 - With the strategy now complete, staff will proceed to re-engage INFC and submit the required capital application reflective of the increased Class C estimate prepared by CUTRIC along with any adjustments by staff.
- b) New Third Transit Facility & Electrification Retrofit (2027)
- For the fleet transition to occur, it is imperative that the New Third Transit Facility (base) be constructed and operational in 2027 to support eventual BEBs (and possibly FCEBs) in the future.
 - Additionally crucial is the funding required to complete the electrification of this facility (retrofit to base) also for operational readiness in 2027 to support the operation of large quantities of BEBs.
 - \$150 million capital application has been submitted to Infrastructure Canada through the Zero Emission Transit Fund for the electrification of this facility.
 - Between 2026 and 2033, the average number BEBs anticipated per year (subject to funding approvals) are as follows:
 - 53 (12-metre) and 28 (18-metre) for a total of about 80 BEBs per year between 2026 through 2033.
- c) Clark Transit Facility Retrofit (Beyond 2028):
- Based on the Class C Reference Concept Design (75% design) CUTRIC estimates for the proposed Scenario 3 mixed fleet:
 - \$46 million total retrofit cost, for further review and adjustment by staff to include ancillary project costs (such as legal, project management, etc.) that would need to be included.
 - Note: this estimate does not presently include the facility enhancements that would be required to store and maintain FCEBs inside this facility.
 - Additional engineering assessment required will result in higher capital costs, to be confirmed per the rollout plan timing to support FCEBs.
 - 10,000 kg of hydrogen storage capacity.
 - 7 MW of installed charging power and 5 MW of estimated peak service demand.
 - This is the equivalent energy to power approximately 7,000 residential homes per year in Ontario².
 - \$60 million electrification retrofit Expression of Interest (EOI) was previously submitted to Infrastructure Canada (INFC) through the Zero Emission Transit Fund (ZETF) in 2021.

³ [Canada Energy Regulator](https://www.cer.gc.ca/)

- With the strategy now complete, staff will proceed to re-engage INFC to submit the required capital application at the appropriate time, reflective of the revised Class C estimate prepared by CUTRIC and any adjustments by staff.

d) Additional facilities:

- Based on the preferred Scenario 3 mixed fleet and rollout to 2041, the proposed fleet size of 1,132 cannot be accommodated within the indoor storage capacities of the Brampton Transit facilities, shown in standard bus equivalents (SBEs) as follows:

○ Sandalwood Transit Facility:	371
○ Clark Transit Facility:	178
○ New Third Transit Facility	
▪ Phase 1:	250
▪ Phase 2:	<u>183</u>
Total:	<u>982</u>
- Storage limits at the New Third Transit Facility are anticipated to reach near capacity in 2034 (973 buses forecasted).
- Further assessment will need to be completed to determine the fleet storage strategy beyond 2034, including potential for expansion and/or relocation options for existing facilities and/or the need for a potential New Fourth Transit Facility.

5. Operating Costs

a) Service hour increases:

- Table 3 on the following page shows that with projected service levels to 2041, preferred Scenario 3 (mixed BEB/FCEB fleet solution) will require an incremental net increase in service hours of approximately 7% (210,000 annual service hours) over the base case.
- This increase is directly tied to the range limitations associated with ZEBs, and the need to provide additional time to charge BEBs operating while on-route; operating costs will increase.
- As a result, the need for additional ZEBs (approximately 21% increase over base case) along with the incremental service hours noted above, for both revenue and non-revenue, are identified to achieve performance success of the ZEBs.
- These additional service hours are required to sustain the ZEB transition and will require additional labour hours, resulting in an 18-year total NPV for increased operations and maintenance labour expenditures of approximately \$237 million for the mixed fleet solution to 2041 when compared to the base case.
- The mixed fleet solution requires the fewest number of additional vehicles to achieve a net zero solution as early as 2040.
- Refer to Table 3 for a summary of estimated annual service hours required for fleet electrification across the various scenarios, with DFAH:

		Base Case (Diesel Fleet)	Scenario 1 (full BEB solution)	Scenario 2 (full FCEB solution)	Scenario 3 (Mixed BEB/FCEB)
BEBs (with DFAH)	Current Service	1.58	1.70	1.61	1.70
	Growth Fleet (2041)	2.79	3.00	2.83	3.00

Table 3 – Annual required service hours (million hours)

- The service hours required by Brampton Transit will be impacted in two ways; the expected service growth and the transition to ZEBs.
- These two service pressures create new scheduling design challenges for Brampton's ZEB fleet.
 - The total number of current service hours for the base case (diesel buses) is approximately 1.58 million.
 - Current Service: with electrification under recommended scenario three (mixed green fleet), using BEBs equipped with DFAH, the total service hours to cover the current service levels would be 1.70 million (+7% over base case).
 - Growth Fleet 2041: However, by the time Brampton Transit achieves full electrification, the service will have grown by an additional 76%, resulting in approximately 3.00 million service hours in total (+7% over base case).

b) Energy costs:

- As CUTRIC outlines in the ZEB Strategy, both BEB and FCEBs are expected to allow for savings in maintenance costs over the long-term and both technologies will save overall operational costs in any future defined by carbon pricing mechanisms at national or sub-national levels by eliminating the most carbon intense fuel (diesel) used for propulsion.
- Using general averages for Canada, CUTRIC shows an average comparative diesel fuel consumption of 50 L/100 km and an average electrical energy cost of \$0.35/kWh. This results in energy costs per kilometer as shown in Figure 1:



Figure 1 – National average cost per kilometre for energy/fuel types

c) Potential Savings (Fuel and Maintenance Costs) - Mixed Fleet Solution:

- The mixed fleet solution over the expected 18-year life cycle for ZEBs and utilizing the DFAH for BEBs is the most financially viable option (at \$8.94 billion total net present value) costing less than the full BEB solution (\$8.95 billion) or the full FCEB solution (\$9.85 billion).

6. *Energy-as-a-Service (EaaS)*

- EaaS is a business model in which a service company provides electricity and related energy products and supporting services, typically for a recurring monthly fee.
- With an EaaS arrangement, the service provider may be a publicly owned entity or a privately held entity.
- The service provider may contribute financing, installs the equipment, ensures that the equipment is operating effectively, and takes on the performance risk associated with any upgrades.
- The EaaS model shifts the responsibility of development, delivery, financing, ownership, and operation from the organization to an experienced asset owner through a long-term agreement (i.e., five to 20 years).
- Options may exist so that after the EaaS contract expires the customer can purchase the equipment at fair market value (accounting for depreciation), extend the contract or return the equipment.
- As Brampton Transit pursues full fleet decarbonization, consideration should be given to having an EaaS partner.
- This EaaS partner will be expected to provide the necessary co-investment, financing, ownership, design, build, operations, and maintenance of energy infrastructure for electricity in the immediate short term, and well positioned to provide options in the medium to long term to support hydrogen supply for the growing zero emissions transit fleet.
- The EaaS partner may also provide the necessary staffing, knowledge, expertise, project and program management, and engineering services required to fulfill our electrification goals.
- Monthly EaaS fees are typically made up of fixed (such as capital and operating) and variable (such as electricity usage) components.
- These EaaS fees would be additional operating expenses separate from the other operating expenses noted in this report.
- EaaS can allow customers to implement energy projects with minimal upfront capital required and long-term leasing and financing arrangements that can vary by provider.
- The EaaS model allows organizations to focus on their core business and mission while having energy responsibilities handled by an accredited third-party expert that could provide critical service level agreements and equipment uptime guarantees to ensure that our ZEB fleet is never left without power.

a) EaaS Commercial Partnership:

- Establishing an EaaS commercial partnership would assist the City in meeting the aggressive 2040 all-electric fleet transition objective.
- Some key elements of potential EaaS engagement include risk transfer, investment, competitive procurement, and long-term partnership.
- With a commercial EaaS partner on board the City would realize many advantages over trying to implement this massive change on its own, for example:

- risk sharing, capacity, energy demand management/pricing, capital investments, guaranteed supply of services and required uptime, ongoing operation, maintenance and support, implementation support and planning, transition readiness, competitive procurement, and ownership of infrastructure.

7. Funding & Financing

The funding allocated to this study by the Government of Canada has enabled CUTRIC to complete Brampton's first-ever comprehensive ZEB Strategy; a necessary step in our electrification journey, which is the most significant technological change for bus operations in the history of Brampton Transit.

Based on CUTRIC's research, Brampton's ZEB Strategy represents the most in depth zero emission bus implementation strategy completed in Canada to date.

The zero emission target of achieving full electrification as outlined in the ZEB Strategy is achievable, and ambitious. This target will require significant funding and financing to achieve that the City will not be able to generate from the tax base and current funding sources alone.

Available Funding & Financing

Canada Infrastructure Bank or "CIB" (Federal)

- The City has secured up to \$400M through the CIB to support the purchase of up to 450 Battery Electric Buses (BEBs) by the end of 2027.
- To date, the City has ordered 10 BEBs which will utilize this financing.
- The amount of financing available through this program is derived from the calculated savings of operating BEBs instead of diesel buses, over their useful life.
- While the CIB financing is a valuable tool for Brampton to leverage to electrify the transit fleet, the City must continue to advocate for and secure funding for the base cost of diesel buses, as the CIB will only provide financing towards the incremental cost of BEBs.
- Based on the first 10 BEBs ordered that will leverage the program, CIB financing will support approximately 50% of the total cost per BEB.

Zero Emission Transit Fund or "ZETF" (Federal)

- Funding program for Transit electrification projects (5 years ending March 31, 2026).
- Up to 50% funding contribution towards capital projects.
- Staff submitted an expression of interest (EOI) to Infrastructure Canada for capital projects totaling \$790M of estimated project costs (\$395M federal share).

- The completion of the ZEB Strategy satisfies the requisite planning required by Infrastructure Canada to progress capital funding applications.
- Subject to Council approval of this strategy, staff may proceed to submit capital funding applications for these electrification projects.

Future Funding Support

Permanent Transit Fund or “PTF” (Federal)

- Funding anticipated to become available starting in April 2026.
- While the framework of the Permanent Transit Fund is still under development, it is anticipated that the program will be administered under several sub-streams.
- These sub streams may include allocation based capital funding to municipalities and direct, application based, funding to municipalities.
- Both potential funding streams could support the City’s electrification transition.

Funding Constraints

- Despite significant federal investment towards transit electrification, municipalities (especially in Ontario) are still facing a substantial funding gap.
- Federal programs like the ZETF will provide up to 50% funding towards eligible capital costs associated with municipal electrification projects. Furthermore, financing available through the CIB will support the incremental cost of BEBs.
- However, while this is a big step in the right direction, municipalities are not able to fund the other 50% of large-scale infrastructure projects (like facility electrification/retrofit projects), required to implement additional electric buses.
- Municipalities require additional support from the provincial government and/or other funding/financing partners.
- It is also critical that the parameters of current and future funding/financing programs (cost eligibility, program start/end dates, stacking restrictions, etc.) are complimentary to one another for municipalities to effectively plan and execute the projects required to support their electrification transitions.

8. Immediate Next Steps

- EaaS:
 - Determine the appropriate pathway required to execute commercial agreement(s) with an Energy-as-a-Service partner for the electrical and charging infrastructure required to support further electrification, including the possibility of hydrogen in the future.
 - This EaaS partnership is required to complete design, build, and assume operations and maintenance of electrical services and charging infrastructure

and equipment required for facility retrofits to support electric buses (Sandalwood Facility, Clark Facility and New Third Facility).

- ZETF applications to advance capital projects.
- Gap Funding:
 - Despite significant federal investments towards transit electrification, municipalities are still facing a significant funding gap to initiate full fleet electrification.
 - As part of coordinated industry government relations efforts, continue to advocate for funding from the various levels of government for ZEB related deployments (including BEBs, FCEBs, facilities and EV-related infrastructure).
 - Predictable, sustainable, flexible, and easily accessible funding is required to assist municipalities to fund these large infrastructure projects.
- Continue industry engagement including active participation on Zero Emission Bus Committees:
 - Provincial: Ontario Public Transit Association (OPTA)
 - National:
 - Canadian Urban Transit Association (CUTA)
 - Canadian Urban Transit Research & Innovation Consortium (CUTRIC)
 - North America: American Public Transit Association (APTA)

CORPORATE IMPLICATIONS:

Currently, there are no direct corporate, financial, legal, purchasing or communications impacts associated with this report. The capital and operating cost burden outlined within the economic analysis and total cost of ownership of this report are significant and will need to be considered as part of the City's annual budget process and governmental relations discussions moving forward.

STRATEGIC FOCUS AREA:

This report builds on Brampton's commitment to Environmental Resilience & Sustainability by enhancing energy and climate resilience. Additionally, the Zero Emission Bus Implementation Strategy & Rollout Plan directly supports Transit & Connectivity by providing a pathway towards adopting a sustainable all-electric zero emission bus fleet as early as 2041: significantly reducing the City's GHG emissions and carbon footprint and protecting our environment for a sustainable future.

CONCLUSION:

Brampton is a Green City, and the City of Brampton is committed to greening our transit fleet and keeping Brampton's residents moving with the safe, reliable, and sustainable service they depend on.

For the City of Brampton, transitioning to an all-electric zero-emission bus fleet in the future is a crucial and necessary step towards reducing harmful emissions, combatting

air pollution, mitigating the impacts of climate change, and contributing to achieving established GHG reduction targets.

Ultimately, transitioning to a zero-emission bus fleet is a transformative step towards creating a cleaner, healthier, more resilient, and sustainable City of Brampton for generations to come.

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Attachments:

Attachment 1:
ZEB Implementation Strategy & Rollout Plan, Summary Report, CUTRIC, March 2024

BRAMPTON TRANSIT

ZEB IMPLEMENTATION STRATEGY AND ROLLOUT PLAN

NET ZERO BY 2041

SUMMARY REPORT - REV. 07



TRANSITIONING TO A
ZERO-EMISSIONS BUS
FLEET

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10 Environmental Life Cycle Analysis

11 Social Impact Analysis

12 Energy as a Service

13 Conclusions



01

About Brampton Transit



ABOUT BRAMPTON TRANSIT

- Brampton Transit has a long history of striving for **sustainable services** including participating in the first trial for interoperability which provided opportunities to learn from a Canadian test.
- Electrification of Brampton Transit's fleet represents an important step towards meeting **2050 federal emissions targets**.
- The City of Brampton (City) and provincial government's additional targets further support Brampton Transit's **fleet electrification** efforts.
- Established in 1976, Brampton Transit operates **74 routes** connecting Brampton with neighbouring areas.
- In 2010, Brampton Transit launched Züm, a Bus Rapid Transit service, for **faster travel** along major Brampton corridors.
- Brampton Transit provided **over 40 million rides** annually in 2023.



Operating since
1976



40 million
rides annually



476
vehicles



8 electric buses
in operation

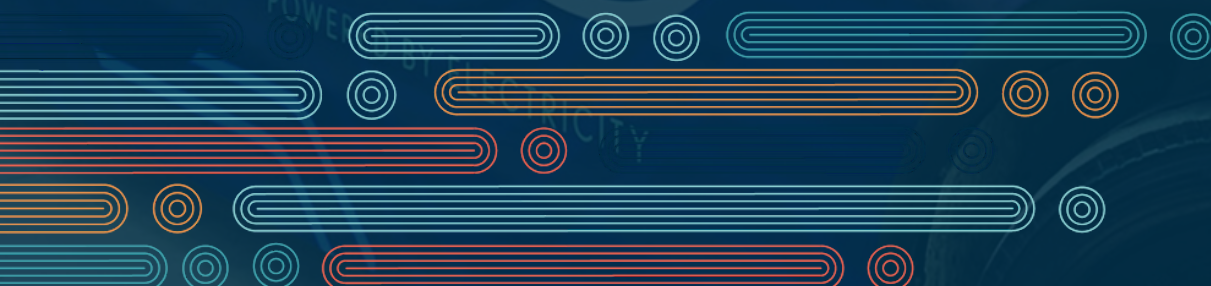


74 Routes



02

About CUTRIC



ABOUT CUTRIC

Driving Canadian leadership in clean and smart mobility

CUTRIC strives to make Canada a global leader in low-carbon smart mobility technologies across heavy-duty and light-duty platforms, including advanced transit, transportation, and integrated mobility applications.

About CUTRIC

The Canadian Urban Transit Research & Innovation Consortium (CUTRIC) is a socially responsible non-profit organization that spearheads, designs, and launches technology and commercialization projects that advance next-generation zero-carbon mobility and transportation solutions across Canada.

Projects

Memberships

CUTRIC has over 140 members spanning across the public transit, industry, utility, academic, consultancy and not-for-profit sectors.

Consulting

CUTRIC'S ZEB Consulting Services™ help transit agencies, utilities and other allied organizations reach their decarbonization and electrification goals scientifically and neutrally through feasibility and empirical analyses, full ZEB implementation planning and low-carbon smart mobility research.

Projects

CUTRIC partners with various industry leaders for marquee national projects including a hydrogen fuel cell electric and battery electric bus demonstration and integration trial, smart vehicle demonstration trials and an autonomous connected, electric and shared big data trust. CUTRIC performs predictive modelling to help transit agencies transition to a zero emissions fleet.

03

Project Overview

PROJECT OVERVIEW

Problem

Brampton Transit is committed to achieving an environmentally sustainable transit service by electrifying its fleet. With the transportation sector being a major contributor to greenhouse gas (GHG) emissions, the electrification of Brampton Transit's fleet is crucial in aligning with the federal government's 2050 emissions targets and the City's goal to reduce GHG emissions by 80 per cent by 2050. The existence of additional targets set by the City and provincial government, combined with the availability of federal funds through the Zero Emission Transit Fund (ZETF) program, supports Brampton Transit's move towards fleet electrification.

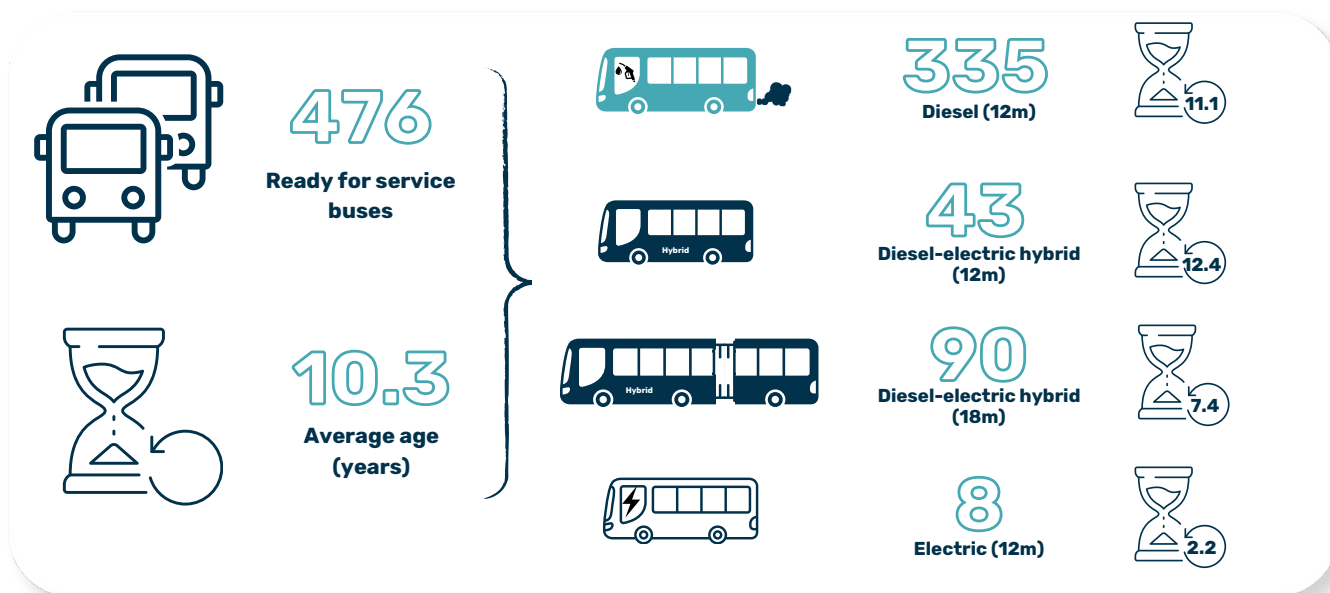
Brampton's Community Energy and Emissions Reduction Plan (CEERP) serves as the roadmap towards a low-carbon future. With a focus on people, air, water, land, energy, and waste, Brampton Transit will cultivate green jobs, enhance resilience, and transition to a sustainable economy.

Objectives

- 1 ASSESSMENT OF THE AGENCY'S EXISTING FLEET
- 2 FEASIBILITY ANALYSIS
- 3 RECOMMENDATIONS FOR TRANSITIONING TO ZEB FLEET
- 4 FLEET ELECTRIFICATION ROLLOUT PLAN
- 5 SHORT-TO-LONG TERM NEEDS & OPPORTUNITIES

PROJECT OVERVIEW

Current fleet



Blocks Modelled

508 Weekday | 150 Sat | 134 Sun



Distance Modelled

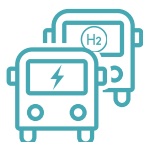
Revenue: 27.5 million km per year

Non-Revenue: 3 million km per year



Routes Modelled

74



Buses Modelled

BEB: 6 configurations

FCEB: 2 configurations



04

Executive Summary



Brampton Transit's Zero Emissions Bus Implementation and Rollout Plan lays out a pathway towards a zero emissions future for the public transit agency achieving 100 per cent fleet electrification by 2041.

This study assesses three scenarios for Brampton Transit's decarbonization plan:

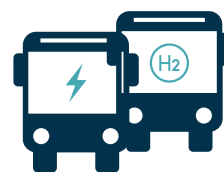
- **Scenario One:** all buses transitioned to BEBs ("full BEB solution")
- **Scenario Two:** all buses transitioned to FCEBs ("full FCEB solution")
- **Scenario Three:** a mixed green fleet of BEBs and FCEBs ("mixed green fleet solution")



Scenario One
Full BEB solution



Scenario Two
Full FCEB solution



Scenario Three
Mixed green fleet
solution

Key findings

- Brampton Transit is best positioned to decarbonize using a "midway" approach – **Scenario Three (mixed green fleet solution)** balancing BEB and FCEB technologies.
- This solution reduces emissions significantly in the City of Brampton and requires the fewest number of additional vehicles to achieve a net zero solution by 2041.
- A mixed fleet solution leverages depot and on-route charging for BEBs to ensure a high level of service and minimal disruption to service frequency.
- A mixed fleet solution can leverage grey hydrogen supplies in Ontario while shifting toward increasingly green hydrogen supplies by 2041.
- This solution is the most financially viable costing less than Scenario One (full BEB solution) or Scenario Two (full FCEB solution).

Funding Opportunities



Infrastructure
Canada

Zero Emission Transit Fund

- \$2.75 billion over 5 years (April 2021 - March 2026)
- Planning and capital projects



Canada Infrastructure Bank's Zero Emission Buses Initiative

- Direct loan based on expected level of saving
- Vehicle purchasing
- \$400 million for up to 450 BEBs by 2027



Environment and
Climate Change Canada
Environnement et
Changement climatique Canada

Environmental and Climate Change Canada's Low Carbon Economy Fund

- \$2.2 billion
- Open-ended projects that reduce emissions in addition to already planned initiatives



Infrastructure
Canada

Permanent Public Transit Fund

- Proposed to replace ZEFT in 2026
- Would see an investment of \$3 billion per year in permanent and predictable federal public transit funding

*All currency is in Canadian Dollars unless otherwise specified



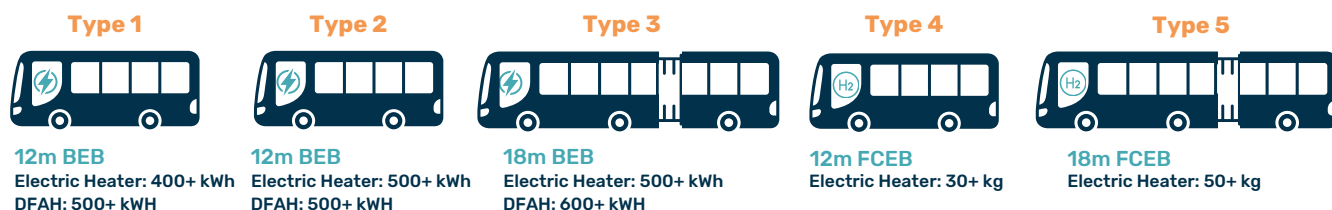
05

Energy Assessment



ENERGY ASSESSMENT

Weekday ZEB average efficiencies



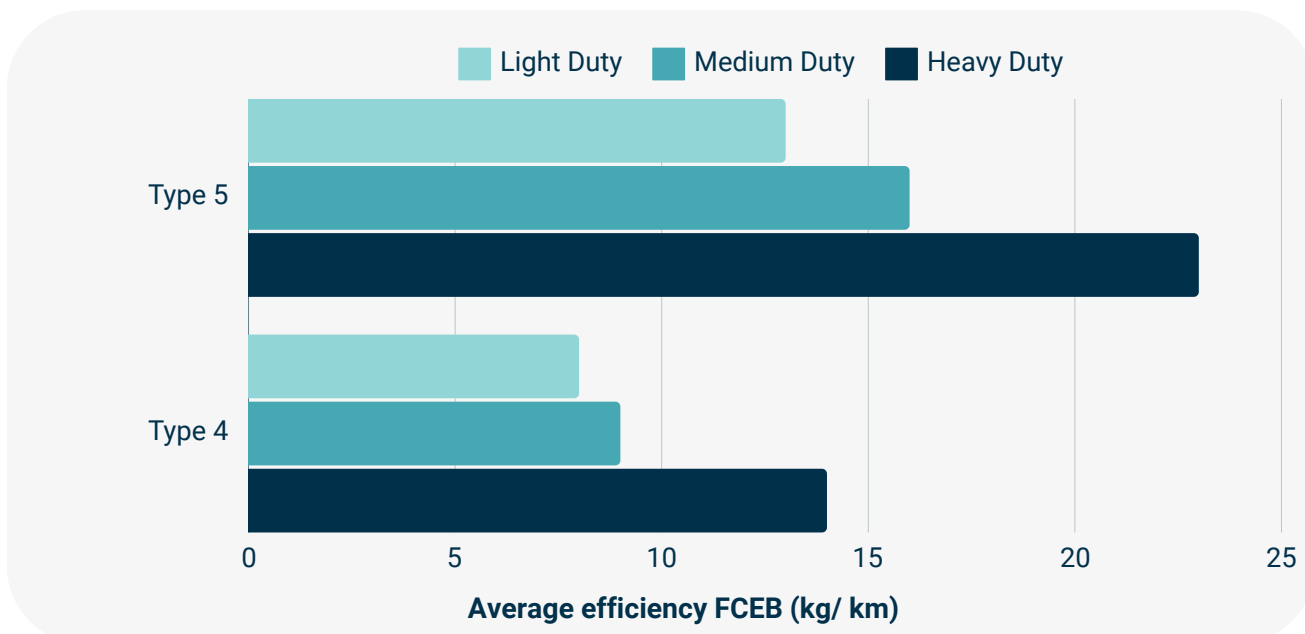
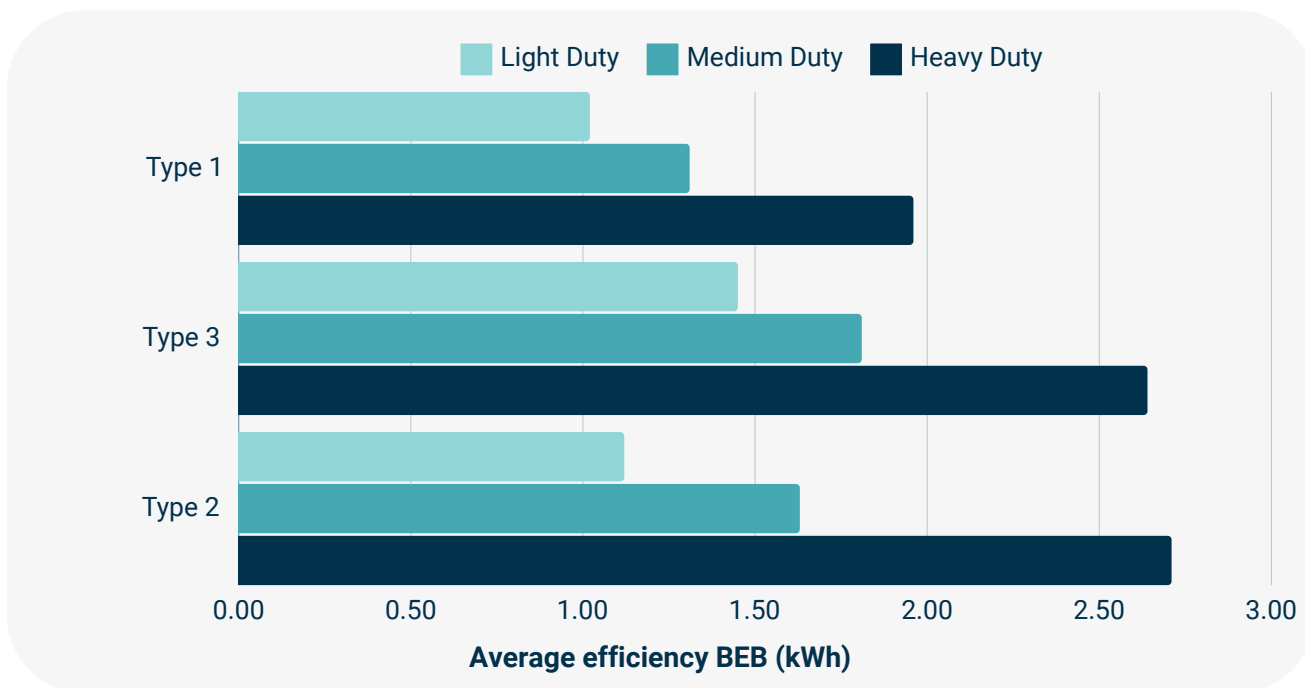
- Efficiencies are measured in kilowatt-hours per kilometer for battery electric buses (BEBs) and kilograms of hydrogen per 100 kilometers for fuel cell electric buses (FCEBs)
- Efficiencies are calculated by considering energy consumed during operation and the total distance traveled, including non-revenue parts of the service
- Table 1 showcases the weekday average energy efficiency of two ZEB models in the Brampton Transit system

Bus	Type	Size	Specs Battery capacity (nominal charging)	Heater	Light BEB (kWh/km) FCEB (kgH2/100km)	Medium BEB (kWh/km) FCEB (kgH2/100km)	Heavy BEB (kWh/km) FCEB (kgH2/100km)
Type 1	BEB	12m	400+ kWh (~290 kW)	electric	1.02	1.31	1.96
			500+ kWh (~160 kW)	DFAH	1.02	1.14	1.49
Type 2	BEB	12m	500+ kWh (~330 kW)	electric	1.12	1.63	2.71
				DFAH	1.12	1.27	1.72
Type 3	BEB	18m	500+ kWh (~160 kW)	electric	1.45	1.81	2.64
			600+ kWh (~160 kW)	DFAH	1.45	1.57	1.98
Type 4	FCEB	12m	30+ kg	electric	7.13	9.10	13.5
Type 5	FCEB	18m	50+ kg	electric	12.6	15.7	22.5

Table 1: Average weekday efficiencies by vehicle configuration

ENERGY ASSESSMENT

Weekday ZEB average efficiencies by vehicle type





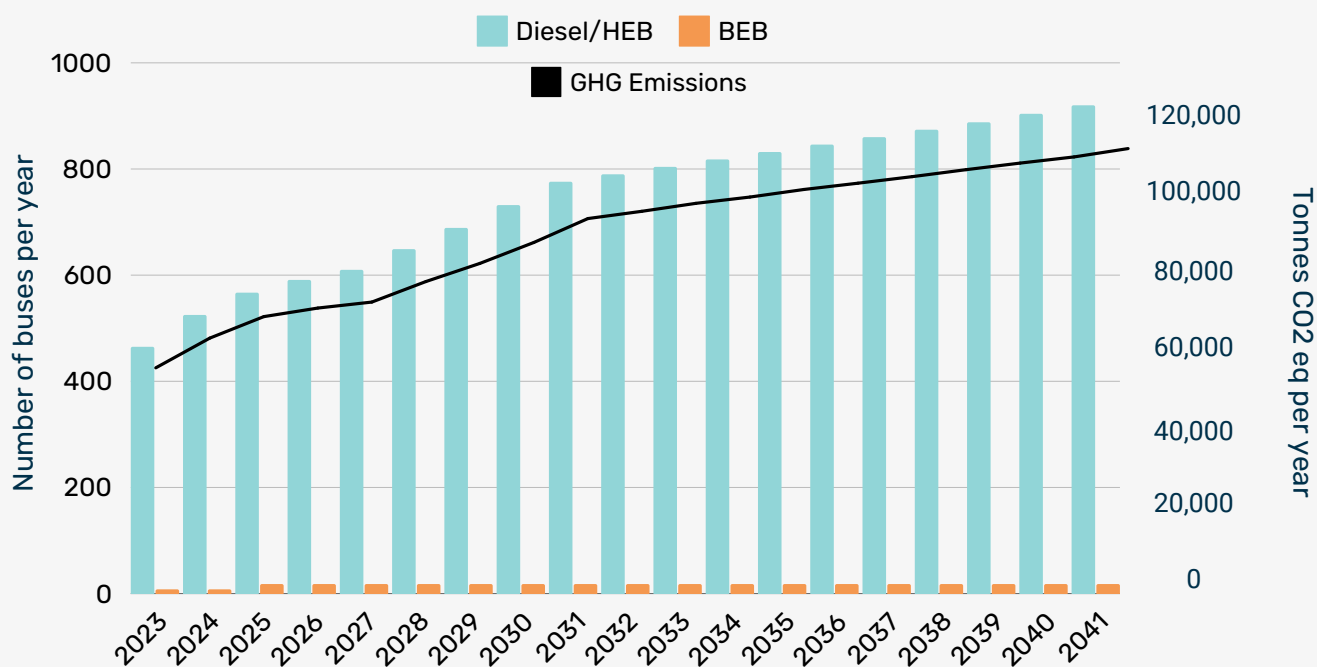
06

Fleet Rollout Plan



FLEET & CHARGING INFRASTRUCTURE

Base Case (diesel fleet)



325 diesel buses
215 HEBs
18 BEBs

2026

317 diesel buses
603 HEBs
18 BEBs

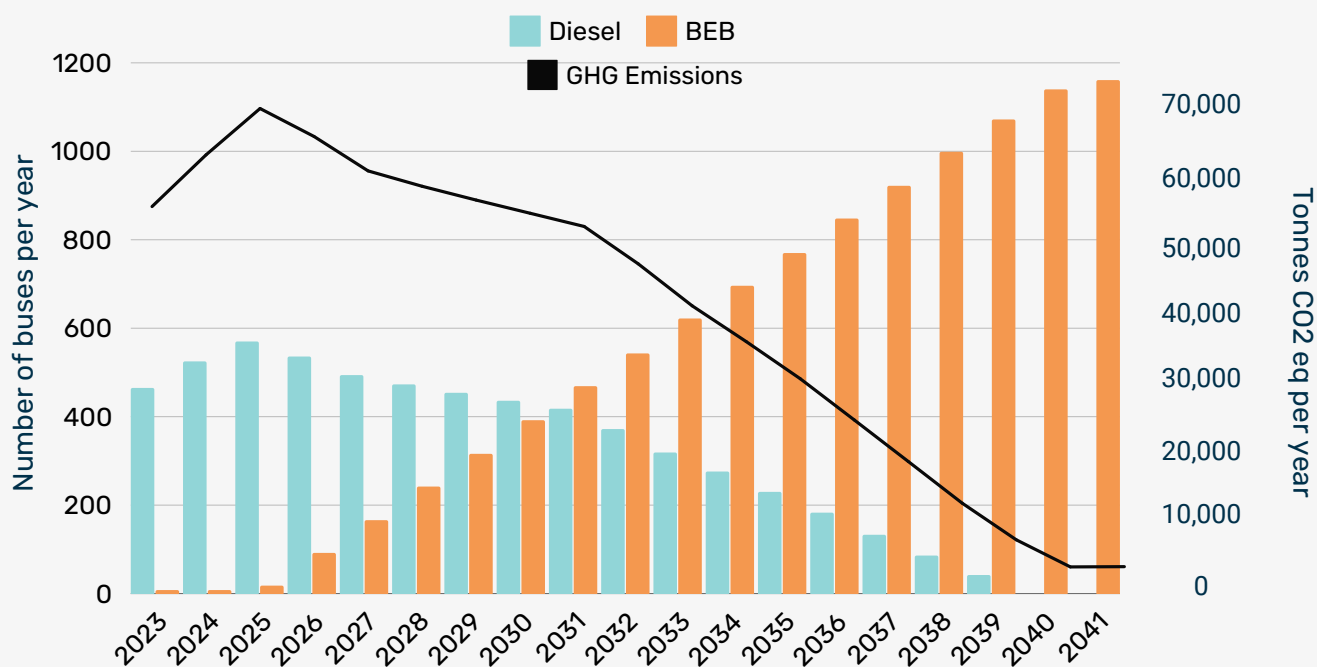
2041

2030

311 diesel buses
382 HEBs
18 BEBs

FLEET & CHARGING INFRASTRUCTURE

Scenario One (full BEB solution)



45 diesel buses removed
92 BEBs

2026

468 diesel buses removed
1161 BEBs

2041

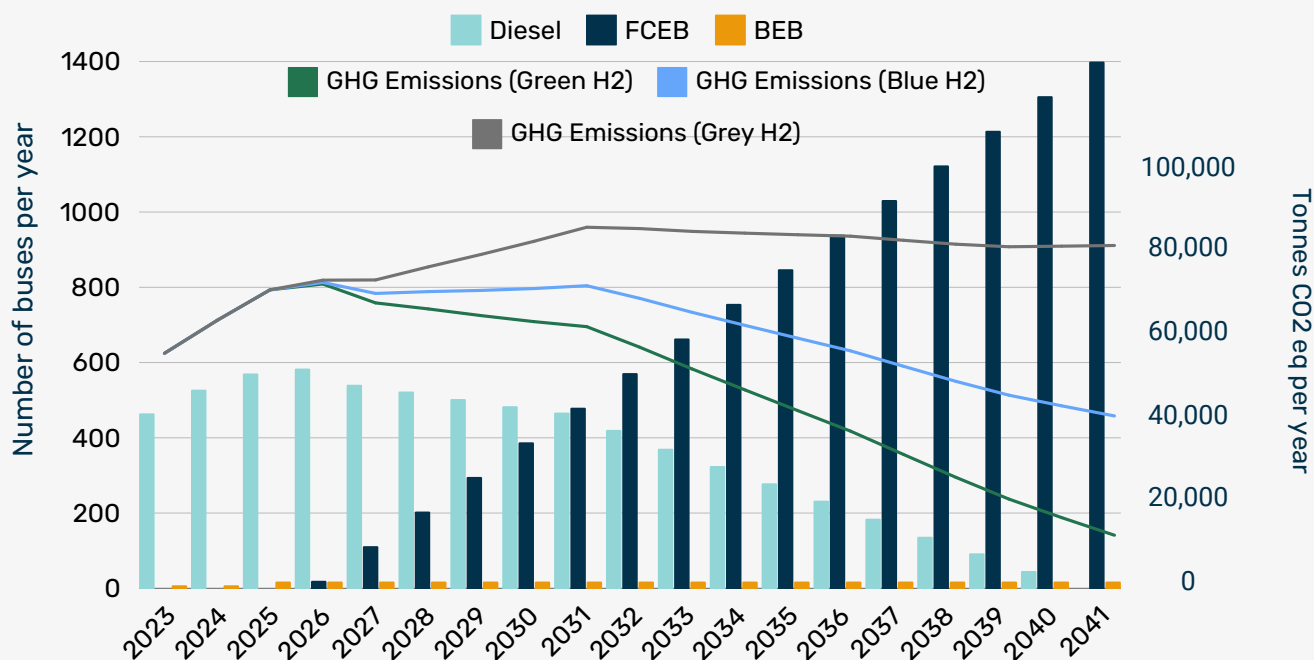


2030

145 diesel buses removed
392 BEBs

FLEET & CHARGING INFRASTRUCTURE

Scenario Two (full FCEB solution)



0 diesel bus removed
20 FCEBs
18 BEBs

2026

All diesel buses removed
1400 FCEBs
18 BEBs

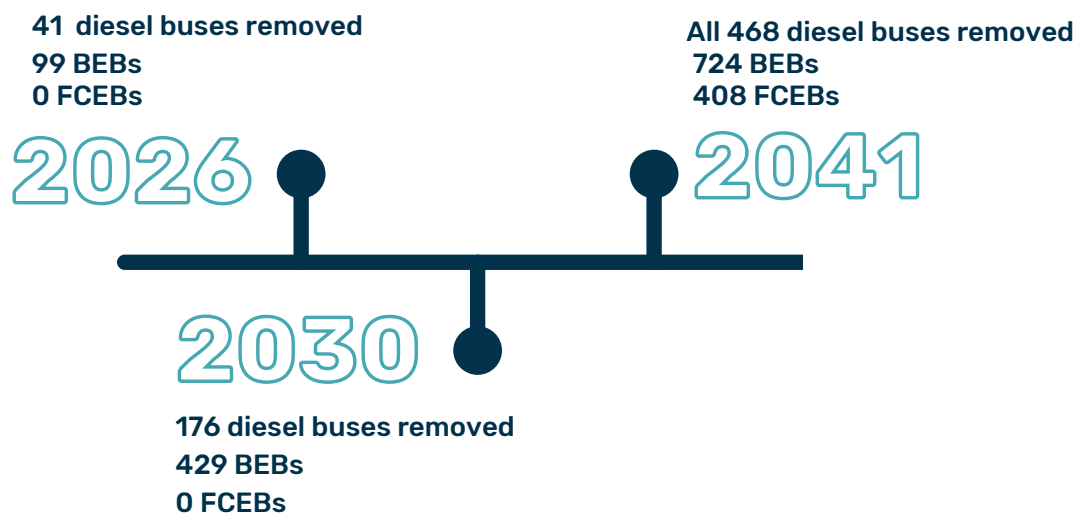
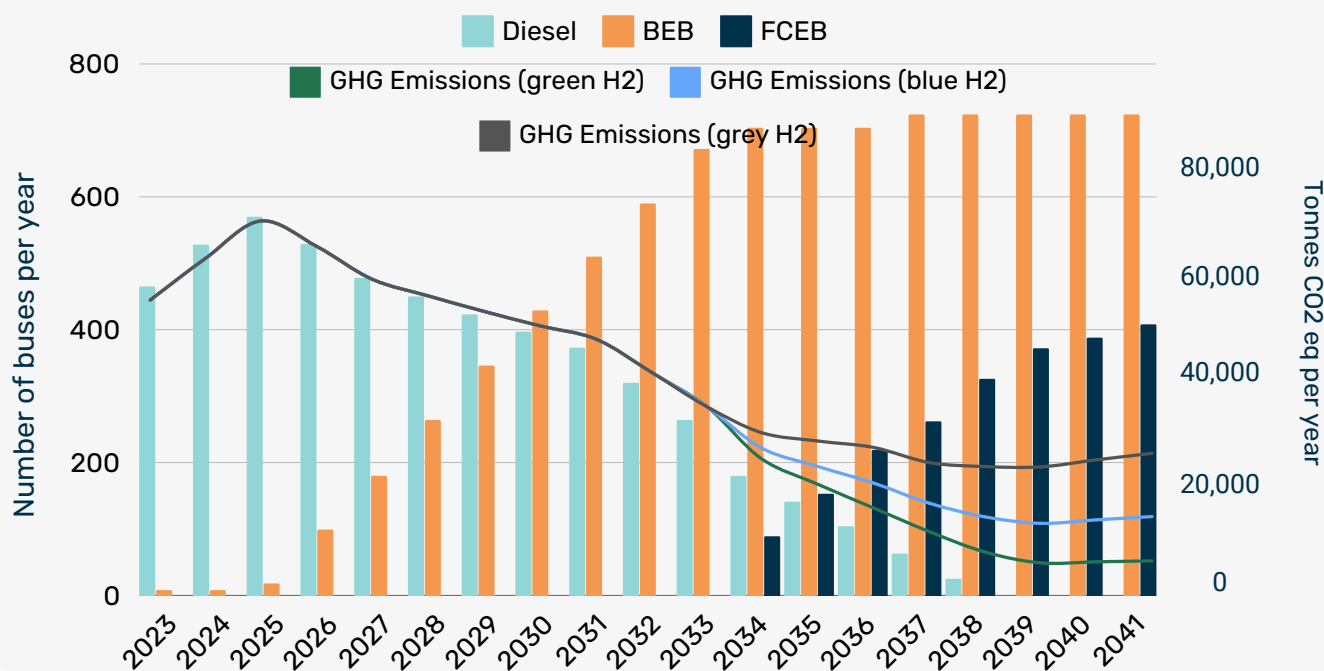
2041

2030

100 diesel buses removed
388 FCEBs
18 BEBs

FLEET & CHARGING INFRASTRUCTURE

Scenario Three (mixed green fleet solution)





07

Fleet & Charging Infrastructure





FLEET & CHARGING INFRASTRUCTURE

Land acquisition and on-route chargers

- To support decarbonization through Scenario One (full BEB solution) or Scenario Three (mixed green fleet solution) this study considers all transit terminals as potentially optimal locations to deploy on-route chargers, as part of a Strategy Two (depot with on-route) charging solution.
- Optimization analysis balances the issues of terminals that serve many vehicle blocks against terminals that have space to house chargers.
- Eight optimal locations result from the optimization analysis carried out for this study.
- Scenario One (full BEB solution) and Scenario Three (mixed green fleet solution) require on-route chargers.

Land acquisition cost methodology

1

Identified vacant land comparable sales that contain similar attributes to the Subject Sites.

2

Translated sale prices of all comparable sales to a common unit (i.e., \$/square foot (SF)).

3

Applied adjustments to each comparable sale related to time of sale, zoning and location to derive an adjusted price per square foot for each comparable sale.

4

Identified the logical market value conclusion for each of the Subject Sites.

FLEET & CHARGING INFRASTRUCTURE

Land acquisition and on-route chargers

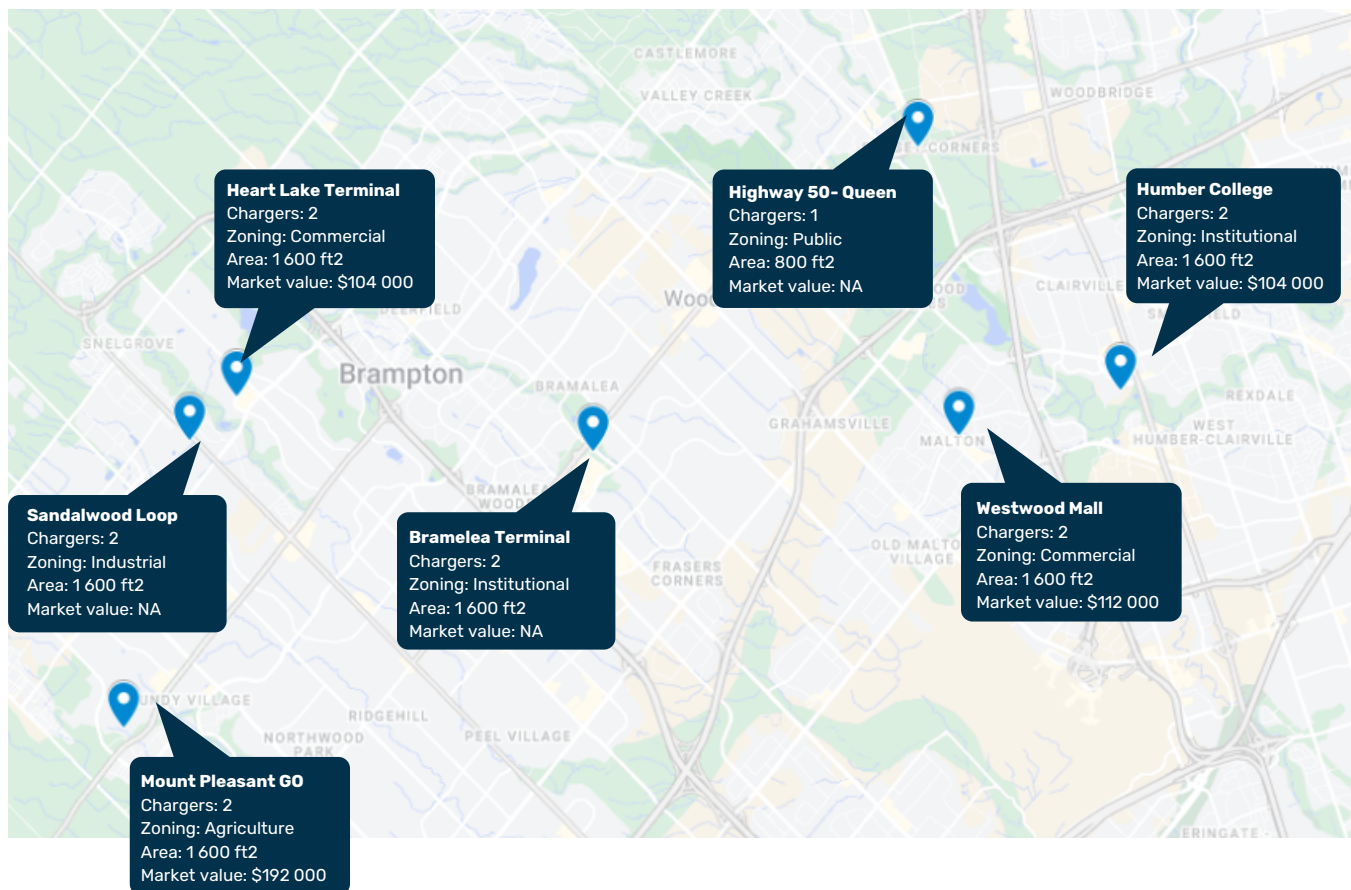
A real estate assessment considers the land parcels needed for on-route charging stations required for Scenario One (full BEB solution) or Scenario Three (mixed green fleet solution).

- Multiple land parcels in Brampton, Mississauga, and Toronto could host on-route chargers.
- Data sets show each site has sufficient land space to host one or more charging stations.

Note: Brampton Transit is carrying out a Transit Project Assessment Process to develop a new downtown transit terminal which may also consider BEB charging. This facility was not chosen as a site as the specifics were uncertain at the time of the analysis.

\$512,000

Total cost of land acquisition



FLEET & CHARGING INFRASTRUCTURE

Schedule Optimization

To achieve electrification in Scenario One (full BEB solution) or Scenario Three (mixed green fleet solution), Brampton Transit requires schedule optimization.

- Schedule optimization assesses the availability of time for on-route charging as part of Strategy Two (depot with on-route charging). This time accounts for availability of chargers required to charge the bus.
- Table 2 shows an example of the schedule optimization for vehicle 101 of the weekday service, which covers part of Route 1 connecting the Mount Pleasant GO station to Queen Street at Highway 50.
- Any bus would be able to complete this route without dropping below acceptable battery charge thresholds of 20 per cent State of Charge (SOC).

Arrival	Departure	Downtime	Terminal Stop	New Arrival	New Departure	New downtime	Terminal Stop	Energy consumed (kWh)	Energy charged (kWh)	SOC (%)
-	3:48	-	CLARK	-	3:48	-	CLARK	0.0	0.0	100%
4:01	4:01	0:00	Downtown	4:01	4:01	0:00	Downtown	9.1	0.0	98%
4:47	4:48	0:01	Queen	4:47	4:54	0:07	Queen	46.1	24.4	96%
5:55	5:56	0:01	Mt Pleasant	6:01	6:16	0:15	Mt Pleasant	103.0	48.8	90%
7:12	7:14	0:02	Queen	7:32	7:40	0:08	Queen	159.1	73.1	84%
8:26	8:32	0:06	Mt Pleasant	8:52	9:13	0:21	Mt Pleasant	215.9	97.5	77%
9:54	9:58	0:04	Queen	10:35	10:45	0:10	Queen	271.9	121.9	71%
11:11	11:28	0:17	Mt Pleasant	12:08	12:17	0:09	Mt Pleasant	329.1	146.3	65%
12:50	12:52	0:02	Queen	13:39	13:48	0:09	Queen	384.9	170.6	59%
14:07	14:27	0:20	Mt Pleasant	15:03	15:33	0:30	Mt Pleasant	442.0	195.0	53%
15:52	15:57	0:05	Queen	16:58	17:11	0:13	Queen	498.3	219.4	47%
17:19	17:29	0:10	Mt Pleasant	18:33	18:44	0:11	Mt Pleasant	555.2	243.8	41%
18:55	18:56	0:01	Queen	20:10	20:31	0:21	Queen	611.6	268.1	35%
20:08	20:09	0:01	Mt Pleasant	21:43	21:55	0:12	Mt Pleasant	668.3	292.5	28%
21:19	21:19	0:00	Queen	22:14	-	-	CLARK	744.3	292.5	28%
21:38	-	-	CLARK	-	-	-	-			

Table 2: Adjusted schedule, weekday service sample - block 101

FLEET & CHARGING INFRASTRUCTURE

Schedule Optimization

- Scenario One (full BEB solution) and Scenario Three (mixed green fleet solution) will require an increase of approximately nine per cent in service hours.
- Scenario Two (full FCEB solution) will only require an increase of approximately two per cent in service hours.
- On-route charging has a significant impact in the total service hours because of extra charging and platform time added to the system.
- Zero emissions buses (ZEBs) generally present a significantly shorter range when compared to diesel buses, extra service time is required to allow for on-route charging, refuelling and block splitting.
- Brampton Transit expects to grow its current service levels by approximately 76 per cent by 2041. This analysis accounted for both the service growth and the additional buses required in a ZEB fleet.

		Base Case (diesel fleet)	Scenario One (full BEB)		Scenario Two (full FCEB)	Scenario Three (mixed green fleet)	
		Diesel	Type 1 & 3	Type 2	Type 4 & 5	Type 1,3,4 & 5	Type 2,4 & 5
Current Service	BEBs without DFAH	1.58	1.72	1.61	1.61	1.72	1.61
	BEBs with DFAH		1.70	1.76		1.70	1.75
Growth Fleet (2041)	BEBs without DFAH	2.79	3.04	2.83	2.83	3.03	2.84
	BEBs with DFAH		3.00	3.09		3.00	3.09

Table 3: Annual required service hours (million hours)

FLEET & CHARGING INFRASTRUCTURE

Vehicles

For the growth fleet, only configurations with BEB Types 1 and 3 were considered as these configurations were used in the economic analysis (Section Eight)

The heavy-duty cycle is used when calculating the total fleet size required to electrify the Brampton Transit system.

- **Scenario One (full BEB solution)**
 - Assuming Strategy Two (depot and on-route charging) for BEBs
 - Configuration One with Types 1 and 3 results in a current fleet of 633 BEBs
 - Configuration Two with Type 2 results in a current fleet of 674 BEBs (+6.5 per cent compared to Configuration One)
- **Scenario Two (full FCEB solution)**
 - Fleet of 720 buses (+51.2 per cent compared to the base case)
- **Scenario Three (mixed green fleet solution)**
 - Fleet of between 558 to 640 vehicles

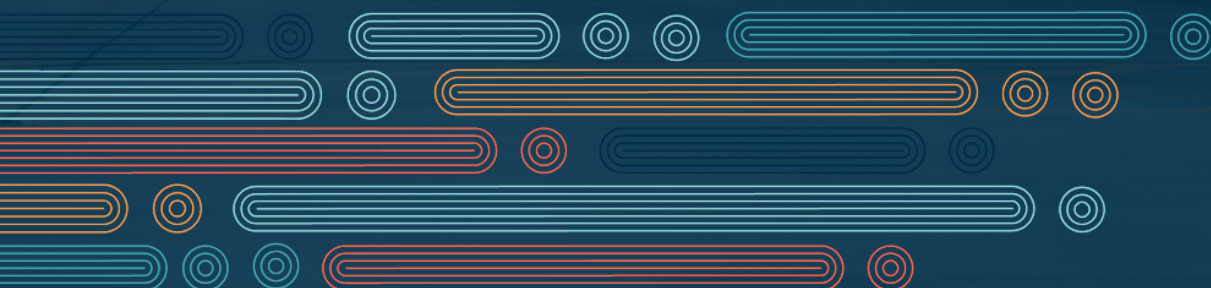
		Base Case		Scenario One (full BEB solution)		Scenario Two (full FCEB solution)	Scenario Three (mixed green fleet solution)			
		Diesel/ hybrid	BEB	Configuration One Types 1 & 3	Configuration Two Type 2	Types 4 & 5	Configuration One		Configuration Two	
							Types 1 & 3	Types 4 & 5	Types 1 & 3	Types 4 & 5
Current Service	BEBs without DFAH	468	8	633	674	720	355	247	318	322
							Total = 602		Total = 640	
	BEBs with DFAH			590	570		394	181	413	145
							Total = 575		Total = 558	
Growth fleet (2041)	BEBs without DFAH	920	18	1,240	-	1,400 (+18 BEBS)	767	418	-	-
							Total = 1,185		-	
	BEBs with DFA			1,161	-		724	408	-	-
							Total = 1,132		-	

Table 4: Required ZEB fleet size



08

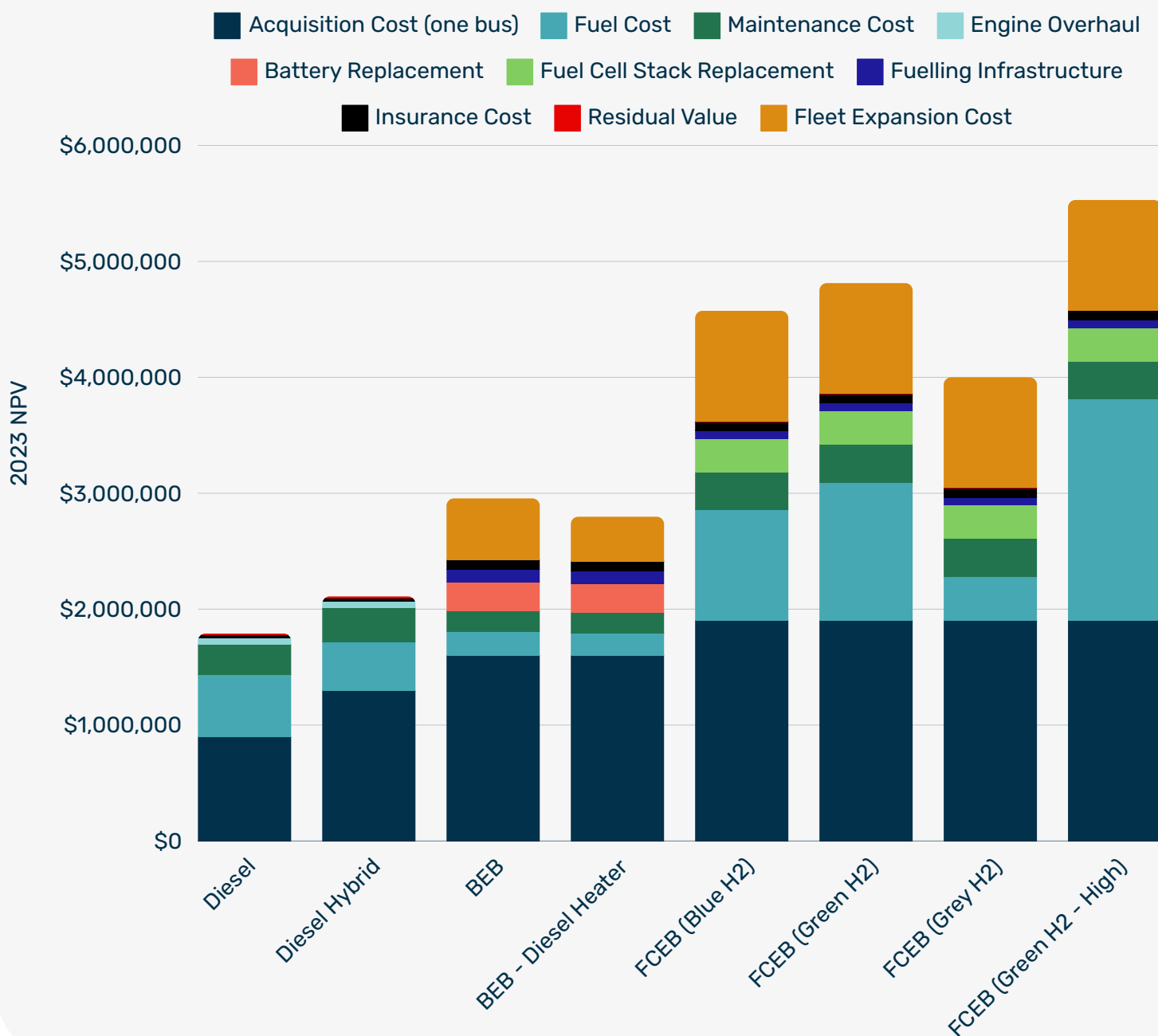
Economic Analysis



ECONOMIC ANALYSIS

Total cost of ownership (TCO) - 12m

15 year life cycle

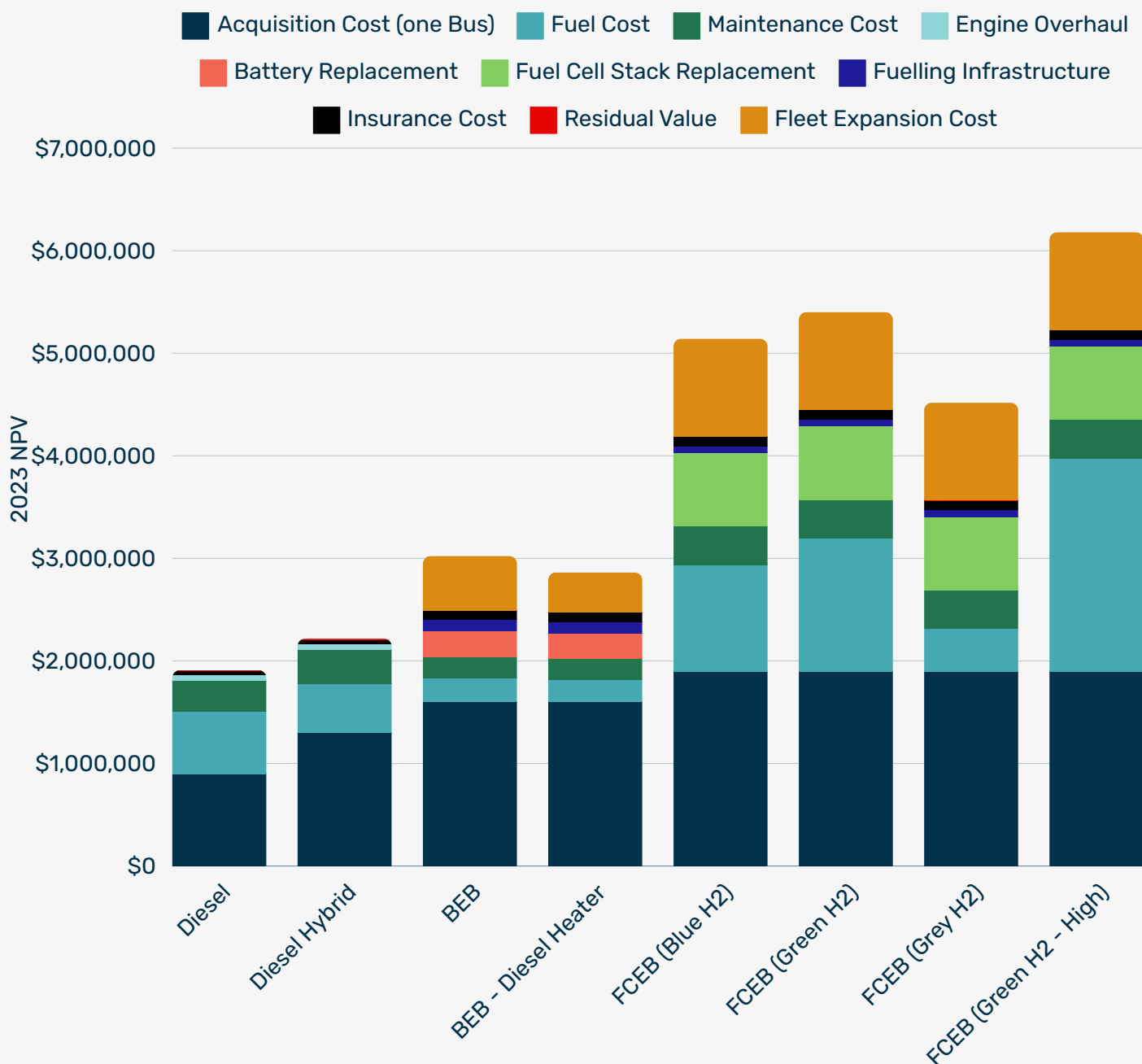


Total Cost of Ownership comparison per bus in NPV
(15 year, 12m bus)

ECONOMIC ANALYSIS

Total cost of ownership (TCO) - 12m

18 year life cycle

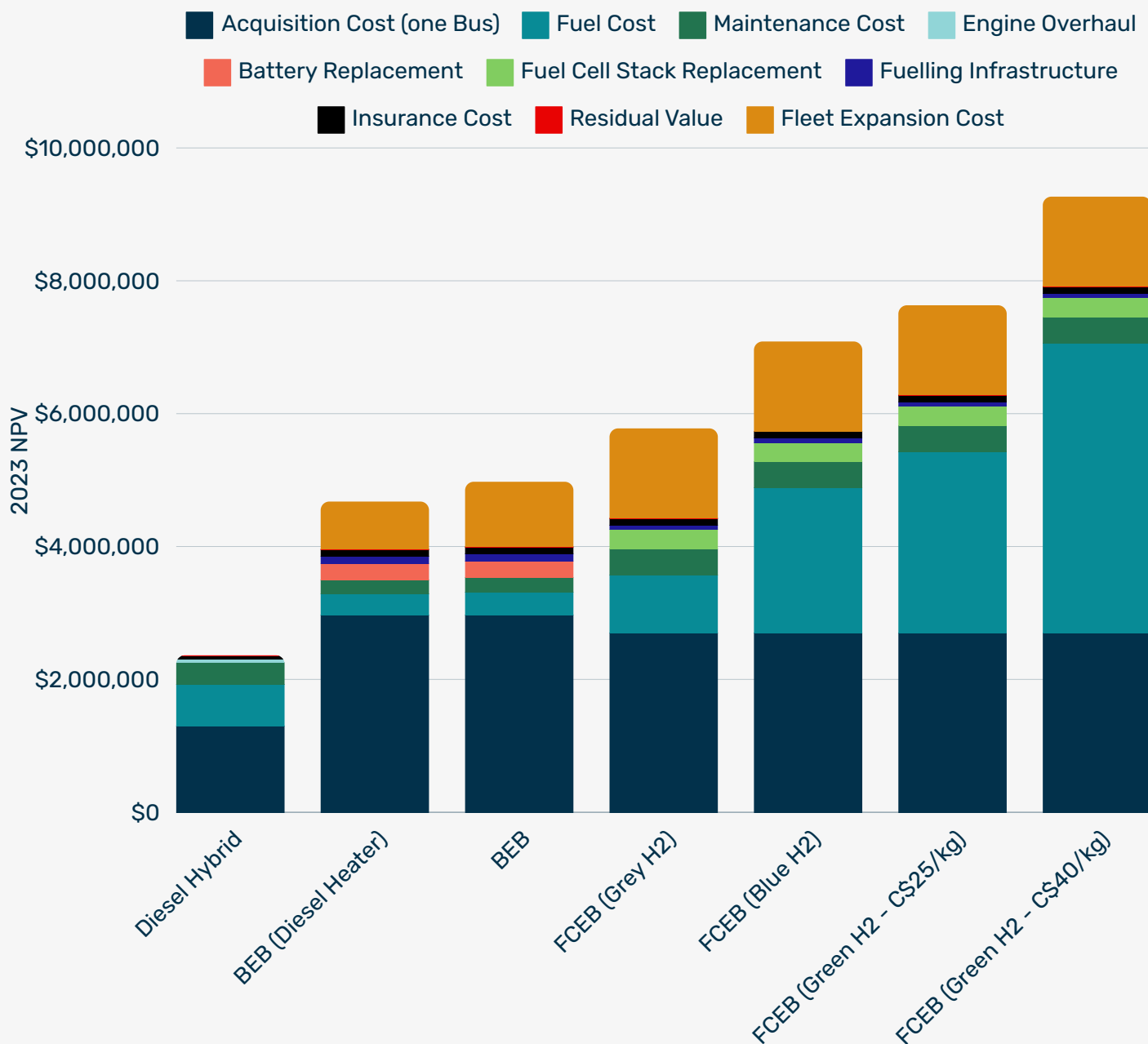


Total Cost of Ownership comparison per bus in NPV
(18 year, 12m bus)

ECONOMIC ANALYSIS

Total cost of ownership (TCO) - 18m

15 year life cycle

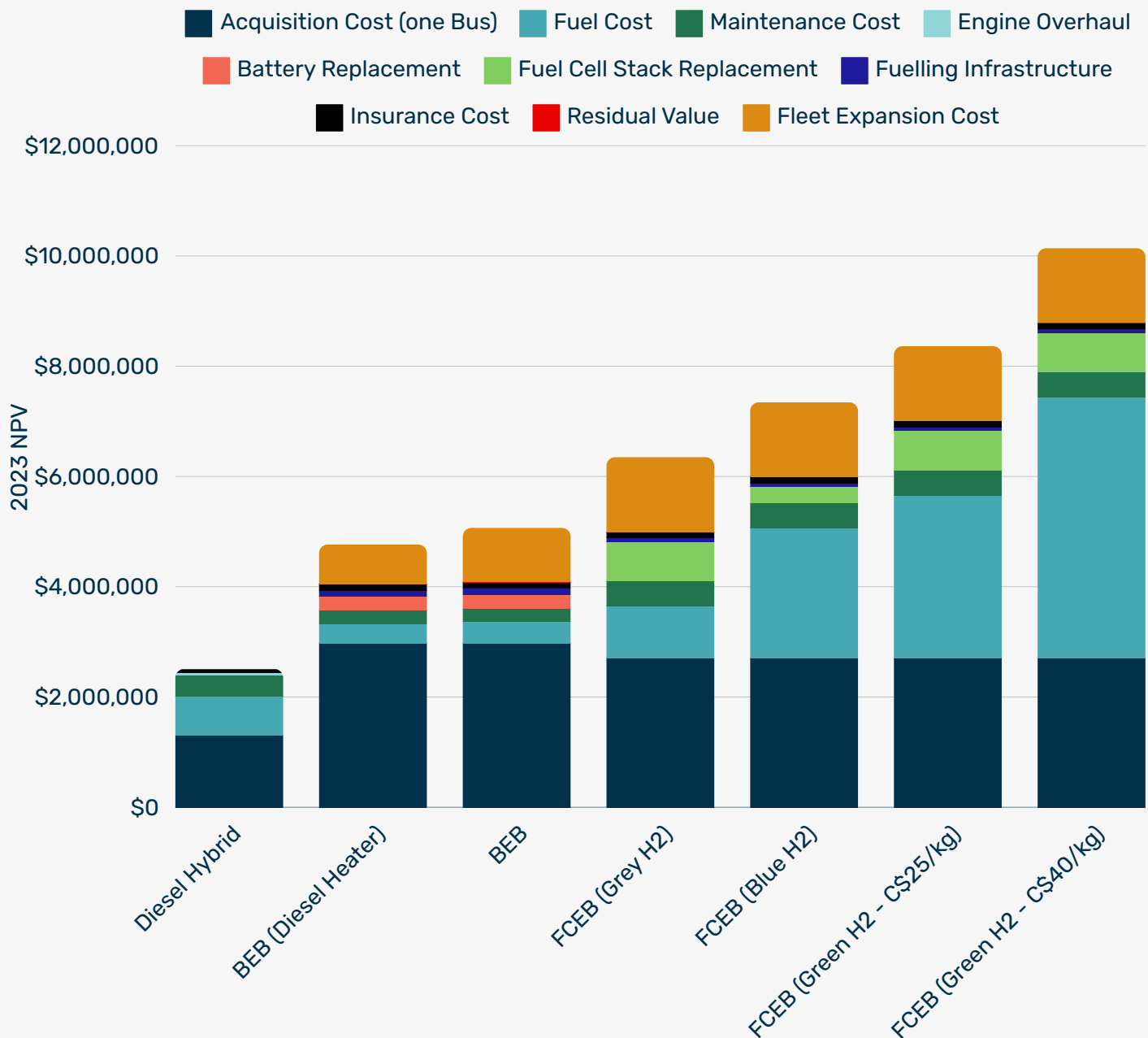


Total Cost of Ownership comparison per bus in NPV
(15 year, 18m bus)

ECONOMIC ANALYSIS

Total cost of ownership (TCO) - 18m

18 year life cycle



Total Cost of Ownership comparison per bus in NPV
(18 year, 18m bus)

ECONOMIC ANALYSIS

Assumptions

- **Scenario One:** Battery Electric Bus (BEB) scenario in which all buses are replaced with battery electric buses only.
- **Scenario Two:** Fuel Cell Electric Bus (FCEB) scenario in which all buses are replaced with fuel cell electric buses powered by a hydrogen fuel cell converting hydrogen to electricity onboard the vehicle.
- **Scenario Three:** Mixed green fleet scenario in which there is a balance and combination of BEBs and FCEBs in the zero emissions fleet.
- **Base Case Scenario:** Ongoing replacement of diesel and HEBs

Parameter	Value
Monetary Units	All costs are expressed in 2023\$
Construction Start Year	Beginning of 2024
Operations Start Year	Beginning of 2024
Evaluation Period	18 years (2024 – 2041)
Discount Rate	3.5%
Assumed growth in level of service over 18 years (2024-2041)	76%
Useful life of asset	Option 1: 15 years
	Option 2: 18 years

Table 5: Assumptions for economic analysis

ECONOMIC ANALYSIS

Assumptions - Capital Expenditure

	Value
CAPEX	
12m Diesel aquisition cost	\$900,0000
18m Diesel aquisition cost	\$1,300,000
12m Diesel-Electric aquisition cost	\$1,300,000
12m BEB acquisition cost	\$1,600,000
18m BEB acquisition cost	\$2,970,000
12m FCEB acquisition cost	\$1,900,000
18m FCEB acquisition cost	\$2,700,000
Sandalwood facility retrofit – Scenario One (full BEB solution)	\$100,597,543
Clark facility retrofit – Scenario One (full BEB solution)	\$51,497,056
Sandalwood facility retrofit – Scenario Two (full FCEB solution)	\$2,978,820
Clark facility retrofit – Scenario Two (full FCEB solution)	\$3,000,530
Sandalwood facility retrofit – Scenario Three (mixed green fleet solution)	\$86,182,363
Clark facility retrofit – Scenario Three (mixed green fleet solution)	\$46,015,086
On-route charging stations cost	\$10,696,278
BEB battery replacement costs	\$260,000 every 6 or 7 years
FCEB battery replacement costs	\$300,000 every 6 or 7 years
High-powered chargers maintenance	\$10,000/year

Table 6: Assumptions for economic analysis

ECONOMIC ANALYSIS

Assumptions - Operational Expenses

	Value
OPEX	
Diesel & hybrid vehicle-km travelled (VKT)	57,627 km/year/bus
Scenario one - full BEB solution (VKT)	46,930 km/year/bus
Scenario two - full FCEB solution (VKT)	39,796 km/year/bus
Scenario three - mixed green fleet solution (VKT)	48,112 km/year/bus
Diesel & hybrid bus maintenance	\$1.19 - \$1.43 /km
BEB maintenance	\$0.54 - \$0.65 /km
FCEB maintenance	\$0.99 - \$1.20 /km
Diesel price	\$1.34/L
Hydrogen price (grey, blue and green)	\$8/kg, \$20/kg and \$25/kg
High hydrogen price point	\$40/kg
Annual electricity consumption (Scenario One (full BEB solution)	\$9,129,775

Table 7: Assumptions for economic analysis

ECONOMIC ANALYSIS

Life cycle cost per scenario (net present value) -15 year

All scenarios: buses without diesel heaters

Base case scenario



CAPEX: \$1.89 billion



Residual: \$(182 million)



OPEX: \$6.01 billion

TOTAL: \$7.72 billion

Scenario One (full BEB solution)

% Inc: 19%



CAPEX: \$3.81 billion



Residual: \$(317 million)



OPEX: \$5.71 billion

TOTAL: \$9.21 billion

Scenario Two (full FCEB solution)

% Inc: 26%



CAPEX: \$4.18 billion



Residual: \$(384 million)



OPEX: \$5.95 billion

TOTAL: \$9.74 billion

Scenario Three (mixed green fleet solution)

% Inc: 19%



CAPEX: \$3.70 billion



Residual: \$(268 million)



OPEX: \$5.74 billion

TOTAL: \$9.17 billion

ECONOMIC ANALYSIS

Life cycle cost per scenario (net present value) -18 year

All scenarios: buses without diesel heaters

Base case scenario



CAPEX: \$1.63 billion



Residual: \$(76.1 million)



OPEX: \$6.01 billion

TOTAL: \$7.56 billion

Scenario One (full BEB solution)

% Inc: 22%



CAPEX: \$3.71 billion



Residual: \$(223 million)



OPEX: \$5.71 billion

TOTAL: \$9.20 billion

Scenario Two (full FCEB solution)

% Inc: 30%



CAPEX: \$4.26 billion



Residual: \$(359 million)



OPEX: \$5.95 billion

TOTAL: \$9.84 billion

Scenario Three (mixed green fleet solution)

% Inc: 21%



CAPEX: \$3.54 billion



Residual: \$(169 million)



OPEX: \$5.74 billion

TOTAL: \$9.11 billion

ECONOMIC ANALYSIS

BEBs with DFAH (net present value) - 18 year

All scenarios: buses with diesel heaters

Scenario One (full BEB solution)

% Savings: 2.6%

Compared to electric heater



CAPEX: \$3.50 billion



Residual: \$(215 million)



OPEX: \$5.67 billion

TOTAL: \$8.95 billion

Scenario Three (mixed green fleet solution)

% Savings: 1.9%

Compared to electric heater



CAPEX: \$3.40 billion



Residual: \$(161 million)



OPEX: \$5.71 billion

TOTAL: \$8.94 billion

The Base Case and Scenario Two (full FCEB solution) were not included as these scenarios have only a small number of BEBs so the impact of DFAH is minimal.

ECONOMIC ANALYSIS

Sensitivity analysis

Hydrogen price points

Hydrogen price points are set as follows:

- Grey hydrogen \$8
- Blue hydrogen \$20 (a hypothetical hydrogen production method)
- Green hydrogen \$25
- “Inflated” green hydrogen \$40

	15-year useful life			18-year useful life		
	Scenario Two	Scenario Three		Scenario Two	Scenario Three	
	FCEB	Mixed green fleet solution (without DFAH)	Mixed green fleet solution (with DFAH)	FCEB	Mixed green fleet solution (without DFAH)	Mixed green fleet solution (with DFAH)
Grey Hydrogen (\$8/kg)	9.74	9.17	9.00	9.84	9.11	8.94
Blue Hydrogen (\$20)	9.88	9.19	9.02	9.98	9.14	8.97
Green Hydrogen (\$25)	9.94	9.20	9.03	10.04	9.15	8.98
High Green Hydrogen (\$40)	10.11	9.23	9.06	10.22	9.18	9.01

Table 8: Life cycle costs for Scenario Two and Scenario Three assuming different hydrogen price points (in billion \$, Present Value)

Scenario Two (full FCEB solution) includes the breakdown “with and without diesel heaters” as it integrates Brampton Transit’s existing 18 BEBs (eight in operation and 10 in procurement).



09

Facilities Assessments



FACILITIES ASSESSMENTS

Scenario One (full BEB solution)

A full battery-based solution requires:

- 260 overhead pantograph chargers at Sandalwood
- 120 overhead pantograph chargers at Clark
- Supply of backup power using a combination of generators and battery energy storage systems and space required

Sandalwood facility retrofit

\$101 million
Total retrofit cost

17 MVA
Total installed charging power

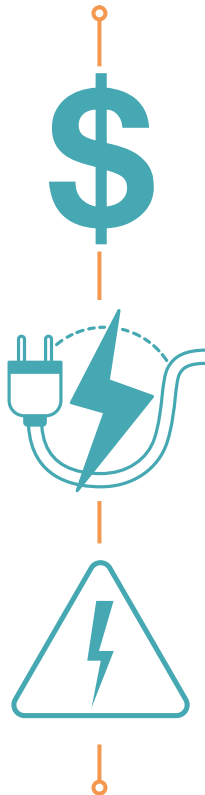
11 MW
Estimate peak service demand

Clark facility retrofit

\$51 million
Total retrofit cost

7 MVA
Total installed charging power

5 MW
Estimate peak service demand



FACILITIES ASSESSMENTS

Scenario Two (full FCEB solution)

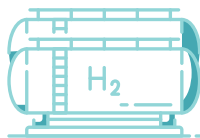
A full hydrogen-based solution requires:

- Hydrogen delivery system (delivers fuel to the agency)
- Hydrogen storage tank(s)
- Vaporizer (for liquid storage)
- Compressor
- Chiller
- Dispensing system (delivers the fuel to the vehicle)

Sandalwood facility retrofit

\$3 million
Total retrofit cost

20 000 kg
H2 storage capacity



Clark facility retrofit

\$3 million
Total retrofit cost

10 000 kg
H2 storage capacity

FACILITIES ASSESSMENTS

Scenario Three (mixed green fleet solution)

A mixed green fleet solution requires:

- Charging infrastructure
- Hydrogen fuelling infrastructure

Sandalwood facility retrofit

\$86 million
Total retrofit cost

20 000 kg
H2 storage capacity

17 MVA
Installed charging power

11 MW
Estimate peak service demand



Clark facility retrofit

\$46 million
Total retrofit cost

10 000 kg
H2 storage capacity

7 MVA
Installed charging power

5 MW
Estimate peak service demand



FACILITIES ASSESSMENTS

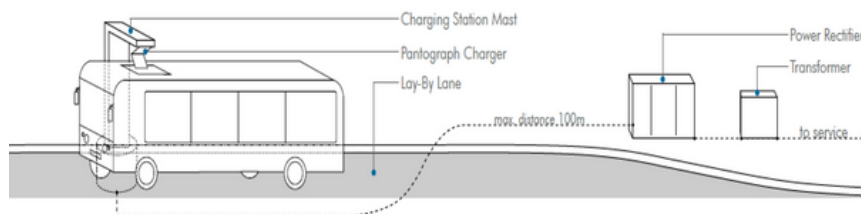
On-route charging locations

Eight on-route charging sites are assessed to support the installation of transformers, switchboards, rectification units and charging masts required for opportunity chargers. Table 11 does not include Mount Pleasant Village as charging infrastructure is already installed.

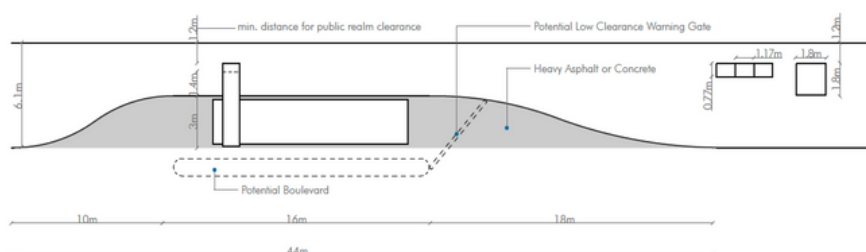
- Equipment and installation costs range from \$700 thousand to \$2.7 million per site.

On-route Charging Sites	Estimated retrofit cost
Mount Pleasant GO Station (4)	\$2,658,533
Queen Street (1)	\$681,704
Bramalea Terminal (2)	\$1,448,704
Sandalwood Loop (2)	\$1,448,704
Heart Lake Terminal (2)	\$1,448,704
Westwood Mall (2)	\$1,448,704
Humber College (2)	\$1,448,704

Table 11: On-route charging locations retrofit costs (number of chargers)



Conceptual layout for on-route site electrical infrastructure



Conceptual on-route charger plan – top-down view



FACILITIES ASSESSMENTS

Assumptions and constraints

Constraints

1. **Electrical capacity:** The facility's electrical system must support the additional electrical demand of charging infrastructure under the worst-case scenario.
2. **Space constraints:** Limited space may be available to install charging infrastructure (power cabinets, dispensers, etc.) within a facility or on the surrounding property.
3. **Cost:** The cost of retrofitting the facility to install charging infrastructure can be high and must be carefully considered in the planning process.
4. **Demand patterns:** The facility's expected charging demand patterns must be considered when designing the charging infrastructure to ensure the charging stations are properly sized and distributed.
5. **Compatibility with existing infrastructure:** The charging infrastructure must be compatible with the facility's existing electrical system and other infrastructure.
6. **Maintenance requirements:** The maintenance requirements of the charging infrastructure must be considered, including the need for regular cleaning, maintenance and repairs.
7. **User needs:** The needs and preferences of users of the charging infrastructure must be considered when designing the charging infrastructure, including ease of access to charging infrastructure by vehicle operators.

Assumptions

1. **Electrical load:** Facilities will not see a significant increase before BEB deployment.
2. **Rollout timeline:** BEBs will be deployed incrementally; a solution that can be phased and scaled is considered.
3. **Operations impact:** The impact on ongoing operations within the facilities is to be minimized.
4. **Redundancy:** Redundancy in the charging solution is required due to the critical nature of transit operations, including high- and low-voltage electrical systems.
5. **Available technologies:** Analysis is based on the best available solutions in the market at the time of publication.
6. **Maintenance needs, safety and ease of access:** Critical infrastructure is considered.

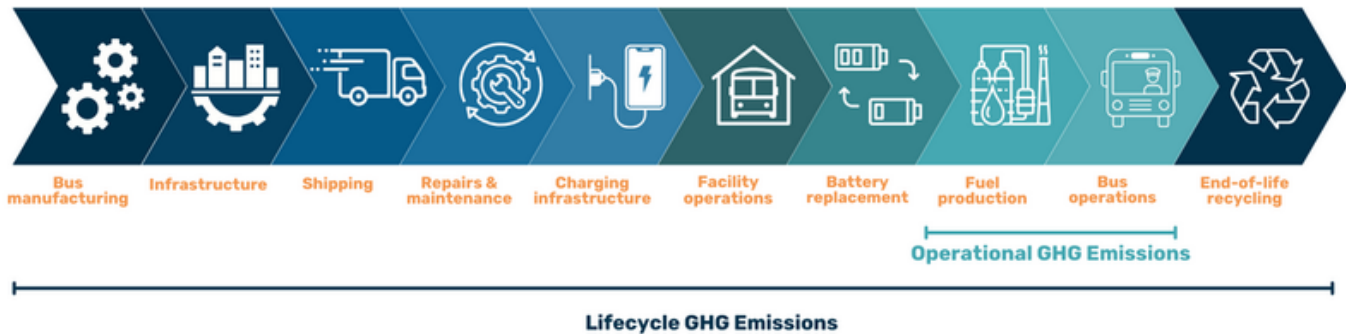


10

Environmental Life Cycle Analysis

ENVIRONMENTAL LIFE CYCLE ANALYSIS

Life cycle versus Operational GHG emissions



Life Cycle GHG Emissions include the following all emissions associated with:

- Manufacture, life and disposal of assets
- Fuel and associated infrastructure
- Maintenance and components
- And much more

Life Cycle Emissions give a full analysis of emissions.

Operational GHG Emissions include the following all emissions associated with:

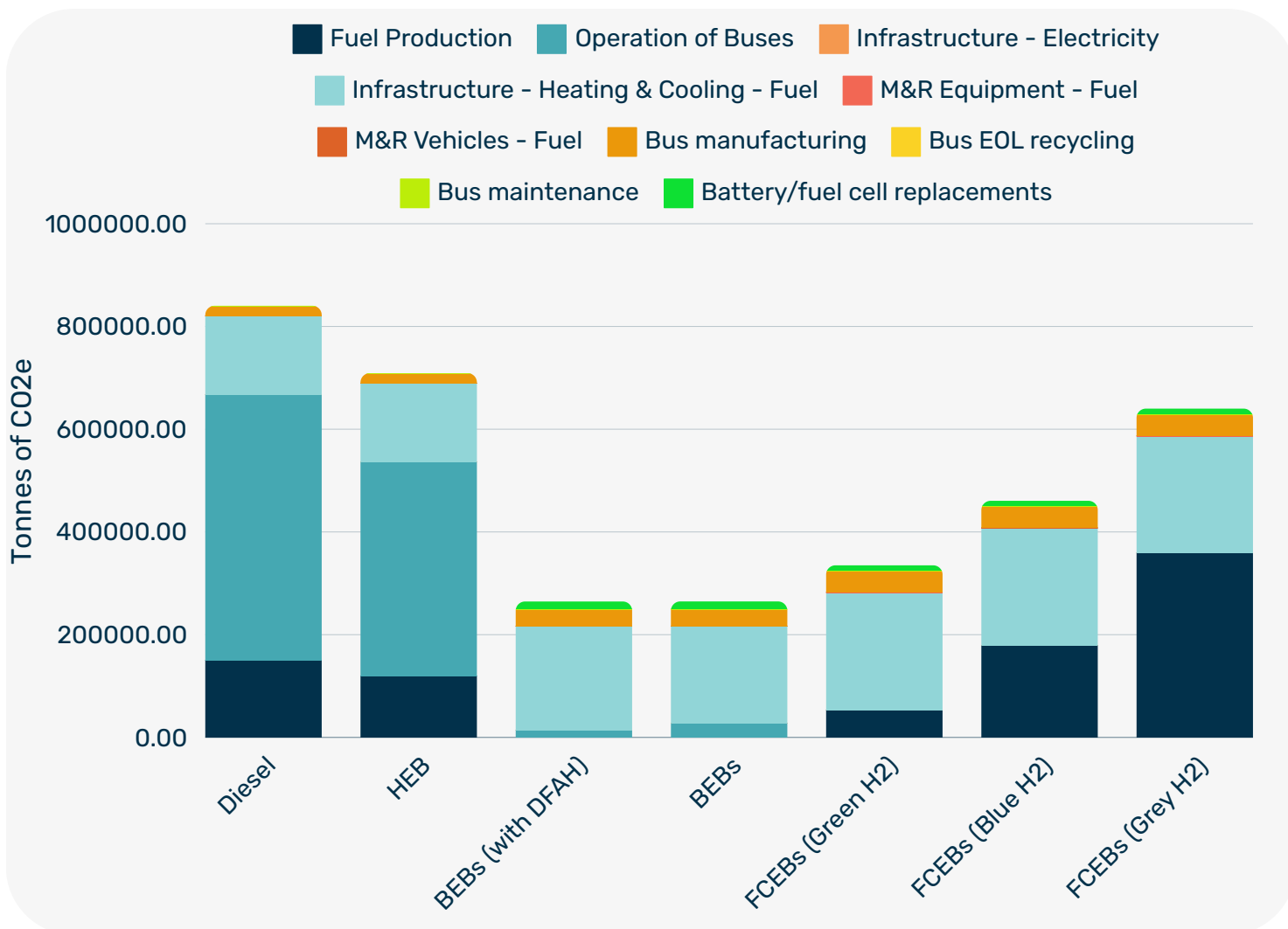
- Fuel production
- Bus operations

Operational Emissions show emissions directly under the control of transit agencies

ENVIRONMENTAL LIFE CYCLE ANALYSIS

12m bus life cycle emissions: 15-year useful life

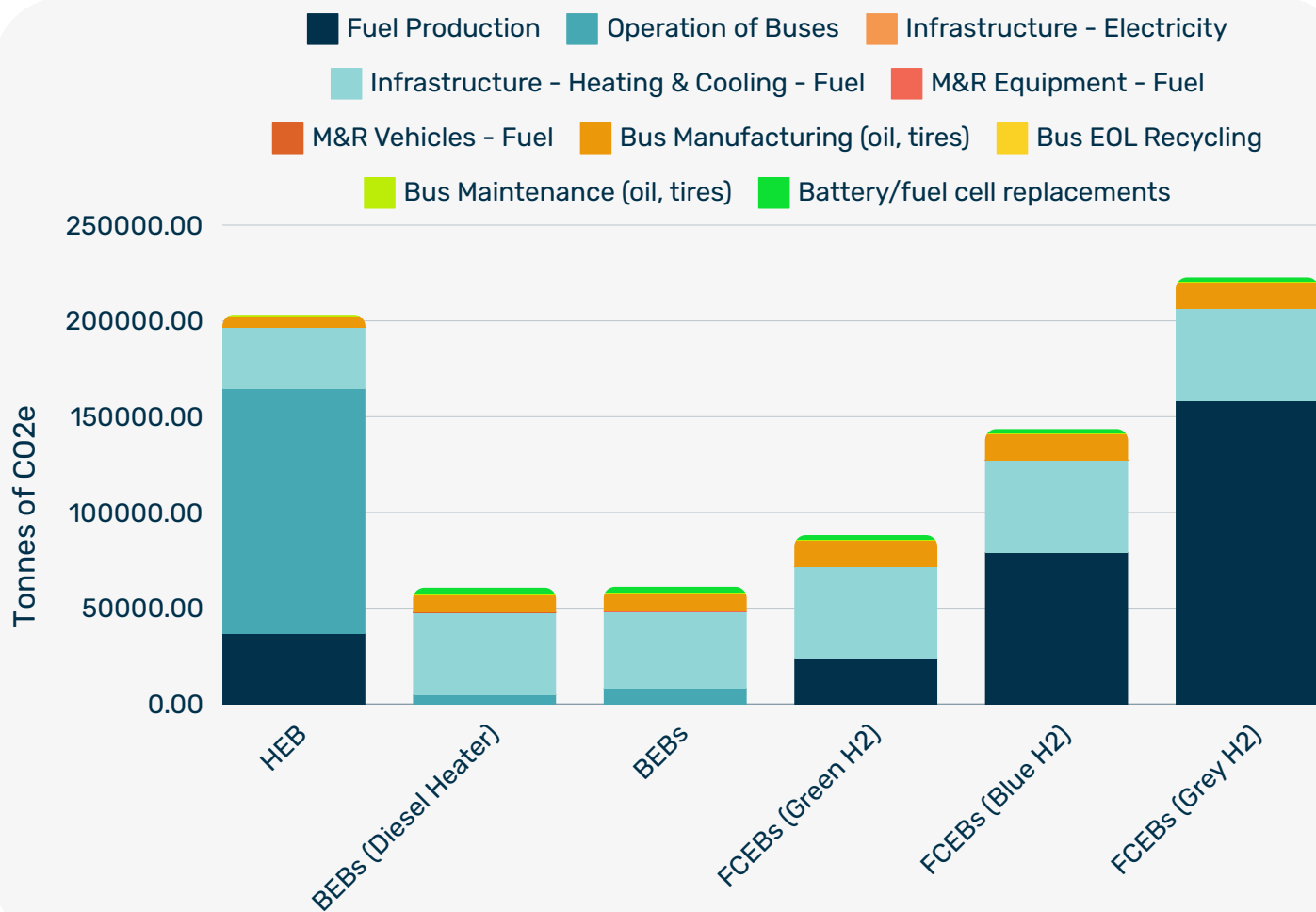
- Overview of the environmental implications by bus type
- Emissions assesses the potential decrease in global warming resulting by vehicle type



GHG emissions compared to diesel bus

ENVIRONMENTAL LIFE CYCLE ANALYSIS

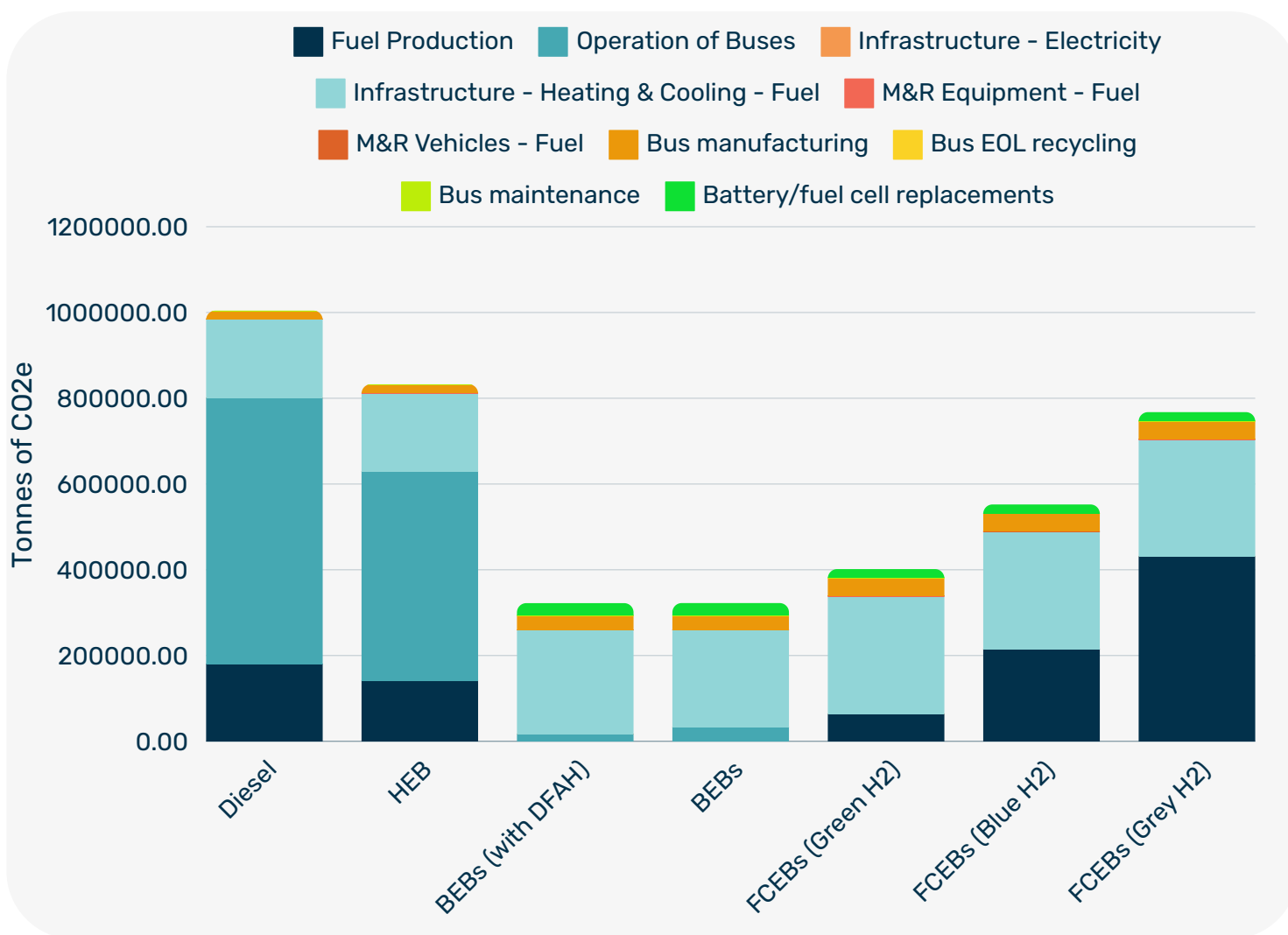
18m bus life cycle emissions: 15-years useful life



GHG emissions compared to HEB

ENVIRONMENTAL LIFE CYCLE ANALYSIS

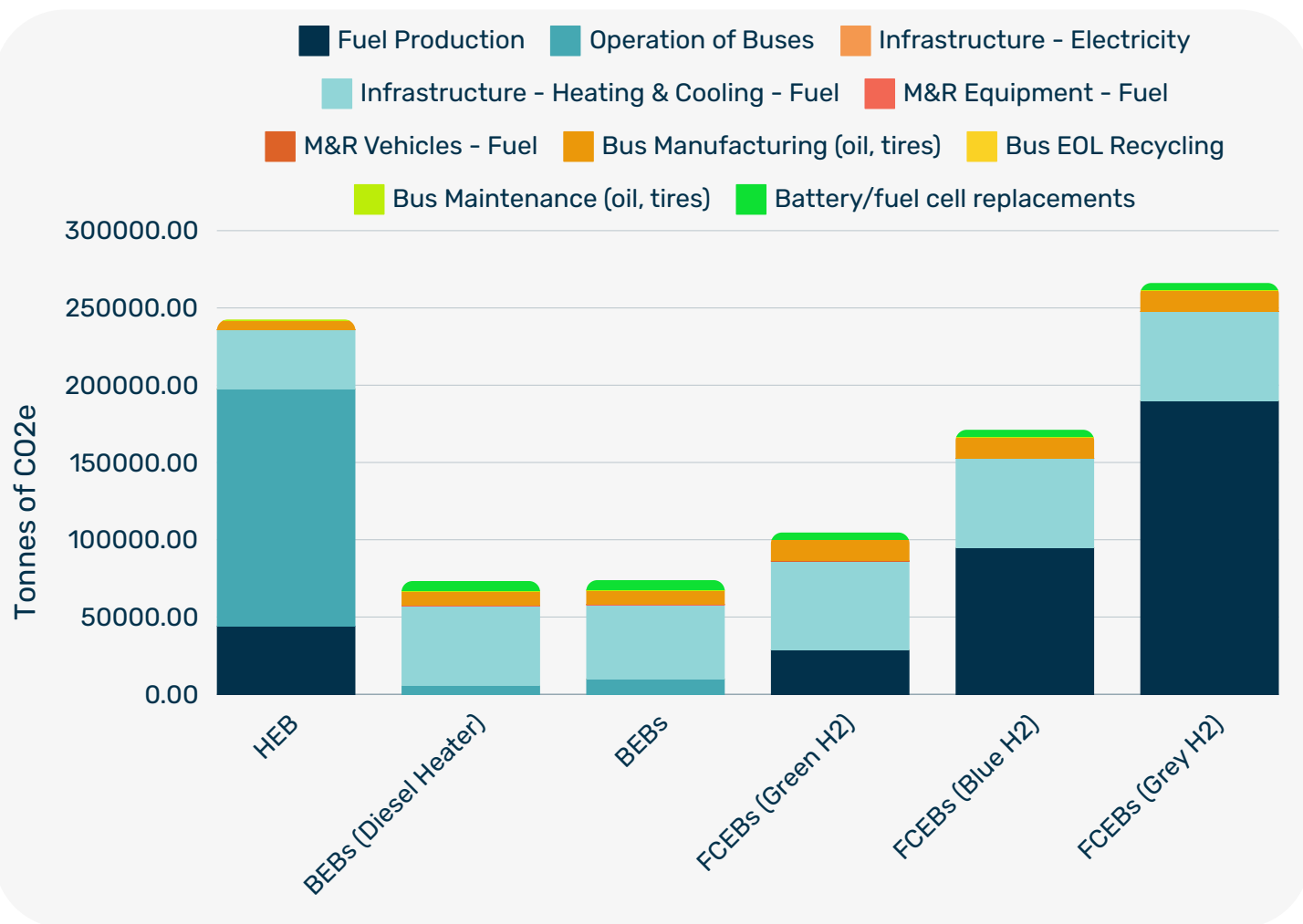
12m bus life cycle emissions: 18-year useful life



GHG emissions compared to diesel bus

ENVIRONMENTAL LIFE CYCLE ANALYSIS

18m bus life cycle emissions: 18-years useful life



GHG emissions compared to HEB

11

Social Impact Analysis

SOCIAL IMPACT ANALYSIS

Assessment for areas for social impact



Noise-sensitive areas, highlighting density of care and senior homes, hospitals, schools and transit routes



Annual median after-tax income in Brampton and across transit routes



Density of population aged 65 and over in Brampton and transit routes



Density of population with no high school diploma and no post-secondary diploma, aged 25 to 64



Density of households spending over 30 per cent or more of income on shelter

SOCIAL IMPACT ANALYSIS

Prioritized routes (socio-economic)

ZEBs can advance social equity and improve social outcomes when deployed in vulnerable areas where people are affected by noise pollution, air pollution, lack of public transit, and racial, gender-based, and economic discrimination.

Six routes are identified as high priority: South Industrial (10)*, Grenoble (12), Southgate (16), Central Industrial (40), County Court (54), and Kingknoll (56).

**Only runs on weekdays*

Route	Route Name	Age score	Education score	Housing score	Income score	Noise score	Final score	Ease of electrification
AVG	Average (full system)	0.28	0.55	0.54	0.12	0.76	2.24	-
10*	South Industrial	0.5	1	0.5	0.5	1	3.5	Very achievable
12	Grenoble	0.5	1	0.5	0	1	3	Achievable
16	Southgate	0.5	0.5	0.5	0.5	1	3	Achievable
40	Central Industrial	0.5	1	0.5	0.5	0.5	3	Achievable
54	County Court	0.5	0.5	0.5	0.5	1	3	Challenging
56	Kingknoll	0.5	0.5	0.5	0.5	1	3	Challenging

Table 13: Routes identified through social impact analysis

Very achievable: depot-only charging

Achievable: on-route charging needed

Challenging: will require block splitting



12

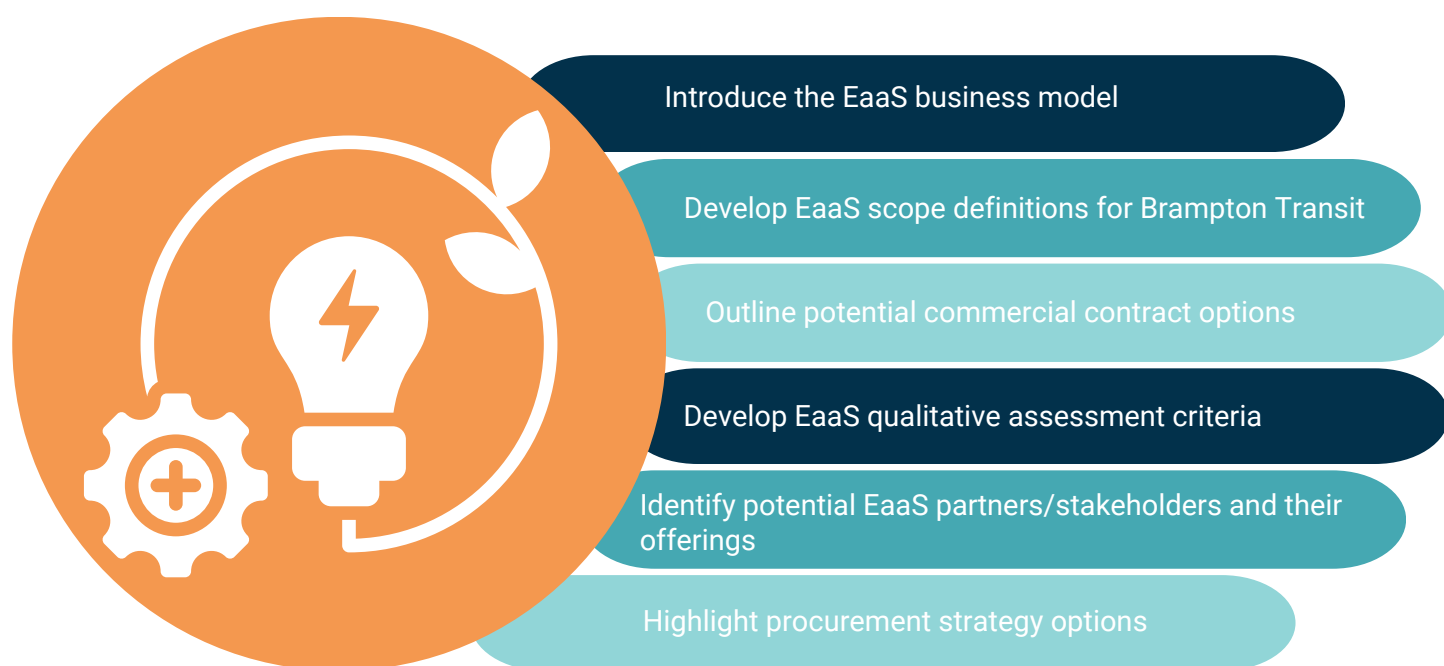
Energy as a Service

ENERGY AS A SERVICE

To mitigate Brampton Transit's risks in decarbonization, seeking a strategic long-term partner for co-investment and ownership of energy infrastructure is crucial. This partner would handle the design, build, operations, and maintenance of infrastructure for electricity and hydrogen to support the expanding zero-emissions transit fleet. Energy as a Service (EaaS) presents a viable option under this approach.

With EaaS, the customer pays a fixed fee based on service consumption, while the technology provider retains ownership of the system and covers all operating costs.

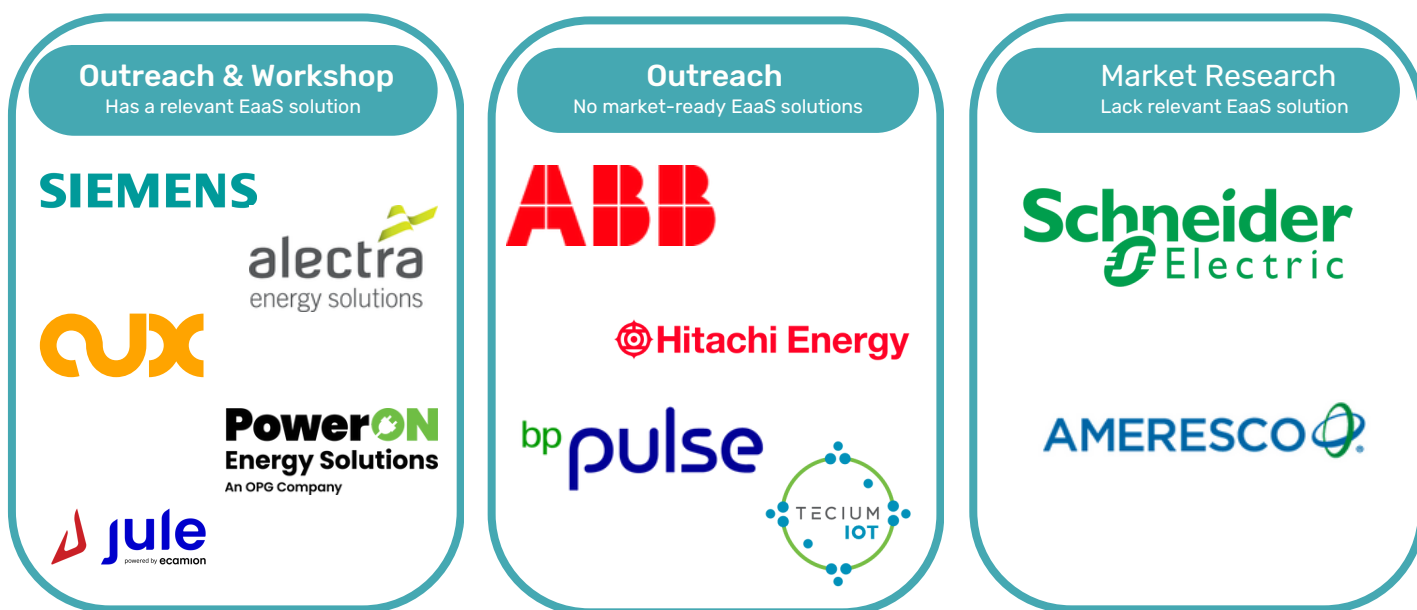
Goals for this scope element



ENERGY AS A SERVICE

EaaS vendor engagement and workshops

Original EaaS workshops were conducted with vendors selected after market research and outreach. The market research includes 11 companies, while outreach includes nine companies, including public and private organizations, with varying degrees of EaaS experience in transit.



In March 2024, eight vendors were contacted again for any updates to their existing offering.



ENERGY AS A SERVICE

Scope differentiators offered by vendors

Table 14 shows the EaaS vendors that, upon initial engagement, have solutions or offerings that provide the highlighted scope differentiators discussed above. This is current as of the time of writing and is subject to change as EaaS offers maturity and adapts to customer needs.

It is also noted that this assessment of vendors is preliminary, and subsequent evaluations by Brampton Transit may provide insight into the ability of each EaaS provider to include scope options.

Company	Energy Carriers Offered (Hydrogen & Electricity)	Energy Products - Software (CMS & DMS) Operational Orchestration	Fee Structure - Fixed (Electricity Pricing)	Energy Products - Vehicles (Battery leasing)	Facility Works - Holistic Facility Modifications & Retrofit
ABB	✓	✓			✓
Alectra	✓	✓	✓		✓
Aux Energy	✓	✓	✓		✓
Jule	✓	✓	✓		
PowerOn	✓	✓	✓		✓
Siemens	✓	✓	✓		
Alpha Struxure	✓	✓	✓		✓

Table 14: Scope differentiators offered by vendors

- All information is based on interviews conducted January to February (2023) and March 2024



ENERGY AS A SERVICE

Summary

To ensure optimal performance in the evolving zero-emission landscape, the following key points should be considered:

- **Efficient EaaS procurement process:** Streamline and expedite Energy as a Service (EaaS) procurement from Brampton Transit's perspective.
- **Flexibility in project onboarding:** Enable Brampton Transit to onboard projects based on funding availability, thereby promoting agility.
- **Limited scope definition for EaaS engagements:** Engage early with EaaS vendors to support scoping and project schedule definition as part of pricing discussions.
- **Information sharing and requests:** Provide detailed utility requirements through the ZEB Implementation Plan and submit site capacity upgrade requests based on this information to avoid project bottlenecks in the future.



13

Conclusions



CONCLUSIONS

Electrification solution

The ZEB Implementation Strategy and Rollout Plan detailed in this report demonstrates achieving a net zero objective for Brampton Transit by 2041 is possible but extremely challenging and costly. Delaying the transition to 2050 may help to spread cost and risk factors over time, but will not reduce the overall complexity of a full fleet transition.

This report presents three scenarios for electrification of Brampton Transit's fleet.

- **Scenario One** ("full BEB solution") presents a solution where all buses are transitioned to BEBs
- **Scenario Two** ("full FCEB solution") represents a transition of the fleet to all FCEBs
- **Scenario Three** ("mixed green fleet solution") is a solution with a mixed green fleet of BEBs and FCEBs

As one of the first agencies in Canada to establish a plan for full fleet decarbonization by mid-century, Brampton Transit will experience unknown complexities in its mission. As a result, it will be a leader and a champion that other agencies will learn from over time.

This study supports an approach to full fleet decarbonization that prioritizes Scenario Three (mixed green fleet solution). This solution balances the advantages and disadvantages of both BEB and FCEB technologies to deploy a flexible future fleet. Scenario Three (mixed green fleet) is the lowest-cost option at \$8.94 billion (NPV) which is incrementally better than Scenario One (fully BEB solution) at \$8.95 billion (NPV) and significantly better than Scenario Two at \$9.85 billion (NPV) [2].

Although this solution requires hydrogen supplies, which may not be readily available in electrolytic or green hydrogen forms, Brampton Transit can access grey hydrogen supplies at scale within the marketplace. This grey hydrogen supply chain will be a part of the early-stage transition plan to achieve net zero emissions, while waiting for green supplies to enter the marketplace at a greater scale and reduced cost.

Scenario One (full BEB solution) is the second-best option for Brampton Transit, as it carries significant benefits in terms of cost and the greatest emissions savings over all other scenarios. Scenario Two (full FCEB solution) is positioned as the third-best option given the associated cost.

[2] These values are based on DFAH and an 18-year useful life.

CONCLUSIONS

Scenario One (full BEB solution)



1,161

BEBs with DFAH in 2041



18

On-route
chargers



\$8.95b

Life cycle transition
18 years, DFAH



\$3.26M

12m bus TCO with
18-year life cycle



97%

Operational GHG
emission reduction
by 2041



22 MW

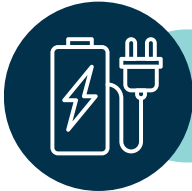
Charging capacity



Major facility retrofits to Sandalwood and Clark facilities needed with a total cost of **\$151 million** - additional third facility **needed immediately**



Aquisition of five parcels of land with a total cost of **\$512,000**



Retrofits at on-route charging sites needed at Mount Pleasant GO, Queen Street, Bramalea, Mississauga, Sandalwood loop, Humber, Heart Lake, Westwood with a total cost of **\$4.8 million**



A transition cost of **\$8.94 billion** assumes BEBs with DFAH and an 18-year asset life cycle



Significant **schedule changes** needed to accommodate the necessary charging requirements



CONCLUSIONS

Scenario One (full BEB solution)

Quick Facts

- Requires between 570 and 674 buses in total (depending on vehicle configuration) to meet current service levels, which is equivalent to 20 to 42 per cent more vehicles than the base case fleet
- Requires facility retrofits and installation of approximately 22 MW of charging capacity between Sandalwood and Clark facilities
- Requires 18 on-route chargers across eight terminals amounting to 600 per cent more chargers than Brampton Transit has deployed to date
- Expected service growth will require a fleet of between 1,161 and 1,240 BEBs by 2041

CONCLUSIONS

Scenario One (full BEB solution)

Advantages

- Leverages the installation and handling of a readily available electricity fuel supply chain
- Requires significant electrical infrastructure upgrades (both downstream and upstream from the facilities' transformers), which is readily available in the marketplace today
- GHG emissions associated with the operation of BEBs are shown to be less than those of FCEBs, even when considering the cleanest form of hydrogen
- Achieves the greatest GHG savings for Brampton Transit

Disadvantages

- Requires substantial growth in the fleet size with hundreds of additional buses necessary to achieve full decarbonization over the base case scenario
- High replacement ratios creates demand for more space for buses to serve the same ridership population as today
- Requires relatively large electrical infrastructure and 18 on-route chargers distributed among eight transit terminals
- Does not consider any unknown factors of complexity that may arise with a BEB-only solution, such as a system-wide power outage

CONCLUSIONS

Scenario Two (full FCEB solution)



1,418

1,400 FCEBs and 18 BEBs in 2041



30,000 kg

H2 storage capacity needed



\$9.85b

Life cycle transition 18 years



\$5.25M

12m bus TCO over 18 year life cycle (Green H2)



85%

Operational GHG emission reduction per bus (Green H2) by 2041



5.9M kg

kg of hydrogen per year in 2041



Facility retrofits to Sandalwood and Clark facilities needed with a total cost of ownership of **\$5.5 million (significantly lower than BEB)**



A total of **30,000 kg of H2 storage capacity** is needed at the Sandalwood and Clark facilities and **5.9 million kg** of hydrogen is needed per year



Incremental costs over an 18 year life cycle are **30 per cent higher** than the base case scenario



Transition cost of **\$9.85 billion** assumes an 18-year asset life cycle



CONCLUSIONS

Scenario Two (full FCEB solution)

Quick Facts

- Considers various hydrogen production types:
 - Electrolytic or “green” hydrogen produced from the electricity grid, which is considered a low carbon intensity hydrogen fuel type.
 - “Blue” hydrogen produced from steam methane reformation (SMR), which integrates carbon capture solutions to store emissions and reduce the overall carbon intensity of the fuel. It is considered a greener solution compared to “grey” hydrogen defined below but a dirtier solution that is more carbon intense than “green” hydrogen.
 - “Grey” hydrogen produced from steam methane reformation (SMR) with no mitigating technology to reduce the carbon intensity of the fuel. This production method is considered the dirtiest form of hydrogen but is abundantly available at scale within Canada today.
- Requires 1,400 FCEBs and 18 BEBs to meet service levels in 2041, which is equivalent to 51 per cent more vehicles than the base case, but requires no depot or on-route chargers (at current service levels)
- Requires new hydrogen supply agreements with vendors and may require the use of more carbon-intense grey options in the short term

CONCLUSIONS

Scenario Two (full FCEB solution)

Advantages

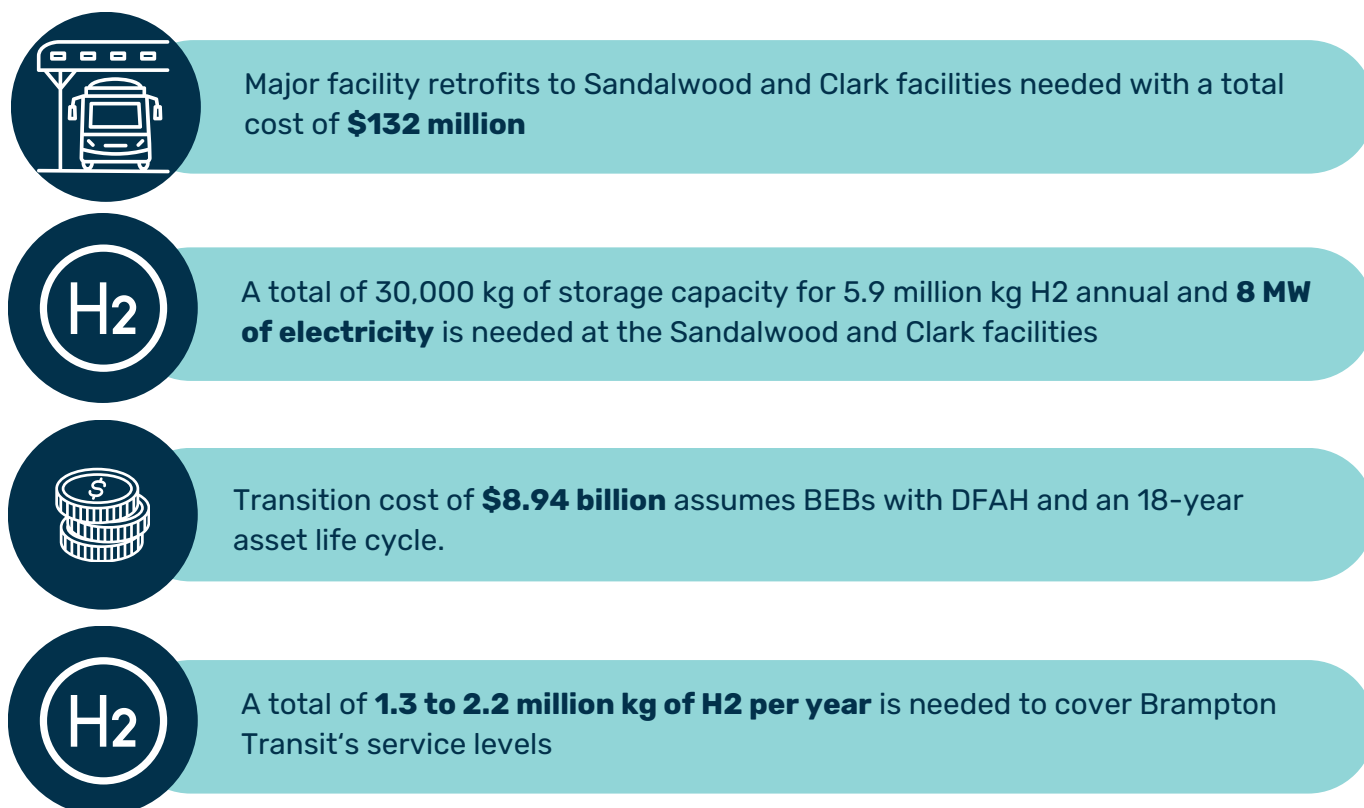
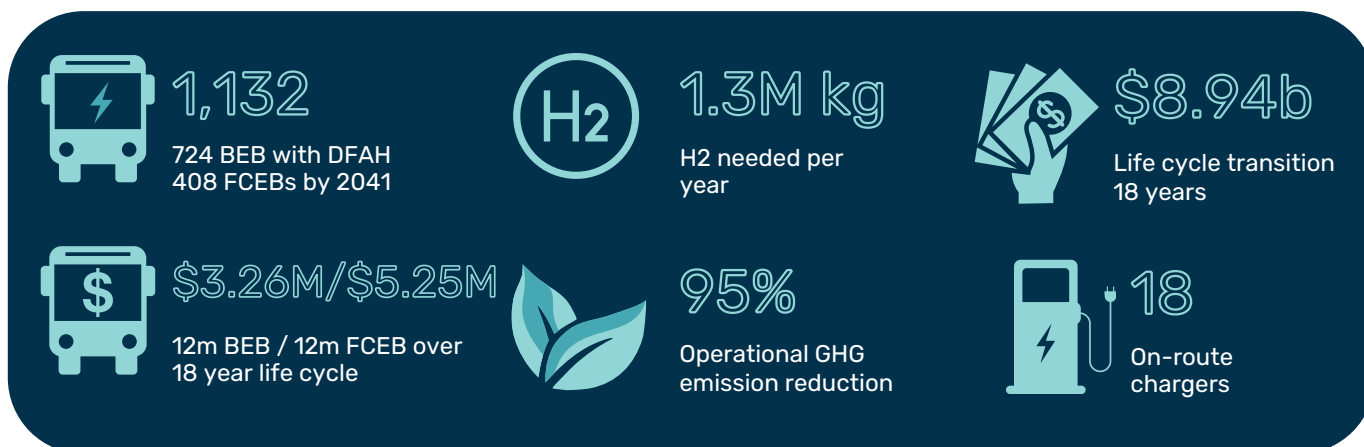
- Requires the smallest increase in service hours while achieving full fleet decarbonization
- Does not require the substantial electrical infrastructure associated with charging BEBs
- Brampton Transit would not need to purchase, lease, or engage in land use agreements for pieces of (private or public) land that are required to install the necessary electrical infrastructure, located locally or in other municipalities
- Refuelling FCEBs is operationally similar to refuelling diesel buses, which facilitates the adoption of the new technology by transit staff

Disadvantages

- BEBs charging both in-depot and on-route can have a much longer range than FCEBs that have access to only one fuelling episode per day
- Results in the largest number of vehicles required to achieve full decarbonization in Brampton
- Requires the continuous procurement of large quantities of hydrogen fuel, which is extremely expensive in Ontario today in “green” forms
- Costs for FCEBs are approximately 20 per cent more expensive than BEBs in today’s marketplace

CONCLUSIONS

Scenario Three (mixed green fleet solution)





CONCLUSIONS

Mixed fleet scenario

Quick Facts

- Requires between 558 and 640 buses in total depending on the vehicle configuration, which is equivalent to 17 to 34 per cent more vehicles than the base case fleet
- Requires facility retrofits and installation of approximately 8 MW of charging capacity between Sandalwood and Clark facilities
- Requires 18 on-route chargers across eight terminals which amounts to 600 per cent more chargers than Brampton Transit has deployed to date
- Requires new hydrogen supply agreements with vendors and may require the use of more carbon-intense grey options in the short term
- “Mixed” fleet ratio would be comprised of 318 to 413 BEBs and 181 to 322 FCEBs (depending on configuration) resulting in the smallest total fleet size to decarbonize the current fleet of buses
- Equates to the minimal total cost, but not the maximum potential reduction of GHG emissions, across all three solutions
- Expected service growth will require a fleet of 1,185 ZEBs with approximately 767 BEBs and 418 FCEBs by 2041 without DFAH or 724 BEBs and 408 FCEBs for a ZEB fleet of 1,132 with DFAH



CONCLUSIONS

Scenario Three (mixed green fleet solution)

Advantages








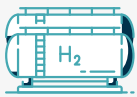



- Integrates both technologies for fleet flexibility
- Reduces the total number of vehicles and chargers needed to achieve full decarbonization, which significantly reduces the challenges associated with storage space in the two transit facilities
- Serves as the least costly option of all three scenarios in net present value (2023 dollars)
- Offers a compromise between less costly buses with BEBs and the smallest increase in added service hours with FCEBs

Disadvantages

● Requires management of two types of buses, two parts inventories, two training programs in workforce development, two types of fuelling infrastructure, abundance of two sets of standards and safety regulations, and procurement of two types of fuel

CONCLUSIONS

Scenario comparison

	 Base Case (diesel & HEB)	 Scenario One (full BEB solution)	 Scenario Two (full FCEB solution)	 Scenario Three (mixed green fleet solution)
Operational GHG emission reduction 18 year life cycle BEBs without DFAH Green H2 	0%	97%	85%	95%
Total cost of ownership per bus (NPV) - 18 year life cycle (12m) 	\$1.77 million	\$3.26 million	\$5.25 million	BEB: \$3.26 million FCEB: \$5.25 million
Life cycle cost of transition (NPV) - 18 year life cycle BEBs with DFAH 	\$7.56 billion	\$8.95 billion (18% increase over base case)	\$9.85 billion (30% increase over base case)	\$8.94 billion (18% increase over base case)
H2 consumption annually 	-	-	5.9 million kg	1.3 to 2.2 million kg
On-route chargers needed 	-	18	-	18
Annual energy consumption (2041) 	-	106 to 131 GWh	-	106 to 131 GWh
Fleet size in 2041 BEBs with DFAH 	938	1,161	1,418	1,132



Report
Staff Report
 The Corporation of the City of Brampton
 4/24/2024

Date: 2024-04-02

Subject: **Spine Servicing Agreement - Block 47-1 Sub-Areas 1A & 1B, and Budget Amendment - Developer Reimbursement – Ward 10,**

Secondary Title: **Developer Reimbursement for the Construction of East-West Arterial Road from The Gore Road to Collector Road 'B' – Ward 10**

Contact: Frank Mazzotta, Manager, Development Engineering, Environment & Development Engineering

Report number: Planning, Bld & Growth Mgt-2024-275

RECOMMENDATIONS:

1. That the report from Frank Mazzotta, Manager, Development Engineering, Environment & Development Engineering to the Committee of Council Meeting of April 24, 2024, re: **Spine Servicing Agreement - Block 47-1 Sub-Areas 1A & 1B, and Budget Amendment - Developer Reimbursement – Ward 10**, be received;
2. That Council authorize the Commissioner of Planning, Building & Growth Management to enter into a Spine Servicing Agreement ("the Agreement") between the landowners listed in Attachment 1 ("the Developers"), the Corporation of the City of Brampton, and the Region of Peel for Block 47-1, Sub-areas 1A & 1B, of the Highway 427 Industrial Secondary Plan Area, and;
3. That subject to the Commissioner of Planning, Building & Growth Management executing the Spine Servicing Agreement ("the Agreement") between the Developers and the Corporation of the City of Brampton that includes a Development Charges Credit Agreement in Schedule J, pursuant to the Administrative Authority By-law 2016-2017, as amended;
 - I. A budget amendment be approved, and a new capital project be established in the amount of \$4,974,000 for the reimbursement of construction of the East-West Arterial Road from The Gore Road to Collector Road 'B', in connection with the Spine Servicing of Block 47-1 Sub-areas 1A & 1B, with funding to be transferred from Reserve #137 – DC Roads;
 - II. Council approve the reimbursement of development charges to the Developer, in accordance with Schedule J of the Agreement for the Developer Reimbursement of development charge funded road infrastructure, for the actual reasonable cost

of the construction of the East-West Arterial Road from The Gore Road to Collector Road 'B', up to a maximum upset limit of \$4,974,000.

OVERVIEW:

- Development of a Block Plan Area by a group of developers proceeding contemporaneously, each with their own subdivision agreements, can result in delayed approvals when one or more developers are dependent on the prior registration of adjacent lands for access or servicing. This inhibits timely delivery of key infrastructure and the building of complete communities.
- A Spine Servicing Agreement is typically used in conjunction with Subdivision Agreements to advance the construction of municipal spine services, by developers, prior to the individual plans of subdivision.
- No delegated authority exists to permit the construction of municipal infrastructure outside, or in advance of, a plan of subdivision or site plan application.
- This report requests Council authorization for the Commissioner of Planning, Building & Growth Management to execute a Spine Servicing Agreement between the Developers, the City of Brampton and the Region of Peel to permit the delivery of spine infrastructure within Block 47-1 Sub-areas 1A & 1B of the Highway 427 Industrial Secondary Plan Area.
- The City collects development charges to secure the construction of municipal infrastructure delivered by developers as part of residential land development projects. This includes roads, bridges, storm sewers or any other development charge eligible infrastructure in accordance the latest Development Charges Background Study.
- Development charges are reimbursed to developers subsequent to the completion of the municipal infrastructure for which the development charges were collected.
- As part of the Spine Services Agreement, the Developers have committed to construct the East-West Arterial Road from The Gore Road to Collector Road 'B'.
- The Developers intend to enter into a Development Charges Credit Agreement via Schedule J of the Spine Services Agreement with the City of Brampton for the Developer Reimbursement delivery of the East-West Arterial Road from The Gore Road to Collector Road 'B' as part of the Spine Services delivery of Block 47-1 Sub-areas 1A & 1B.
- This report requests Council approval for the reimbursement of development charges to the Developers following completion of East-West Arterial Road from The Gore Road to Collector Road 'B'.
- The reimbursement of development charges to the Developer are for the cost of the growth-related portion of these works, estimated at \$4,974,000. This amount shall be the upset limit with any balance and additional costs being the obligation of the Developers.
- This report also requests Council approval of a 2024 Capital Project for the East-West Arterial Road to ensure that sufficient funds exist for the reimbursement of development charges to the Developers for the construction of the East-West Arterial Road from The Gore Road to Collector Road 'B'.

- **Reserve #137 – DC Roads has sufficient funding for the creation of this 2024 Capital Project for the East-West Arterial Road.**

BACKGROUND:

As part of the planning process and approvals in accordance with the Planning Act, developers enter into Subdivision Agreements with the City of Brampton and the Region of Peel to construct the municipal services required to develop their lands.

Development of a Block Plan by a group of developers proceeding contemporaneously, each with their own subdivision agreements, can result in delayed approvals when one or more developers are dependent on the registration of adjacent developing lands for access or servicing. This inhibits timely delivery of key infrastructure and the building of complete communities.

The Spine Servicing Agreement is used in conjunction with Subdivision Agreements to permit the advance construction of municipal spine services, by the Developers, outside the individual plans of subdivision to permit the orderly development of the lands within a Block Plan to build complete communities.

Further, the City of Brampton collects development charges as part of the subdivision application and building permit process for the purpose, in part, of funding and constructing the City's growth-related portion of the municipal public road network (roads, sewers and appurtenances).

Developers that construct development charge eligible infrastructure directly as part of their subdivision development works may be eligible for the reimbursement of development charges subject to Council approval, the Development Charges Act and the City's corporate guidelines related to the administration and reimbursement of development charges.

In January 2006 Council endorsed a "*Corporate Guideline Regarding Arrangements to Allow Developers to Provide Single Source Delivery of Development Charge Funded Road Infrastructure*", which has served as the basis for considering proposals for the early delivery of road infrastructure. Costs within the roads program of the approved DC Background Study are the basis for determining the maximum amount of development charge funds available for any reimbursement under such arrangements.

On May 18, 2011, Committee of Council approved the report titled "Inclusion of Provisions within the City's Subdivision Agreement in Keeping with the Criteria and Intent of the City's Single Source Delivery of Development Charge Funded Road Infrastructure Guidelines." This sets out specific provisions related to Development Charges credits and reimbursements that are to be included in a subdivision agreement.

CURRENT SITUATION:

The participating landowners (“the Developers”, as listed in Attachment 1) intend to develop individual plans of subdivision within Block 47-1, Sub-areas 1A and 1B of the Highway 427 Industrial Secondary Plan Area (east of The Gore Road and north of Castlemore Road, ref. Figure 1).

As part of comprehensive planning, the Developers have committed to develop the area as complete community. In order to so, the Developers are required to construct and deliver spine services such as roads, sewers, storm water management facilities, open spaces (NHS), and parks in advance of their individual plans of subdivision.

Spine Services Agreement

No delegated authorization exists to permit the construction of municipal infrastructure outside, or in advance of, a plan of subdivision or site plan application. Delegated authority exists only to permit the construction of infrastructure as part of a subdivision or site plan application via Subdivision or Site Plan Agreement.

In these cases, it is recommended that a Spine Servicing Agreement be used in conjunction with Subdivision Agreements to permit the construction of key municipal spine services, by developers, in advance of the individual plans of subdivision.

The Developers intend to enter into a Spine Servicing Agreement (“the Agreement”) with the City of Brampton and the Region of Peel for the construction of the spine services within the 47-1 Secondary Plan Sub-areas 1A and 1B. Consequently, this report requests Council’s approval of authorization to the Commissioner of Planning, Building & Growth Management to enter into the Agreement with the Developers.

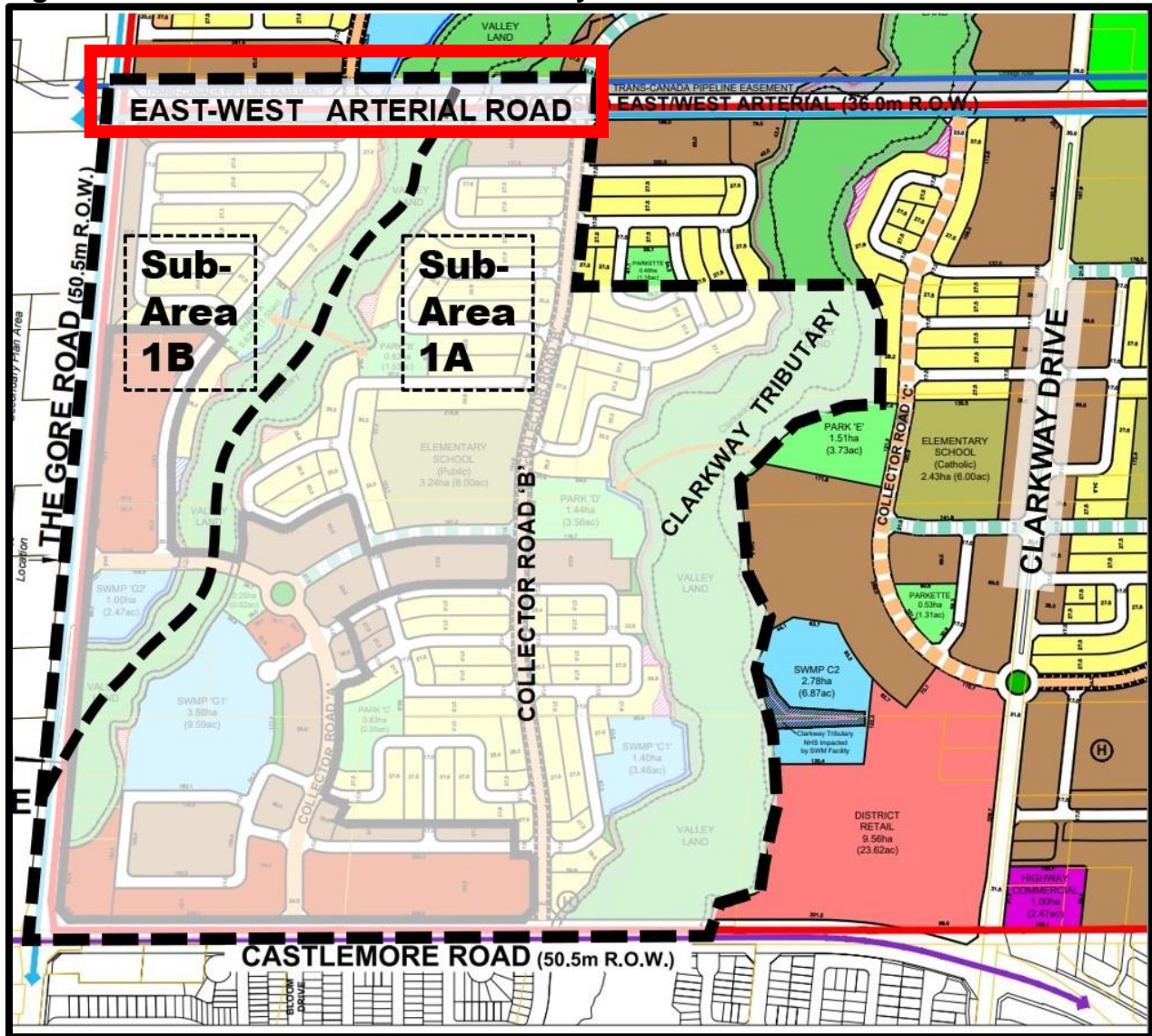
East-West Arterial Road and Development Charges Agreement

As part of the Spine Services Agreement, the Developers have committed to construct the East-West Arterial Road (“the Works”) from The Gore Road to the Collector Road ‘B’ as illustrated (ref. Figure 1).

The East-West Arterial Road is identified in the latest Development Charges Background Study as development charge funded road infrastructure. As such, it is eligible for reimbursement, to the Developers, upon construction and acceptance of the Works by the City.

The Spine Servicing Agreement with the Developers will include provisions, via Schedule J, for reimbursement to the Developer of actual reasonable costs of construction of the Works up to a maximum upset limit of \$4,974,000. This reimbursement of development charges will be for the growth-related portion of the Works. Approval for the reimbursement of development charges and approval of a capital project for \$4,974,000 are required to ensure that sufficient funds exist to permit the reimbursement of development charges to the Developers for the Works.

Figure 1 – Sub-Area 1A & 1B of Secondary Block Plan Area 47-1



CORPORATE IMPLICATIONS:

Financial Implications:

Contingent upon Council approval of the budget amendment, a new capital project be established in the amount of \$4,974,000 for the reimbursement of the construction of the East-West Arterial Road from The Gore Road to Collector Road 'B', with funding to be transferred from Reserve #137 – DC Roads. Sufficient funding is available in the reserve fund.

STRATEGIC FOCUS AREA:

The recommendations of this report support the strategic priorities of Brampton as a well-run City by providing efficient processing and approvals to permit the development of the sub-areas of Block 47-1 as a complete community. In addition, the construction of the East-West Arterial Road from The Gore Road to Collector Road 'B' as part of the spine infrastructure Work supports smart growth and building complete communities.

CONCLUSION:

Approval of the recommendations of this report streamlines the administrative process. Further, it will provide for the timely delivery of development charges funded municipal infrastructure and the completion of a complete community that is beneficial to the City in providing quality and timely services that support the Term of Council Priorities.

Authored by:

Reviewed by:

Frank Mazzotta, P. Eng.,
Manager, Development Engineering,
Environment & Development
Engineering Division,
Planning, Building & Growth
Management Department

Michael Herall, P. Eng.,
Director, Environment &
Development Engineering Division,
Planning, Building & Growth
Management Department

Approved by:

Approved by:

Steve Ganesh, MCIP, RPP,
Commissioner, Planning Building &
Growth Management Department

Marlon Kallideen,
Chief Administrative Officer

Attachment 1 – List of Participating Landowners, Consultant and Trustee:

SENWOOD DEVELOPMENTS INC.

GORE CREEK ESTATES INC.

CEDAR DEVELOPMENTS (CLARKWAY) INC.

10365 GORE DEVELOPMENTS LIMITED

APOCA CARPENTRY LTD.

GOLDEN GATE CASTLEMORE PLAZA LIMITED

SAPPHIRE HILLS HOMES INC.

CANDEVCON LIMITED
(Consultant)

BLOCK 47-1 LANDOWNERS GROUP INC.
(Trustee)



Minutes

Environment Advisory Committee The Corporation of the City of Brampton

Tuesday, April 2, 2024

Members Present:

Raman Vasudev (Co-Chair)
Sherry-Ann Ram (Co-Chair)
Sukran Balaban
Subhash Chander Duggal
Neil Fairhead
Shailly Prajapati
Sandra Roppa

Members Absent:

Brajgeet Bhathal
Pushproop Brar (regrets)
Charles Coimbra
Hardik Mankad (regrets)
Regional Councillor G. Toor - Wards 9 and 10

Staff Present:

Pam Cooper, Acting Manager, Environmental Planning, Planning,
Building and Growth Management
Karley Cianchino, Environmental Project Specialist, Planning,
Building and Growth Management
Sonya Pacheco, Legislative Coordinator

1. **Call to Order**

The meeting was called to order at 6:06 p.m. and adjourned at 6:56 p.m.

2. **Approval of Agenda**

The following motion was considered.

EAC007-2024

That the agenda for the Environment Advisory Committee meeting of April 2, 2024, be approved.

Carried

3. **Declarations of Interest under the Municipal Conflict of Interest Act**

Nil

4. **Previous Minutes**

4.1 Minutes - Environment Advisory Committee - February 6, 2024

The minutes were considered by Committee of Council on February 21, 2024, and were approved by Council on February 28, 2024. The minutes were provided for Committee's information.

5. **Presentations\Delegations**

5.1 Delegation from David Laing, President, Brampton Environmental Alliance, re: Collaboration Opportunities

David Laing, President, Brampton Environmental Alliance, provided a presentation to Committee regarding the Brampton Environmental Alliance (BEA) and included information on the following:

- BEA history, vision, mission, advocacy, activities
- Importance of environmental advocacy
- Climate modeling and the impacts of climate change
- Promotion of 'One Planet Living'

- Collaboration with the City of Brampton
- Public opinion/perception of climate change, and the need to change people's behaviour/choices to protect the environment
- 'Rooted in Hope' project, fundraising efforts and the need for more volunteers
- Raising awareness in schools and challenges/supports related to the establishment of eco-clubs
- Request for support from the Environment Advisory Committee

Committee discussion took place and the delegation responded to questions regarding the following:

- Earth Day event location and activities
- How to engage the public to raise awareness, educate, and provide solutions regarding climate change
- Engaging faith-based groups
- Engaging businesses, and BEA relationship with Partners in Project Green (PPG)
 - Work of PPG
- Impact of climate change on food supply and water reserves
- Benefits of pollinator gardens
- Challenges associated with engaging schools in environment-related initiatives, programs and projects for students
 - Collaboration with ACER and TRCA
- Potential collaboration with Engineers Canada

The following motion was considered.

EAC008-2024

That the delegation from David Laing, President, Brampton Environmental Alliance, to the Environment Advisory Committee Meeting of April 2, 2024, re: **Collaboration Opportunities**, be received.

Carried

6. **Reports/Updates**

- 6.1 Verbal Update from Karley Cianchino, Environmental Project Specialist, Planning, Building and Growth Management, re: Earth Day

Karley Cianchino, Environmental Project Specialist, Planning, Building and Growth Management, provided information to Committee regarding Earth Day, which will be celebrated on Saturday, April 20, 2024 at the Gore Meadows Community Centre. The celebration will feature the Grow Green Awards ceremony, family-friendly activities and programs, and a variety of vendors and environmental organizations, including the Brampton Environmental Alliance. Committee members were encouraged to participate in this event or attend with family and friends.

The following motion was considered.

EAC009-2024

That the verbal update from Karley Cianchino, Environmental Project Specialist, Planning, Building and Growth Management, to the Environment Advisory Committee Meeting of April 2, 2024, re: **Earth Day**, be received.

Carried

- 6.2 Verbal Update from Karley Cianchino, Environmental Project Specialist, Planning, Building and Growth Management, re: Seedy Saturday

Karley Cianchino, Environmental Project Specialist, Planning, Building and Growth Management, provided an overview of the Seedy Saturday event, which took place on Saturday, March 9, 2024, highlighted its success, and thanked the Committee members that attended.

The following motion was considered.

EAC010-2024

That the verbal update from Karley Cianchino, Environmental Project Specialist, Planning, Building and Growth Management, to the Environment Advisory Committee Meeting of April 2, 2024, re: **Seedy Saturday**, be received.

Carried

- 6.3 Verbal Update from Karley Cianchino, Environmental Project Specialist, Planning, Building and Growth Management, re: Etobicoke Creek Wetlands Enhancement Project

Karley Cianchino, Environmental Project Specialist, Planning, Building and Growth Management, provided an overview of the Etobicoke Creek Wetlands Enhancement Project, which is a collaboration between the City and TRCA to improve wetland habitat and connectivity along the Etobicoke Creek from Conservation Drive Park to Loafers Lake Park. Details were provided regarding project funding, scope of work, anticipated project completion date, key priorities, community engagement, tree planting event, storybook walk and Loafer's Lake closures. Committee members were encouraged to visit the project webpage for further information. In addition, it was noted that further project updates would be provided at future Committee meetings.

In response to a question from Committee, staff provided clarification regarding the public engagements held at Loafer's Lake regarding this project.

The following motion was considered.

EAC011-2024

That the verbal update from Karley Cianchino, Environmental Project Specialist, Planning, Building and Growth Management, to the Environment Advisory Committee Meeting of April 2, 2024, re: **Etobicoke Creek Wetlands Enhancement Project**, be received.

Carried

7. Sub-Committees

Nil

8. Other New/Business

Nil

9. Correspondence

Nil

10. Question Period

Sandra Roppa, Committee Member, asked if there were any updates on the work of the sub-committees established by the Environment Advisory Committee.

No updates were provided at this time.

11. Public Question Period

The public was given the opportunity to submit questions in person or via e-mail to the City Clerk's Office regarding any decisions made at this meeting. S. Pacheco, Legislative Coordinator, confirmed there were no questions from the public.

12. Adjournment

The following motion was considered.

EAC012-2024

That the Environment Advisory Committee do now adjourn to meet again on Tuesday, June 4, 2024 at 6:00 p.m., or at the call of the Chair.

Carried

Raman Vasudev – Co-Chair

Sherry-Ann Ram – Co-Chair



Report
Staff Report
 The Corporation of the City of Brampton
 4/24/2024

Date: 2024-04-03

Subject: **Emancipation Day Memorial Artwork Design Concept**

Contact: Kelly Stahl, Director, Cultural Services

Report number: Community Services-2024-247

RECOMMENDATIONS:

1. That the report from Kelly Stahl, Director, Cultural Services to the Committee of Council Meeting of April 24, 2024, re: Emancipation Day Memorial Artwork Design Concept, be received; and
2. That Council approve the proposed Emancipation Day Memorial Artwork titled "AstroBlackJoy" by Kanisha Dabreo, in collaboration with Jason O'Brien, Jamera DaCota, and Komi Olaf as recommended by the Art Selection Committee; and
3. That Council delegate the authority to the Commissioner, Community Services to execute such agreement and/or other documents as may be required to implement Council's resolutions and directions relating to the Emancipation Day Memorial Artwork including such terms and conditions as may be satisfactory to the Director, Cultural Services and in a form acceptable to the City Solicitor or designate.

OVERVIEW:

- In response to Council resolution C244-2021, staff initiated plans to establish a memorial artwork for Emancipation Day, with the City's Cultural Services staff leading the project.
- The City engaged Astrosankofa Arts Initiatives, a non-profit with expertise in public art projects by Black artists, for consulting services, including the facilitation of the Call to Artists and the Art Selection Committee.
- The Art Selection Committee selected Kanisha Dabreo's proposal for a multi-artist project, with Jason O'Brien, Jamera DaCota, and Komi Olaf collaborating.
- Staff are presenting the artwork as recommended by the Art Selection Committee for Council's approval (Attachment 1).

- The Emancipation Day Memorial Artwork will require a total budget of \$50,000. Sufficient funding is available within the Cultural Services capital budget.

BACKGROUND:

At the July 7, 2021, Council meeting staff were directed to work with community stakeholders to establish a memorial artwork recognizing Emancipation Day (C244-2021).

As part of the 2023 budget, Council approved a \$50,000 capital project to establish a memorial artwork. Staff from the Cultural Services division and the City's Equity Office conducted a series of stakeholder meetings, including consultations with the Afro-Caribbean community, to gather the necessary background information for developing a project plan. This plan involved engaging Astrosankofa Arts Initiatives (Astrosankofa), a non-profit organization with expertise in developing culturally resonant public artwork by Black artists, to provide consulting services. These services included facilitating the Call to Artists and the adjudication process by the Art Selection Committee.

CURRENT SITUATION:

Call to Artists

On February 29, 2024, Astrosankofa, in collaboration with the City, issued a Call to Artists, inviting artists to submit qualifications and proposals meeting the following criteria:

- Conceptual relevance to Emancipation and the Black community.
- Suitability for installation at the designated memorial location within Emancipation Park (7599 Dixie Road, Brampton).
- Demonstrated structural soundness and viability.
- Design, fabrication and installation with the approved \$50,000 budget.
- Design for installation onto concrete footings and pads, with installation support provided by Parks Maintenance & Forestry.

The memorial artwork is expected to be installed in Emancipation Park in Q3 2024.

Selection of Artists/Artwork

The Art Selection Committee, facilitated by Astrosankofa, selected Brampton artist Kanisha Dabreo's proposal for the project. Additionally, three artists—Jason O'Brien, Jamera DaCota, and Komi Olaf—were chosen to collaborate with Dabreo on the artwork, co-creating a memorial piece recognizing the significance of Emancipation Day within the Afro-Caribbean community.

Art Selection Committee

The Art Selection Committee was formed based on community referrals, with a deliberate emphasis on achieving diversity among members of the Black community in Brampton in terms of profession, experience, and age group.

Community Consultations

Astrosankofa facilitated two community consultations on January 25 and March 21, 2024. On March 21, 2024, Dabreo, O'Brien, DaCota, and Olaf shared the proposed artwork as part of a community consultation organized by Astrosankofa at Knowledge Bookstore (177 Queen St W, Brampton). The artwork will incorporate representations of Canadian freedom fighters including Chloe Cooley, Sarah Pooley, and Dudley Laws, with additional suggestions sought from the community through this engagement opportunity. Following these discussions, Dabreo finalized the design, the concept of which is submitted for Council's approval (see Attachment 1).

CORPORATE IMPLICATIONS:

Financial Implications – The Emancipation Day memorial artwork will require a total budget of \$50,000. Sufficient funding is available within the Cultural Services capital budget from Project #236860-002.

Legal Implications – Legal will review, provide advice on and approve as to form any Artist Agreement(s) related to this public art project.

STRATEGIC FOCUS AREA:

This report aligns with the Strategic Focus Area of Culture and Diversity, emphasizing cultural diversity, fostering cross-cultural understanding, and promoting artistic expression and production.

CONCLUSION:

As a result of Council resolution C244-2021, staff recommend proceeding with the Art Selection Committee's recommended artwork, "AstroBlackJoy," proposed by Kanisha Dabreo in collaboration with Jason O'Brien, Jamera DaCota, and Komi Olaf, as the memorial artwork recognizing Emancipation Day.

Authored by:

Reviewed by:

Carly Anderson
Manager, Cultural Programming and

Kelly Stahl
Director
Cultural Services

Claire Loughheed
Manager, Cultural Planning
Cultural Services

Approved by:

Approved by:

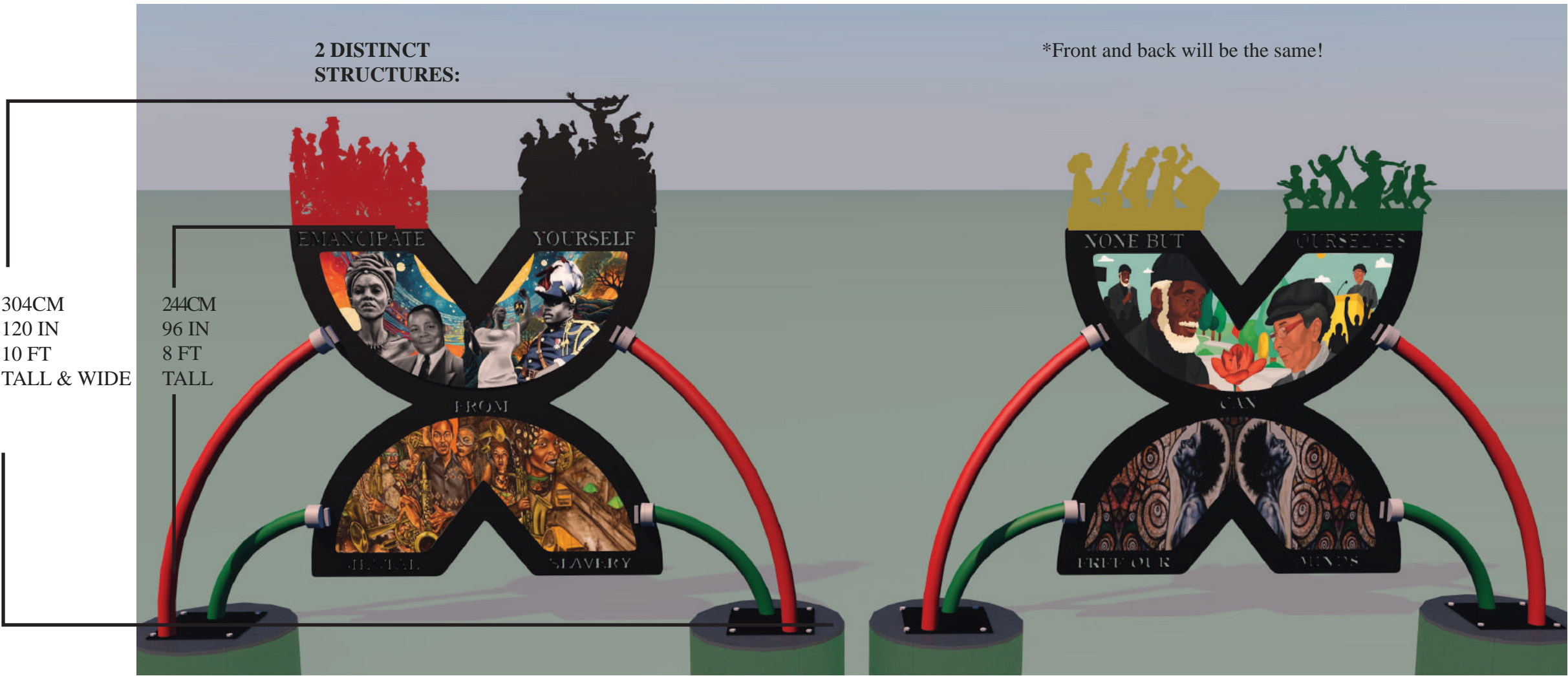
Bill Boyes
Commissioner
Community Services

Marlon Kallideen
Chief Administrative Officer

Attachments:

- Attachment 1 - Kanisha Dabreo's Design Proposal, "AstroBlackJoy" (subject to updates based on community input re: personages to be included)

FA H WHO DIS?... ASTROBLACK JOY!



CONCEPT PROPOSAL BY KANISHA DABREO + KOMI OLAF, JAMERA DACOSTA, JASON O'BRIEN
FOR EMANCIPATION PARK BRAMPTON

STRUCTURE #1 of 2 in
SOUTH-WEST LOCATION



STRUCTURE #1 OF 2
LOCATED ON THE SOUTH WEST OF PARK

APPROX. MEASURMENETS: 307.8CM/ 121 IN TALL (10FT) X 424.65CM/ 167 IN WIDE (14FT) X 111.3CM 43.8IN (3.6FT) DEPTH



STRUCTURE #2 of 2 in
NORTH-EAST LOCATION



STRUCTURE #2 OF 2
LOCATED ON THE NORTH EAST OF PARKAP
APPROX. MEASURMENETS: 307.8CM/ 121 IN TALL (10FT) X 424.65CM/ 167 IN WIDE (14FT) X 111.3CM 43.8IN (3.6FT) DEPTH



* Current draft by Kanisah Dabreo

Exploring cosmic connect and Sankofanology (connection between past present and future).

Represents Black women having important roles in Black progress and emancipation across the diaspora.

* Missing is Carlota Lucumí of Cuba, she is considered the Nanny of Afro-Latino emancipation.



* Current draft by Jamera DaCosta - still to add other Black local - Brampton leaders of the past-present. - Flower will have different African textile patterns on it.