Town of Oakville
Council

AGENDA

Date: Monday, October 21, 2024
Time: 6:30 p.m.
Location: Council Chamber

Town Hall is open to the public and live streaming video is available on https://www.oakville.ca/town-hall/mayor-council-administration/agendas-meetings/live-stream or at the town's YouTube channel at https://www.youtube.com/user/TownofOakvilleTV. Information regarding written submissions and requests to delegate can be found at https://www.oakville.ca/town-hall/mayor-council-administration/agendas-meetings/delegations-presentations.

Pages

1. O Canada

2. Regrets

3. Declarations of Pecuniary Interest

4. Confirmation of Minutes of the previous Council Meeting(s)

Item 4.2 and 4.4 see confidential agenda.

4.1 Minutes of the Regular Session of Council, SEPTEMBER 16, 2024 — 7 - 16

4.2 Confidential Minutes of the Closed Session of Council, SEPTEMBER 16, 2024

4.3 Minutes of the Regular Session of Planning and Development Session of Council, SEPTEMBER 24, 2024 — 17 - 25

4.4 Confidential Minutes of the Closed Session of Planning and Development Session of Council, September 24, 2024

5. Public Presentation(s)

There are no public presentations listed for this agenda.

6. Standing Committee Report(s)

Item 6.2 see addendum to be distributed.

6.1 Minutes of the Budget Committee, SEPTEMBER 26, 2024 26 - 29

6.2 Minutes of the Committee of the Whole Workshop, OCTOBER 10, 2024

7. Committee of the Whole

8. Consent Item(s)

Item 8.5 see addendum to be distributed.

8.1 Automated Speed Enforcement-Administrative Penalty System for ticket issuance, By-law 2024-148 30 - 46

Recommendation:
That By-law 2024-148, a by-law to establish an Administrative Penalties System for automated speed enforcement in Community Safety Zones, attached as Appendix A, to the October 8, 2024 report from Municipal Enforcement Services be passed;

8.2 2025 Council and Committee Calendar 47 - 50

Recommendation:
That the 2025 Council Meeting Calendar attached as Appendix A to the report from the Clerk's Department, 2025 Council and Committee Meeting Calendar, dated October 8, 2024, be approved.

8.3 Food For Life Program at Town Hall 51 - 57

Recommendation:
That the use of Town Hall, at no cost, for Food For Life to operate the Food Bank Program on a weekly basis be approved.

8.4 Wallace Park Tennis Club License Agreement 58 - 63

Recommendation:

1. That staff be authorized to renew the license agreement with the Wallace Park Tennis Club for an additional ten years on the terms set out in this report.
2. That the license renewal agreement be executed in accordance with By-law 2013-057 and the Town Solicitor be authorized to enter into any minor amendments, as required.

8.5 Community Sport and Recreation Infrastructure Fund

8.6 Application to Conduct Charitable Lottery Events – Golf for the Physically Challenged 64 - 66

Recommendation:
That the request from Golf for the Physically Challenged to conduct charitable lottery events in the Town of Oakville be approved.

8.7 2024-2029 Multi-Year Accessibility Plan 67 - 87

Recommendation:
That the 2024-2029 Multi-Year Accessibility Plan be approved.

8.8 World Council on City Data Funding Request for Adoption of ISO 37125 - Environmental, Social and Governance (ESG) Indicators for Cities 88 - 94

Recommendation:

1. That the Town of Oakville join the World Council on City Data (WCCD) and Standardized Urban Metrics (SUM) as one of the first adopters of ISO 37125 – Environmental, Social, and Governance (ESG) Indicators for Cities.
2. That Council approve funding of $300,000 from the contingency fund to participate in the adoption of a new data standard, ISO – 37125 Environmental, Social and Governance Indictors for Cities.
3. That a sole source award be approved.

9. Confidential Consent Item(s)

There are no Confidential Consent items listed for this agenda.

10. Discussion Item(s)

10.1 OEC Quarterly Update – October 21, 2024 95 - 96

Recommendation:
That the presentation from Rob Lister, President and CEO of Oakville Enterprises Corporation (OEC) regarding the quarterly update be received.

10.2 Future Energy Oakville Annual Update 97 - 100

Recommendation:
That the presentation from Future Energy Oakville regarding its annual update be received.

10.3 2024 Community Energy Strategy Implementation Update 101 - 333

Recommendation:
1. That a public ownership model for the proposed hospital district energy system be endorsed in principle with Oakville Enterprises Corporation (“OEC”) as the delivery partner.
2. That staff be directed to explore a partnership with OEC to further assess the creation of a district energy system.
3. That the release of Town funds to Future Energy Oakville (FEO) in the amount of $50,000 as approved for 2024 and $50,000 as planned for 2025, be subject to Council's upcoming budget decisions on additional funding being requested by FEO.

10.4 Climate Emergency Declaration Progress Report 334 - 348

Recommendation:
That the report entitled “Climate Emergency Declaration Progress Report” dated October 8, 2024, be received.

10.5 Energy and Emissions of Town Owned Buildings 5-Year Plan 349 - 376

Recommendation:
That the Energy and Emissions of Town Owned Buildings 5-Year Plan (the Conservation and Demand Management Plan) be received.

10.6 Oakville Transit 2025 – 2029 Five-Year Business Plan 377 - 639

Recommendation:
That the Oakville Transit 2025-2029 Business Plan be adopted in principle and used to guide transit service planning and operations over the next five years, subject to annual budget review.

10.7 Oakville Transit – Garage Facility Expansion - Budget Update 640 - 644

Recommendation:
That the 2024 capital budget be amended to add $5,000,000 to project 54212307 Transit Facility Expansion funded through debt.

11. Confidential Discussion Item(s)

11.1 Citizen Appointment to the Committee of Adjustment for the remaining 2022 to 2026 Term of Council

12. Advisory Committee Minutes

12.1 Accessibility Advisory Committee Minutes, SEPTEMBER 12, 2024 645 - 648

Recommendation:
That the Accessibility Advisory Committee minutes dated September 12, 2024 be received.

13. Rise and Report to Council

14. Information Items (Circulated Electronically)

14.1 Council Information September 4 - October 8, 2024 649 - 653

14.2 INTERNAL MEMO - Clerk's Department RE: Municipal Clearance for Liquor Sales Licence 654 - 654

14.3 INTERNAL MEMO - Transportation and Planning RE: E-Scooters - Current Regulations and Future Plans 655 - 658

15. Status of Outstanding Issues 659 - 667

16. New Business

(Notice of Motion, Emergency, Congratulatory or Condolence)

17. Regional Reports and Question Period Regarding Town Boards and Advisory Committees

18. Requests for Reports

19. Consideration and Reading of By-Laws

That the following by-law(s) be passed:

19.1 By-law 2024-148

A by-law to establish an Administrative Penalties System for automated speed enforcement in Community Safety Zones (Re: Item 8.1)

19.2 By-law 2024-158 668 - 668

A by-law to confirm the proceedings of a meeting of Council

20. Delegated Authority By-laws

The following by-law was prepared under the authority of amending By-law 2022-022 - A by-law to amend By-law 2021-077, a by-law to delegate certain powers and duties under the *Municipal Act*, S.O. 2001 c.25 the *Planning Act*, R.S.O. 1990 c. P.13, and other Acts:

20.1 By-law 2024-128

669 - 670

A by-law to remove Holding “H” Provision on lands described as Part of Lot 16, Concession 1 NDS, Diagram Developments Oakville Inc., File No. ZH 7/24

20.2 By-law 2024-129

671 - 672

A by-law to remove Holding “H” Provision on lands described as Part of Lots 17-19, Concession 1 NDS, Lower Fourth Development Limited and Pendent Developments Ltd., File No. ZH 8/24

21. Adjournment

Town of Oakville

Council Minutes

Date:	**September 16, 2024**
Time:	**6:30 p.m.**
Location:	**Council Chamber**

Mayor and Council:	Mayor Burton Councillor Adams Councillor Chisholm Councillor Duddeck Councillor Elgar Councillor Gittings Councillor Grant Councillor Haslett-Theall Councillor Knoll Councillor Lishchyna Councillor McNeice Councillor Nanda Councillor O'Meara Councillor Xie
Regrets:	Councillor Longo
Staff:	J. Clohecy, Chief Administrative Officer N. Sully, Commissioner of Corporate Services and Treasurer P. Fu, Commissioner of Community Infrastructure P. Damaso, Commissioner of Community Services R. Kaminski, Acting Commissioner of Community Development D. Carr, Town Solicitor J. Clarke, Director of Strategic Initiatives and Communications A. Holland, Acting Town Clerk N. Coric, Council and Committee Coordinator
Others:	Suzanne Craig, Integrity Commissioner

The Town of Oakville Council met in regular session this 16th day of September, 2024 in the Council Chamber of the Oakville Municipal Building, 1225 Trafalgar Road, Oakville commencing at 6:30 p.m.

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1. O Canada

2. Regrets

As noted above.

3. Declarations of Pecuniary Interest

No declarations of pecuniary interest were declared.

4. Confirmation of Minutes of the previous Council Meeting(s)

4.1 Minutes of the Regular Session of Planning and Development Council, AUGUST 12, 2024

4.2 Confidential Minutes of the Closed Session of Planning and Development Council, AUGUST 12, 2024

4.3 Minutes of the Regular Session of Council AUGUST 13, 2024

4.4 Minutes of the Regular Session of Planning and Development Council, SEPTEMBER 09, 2024

4.5 Confidential Minutes of the Closed Session of Planning and Development Council, SEPTEMBER 09, 2024

Moved by Councillor Xie
Seconded by Councillor Adams

1. That the minutes of the Regular Session of Planning and Development Council dated August 12, 2024 be approved.
2. That the minutes of the Confidential Session of Planning and Development Council dated August 12, 2024 be approved.
3. That the minutes of the Regular Session of Council dated August 13, 2024 be approved.

4. That the minutes of the Regular Session of Planning and Development Council dated September 9, 2024 be approved.
5. That the minutes of the Confidential Closed Session of Planning and Development Council dated September 9, 2024.

CARRIED

5. Public Presentation(s)

There were no public presentations.

6. Standing Committee Report(s)

6.1 Minutes of the Committee of the Whole Workshop, SEPTEMBER 10, 2024

Moved by Councillor Lishchyna
Seconded by Councillor Nanda

That the minutes of the Committee of the Whole Workshop dated September 10, 2024 be approved.

CARRIED

7. Committee of the Whole

Moved by Councillor Haslett-Theall
Seconded by Councillor Grant

That this meeting proceed into Committee of the Whole Session.

CARRIED

8. Consent Item(s)

8.1 Integrity Commissioner's Code of Conduct Formal Complaint Dismissal Report

Mayor Burton transferred the chair to Councillor Haslett-Theall.

Moved by Councillor Adams

That the Integrity Commissioner's Code of Conduct Formal Complaint Dismissal Report be received

CARRIED

Mayor Burton did not vote on this item.

Councillor Haslett-Theall transferred the chair to Mayor Burton.

8.2 June 30, 2024 Financial Results

Moved by Councillor Haslett-Theall

1. That the information contained in the staff report dated September 3, 2024, entitled *June 30, 2024 Financial Results* from the Finance Department, be received.
2. That $6.00 million in surplus investment income be transferred to the Capital Reserve to provide additional funding to mitigate inflationary pressures on the capital program.
3. That the 2024 capital budget be amended to add $89,000 to project 53112202 Traffic By-law Review and Update, funded from the Capital Reserve.
4. That the 2024 capital budget be amended to add $615,000 to project 43302401 Emergency Response Vehicles & Equipment, funded from the Fire Equipment Reserve.

CARRIED

8.3 Oakville Arts Council Agreement Renewal

Moved by Councillor Chisholm

That the Agreement between the Oakville Arts Council and The Corporation of the Town of Oakville, substantially in the form attached to the report dated September 3, 2024 from Recreation and Culture, be approved and that it be executed in accordance with By-law 2013-057.

CARRIED

8.4 Fishing from Town Parkland - Update

Moved by Councillor McNeice

1. That the report from the Parks and Open Space department dated September 3, 2024, be received.
2. That the conversion of the evening fishing pilot program to a permanent program (from August 1 to October 15 from 9:00 p.m. – 12:00 a.m.) be approved.
3. That the amendments to the Parks By-law 2013-013, to reflect the permission for night fishing to be a permanent program, be included in the next council agenda for approval.

CARRIED

9. Confidential Consent Item(s)

There were no Confidential Consent Items.

10. Discussion Item(s)

10.1 Sports Activities and Equipment within Municipal Rights-of-Way

Moved by Councillor Elgar

CLOSED SESSION

That Council resolve into a closed meeting session for the purpose of litigation or potential litigation, including matters before administrative tribunals, affecting the municipality or local board; and advice that is subject to solicitor- client privilege, including communications necessary for that purpose with respect to Item 10.1 - Sports Activities and Equipment within Municipal Rights-of-Way and Confidential Item 11.2 - Outdoor Sports Activities on Municipal Roads - Legal Report

CARRIED

RECESS

The meeting recessed at 7:39 p.m. and reconvened in closed session at 7:43 p.m.

Council resolved back into open session at 8:35 p.m.

Moved by Councillor Haslett-Theall

That the general prohibition be lifted, in a limited fashion to allow identified sports (to be determined) on only specific types of roads and at certain times of day (to be determined) at the participants own risk, through a staff report that further informs Council on best practices in other jurisdictions.

For (8): Councillor Chisholm, Councillor Duddeck, Councillor Gittings, Councillor Grant, Councillor Haslett-Theall, Councillor Knoll, Councillor McNeice, and Councillor O'Meara

Against (6): Mayor Burton, Councillor Adams, Councillor Elgar, Councillor Lishchyna, Councillor Nanda, and Councillor Xie

Absent (1): Councillor Longo

CARRIED on a recorded vote (8 to 6)

10.2 2024 Neighbourhood Traffic Safety Program Update

Moved by Councillor Elgar

1. That the continued implementation of the Neighbourhood Traffic Safety Program be considered as part of the 2025 Budget and prioritized along with other known budget pressures.
2. That the installation speed cushions on a major collector road, Valleyridge Drive, be approved on a one-time, exception basis.

CARRIED

10.3 Potential Acquisition of Land for a New Library at Trafalgar Road and Threshing Mill Boulevard

Moved by Councillor Knoll

1. That staff be authorized to purchase approximately 17,244 square feet of ground floor space, together with 18 surface parking spaces and 5 underground parking spaces, within the future residential condominium to be constructed on development Blocks 23 and 24 on Plan 20M-1211 at the corner of Threshing Mill Boulevard and Trafalgar Road (the “Property”) on the terms set out in the confidential staff report dated August 30, 2024, entitled *Confidential Potential Acquisition of Land for a New Library at Trafalgar Road and Threshing Mill Boulevard* from the Legal Department.

2. That the purchase agreement be executed in accordance with by-law 2023- 021 and the Town Solicitor be authorized to execute all other documentation required to complete the purchase of the Property and any minor amendments to the purchase agreement.

3. That staff be authorized to incur costs associated with normal due diligence activities required to complete the purchase of the Property.

4. That staff be authorized to negotiate a reduction in price, satisfactory to the CAO and Town Solicitor, if the Town’s due diligence discovers any material concerns that warrant a price reduction such as environmental, archeological, lease, or legal issues.

CARRIED

11. Confidential Discussion Item(s)

11.1 Confidential Potential Acquisition of Land for a New Library at Trafalgar Road and Threshing Mill Boulevard

Moved by Councillor Xie

That the staff report dated September 3, 2024, titled Confidential Potential Acquisition of Land for a New Library at Trafalgar Road and Threshing Mill Boulevard from the Legal department, be received.

CARRIED

11.2 Outdoor Sports Activities on Municipal Roads - Legal Report

Moved by Councillor Xie

That the Outdoor Sports Activities on Municipal Roads - Legal Report from the Legal department dated September 3, 2024 be received.

CARRIED

11.3 Confidential Midtown TOC Legal Update

Moved by Councillor Xie

That the report from the Legal department titled "Confidential Midtown TOC Legal Update" be received.

CARRIED

12. Advisory Committee Minutes

There were no Advisory Committee minutes.

13. Rise and Report to Council

Moved by Councillor Elgar

That this committee rise and report.

CARRIED

Moved by Councillor Lishchyna
Seconded by Councillor Gittings

The Mayor arose and reported that Committee of the Whole has met and made recommendations on Consent items 8.1, 8.2, 8.3, Discussion items 10.1, 10.2, 10.3 and Confidential Discussion items 11.1, 11.2 and 11.3 as noted by the Clerk.

CARRIED

14. Information Items (Circulated Electronically)

14.1 Council Information July 31 - September 3, 2024

14.2 INTERNAL MEMO - Clerk's Department RE: Municipal Clearance for Liquor Sales Licence The Gingerman Social Corner

14.3 INTERNAL MEMO - Finance Department RE: Canada Community-Building Fund Agreement

14.4 INTERNAL MEMO - Planning and Development Department RE: Planning and Development Meeting Response

15. Status of Outstanding Issues

16. New Business

Councillor Knoll thanked staff and Members of Council for a very successful Oak Park Fall Fair that was held on September 7th. He also thanked Members of Council for their participation in the design consultations of the main branch of the public library.

17. Regional Reports and Question Period Regarding Town Boards and Advisory Committees

18. Requests for Reports

19. Consideration and Reading of By-Laws

19.1 By-law 2024-124

A by-law to amend By-law 1984-001 (The Traffic By-law)

19.2 By-law 2024-140

A by-law to confirm the proceedings of a meeting of Council

Moved by Councillor Xie
Seconded by Councillor Nanda

That the by-laws noted above be passed.

CARRIED

The Mayor gave written approval of the by-laws noted above.

20. Delegated Authority By-laws

The following by-law was prepared under the authority of amending By-law 2022-022 - A by-law to amend By-law 2021-077, a by-law to delegate certain powers and duties under the *Municipal Act*, S.O. 2001 c.25 the *Planning Act*, R.S.O. 1990 c. P.13, and other Acts:

21. Adjournment

The Mayor adjourned the meeting at 9:48 p.m.

Andrea Holland, ActingTown Clerk

Town of Oakville

Planning and Development Council

MINUTES

Date: **September 24, 2024**
Time: **6:30 p.m.**
Location: **Council Chamber**

Mayor and Council: Mayor Burton
Councillor Adams
Councillor Chisholm
Councillor Duddeck
Councillor Elgar
Councillor Gittings
Councillor Grant
Councillor Haslett-Theall
Councillor Knoll
Councillor Longo
Councillor McNeice
Councillor Nanda
Councillor O'Meara
Councillor Xie

Regrets: Councillor Lishchyna

Staff: J. Clohecy, Chief Administrative Officer
D. Carr, Town Solicitor
R.Kaminski, Acting Commissioner of Community Development
G. Charles, Director of Planning Services
N. Chandra, Assistant Town Solicitor
K. Biggar, Manager of Policy Planning and Heritage
C. Van Sligtenhorst, Supervisor of Heritage Conservation
K. Cockburn, Senior Planner
D. McPhail, Planner
B. O'Hare, Planner
S. Schappert, Heritage Planner
A. Holland, Acting Town Clerk

J. Radomirovic, Council and Committee Coordinator

The Town of Oakville Council met in regular session to consider planning matters on this 24 day of September, 2024 in the Council Chamber of the Oakville Municipal Building, 1225 Trafalgar Road, commencing at 6:30 p.m.

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1. Regrets

As noted above.

2. Declarations of Pecuniary Interest

No declarations of pecuniary interest were declared.

3. Committee of the Whole

Moved by Councillor Longo
Seconded by Councillor McNeice

That this meeting proceed into a Committee of the Whole session.

CARRIED

4. Consent Items(s)

4.1 Recommendation Report, Draft Plan of Condominium, 412 Silver Maple Road, Silk Westerns Corp., 24CDM-23011/1311

Moved by Councillor Xie

That the Director of Planning and Development be authorized to grant draft plan approval to the Draft Plan of Condominium (24CDM-23011/1311) submitted by Silk Westerns Corp., and prepared by R-PE Surveying Ltd., O.L.S., dated January 18, 2024 (Sheets 1, 2, & 3), subject to the conditions contained in Appendix A of the Planning and Development Report dated September 10, 2024.

CARRIED

4.2 Recommendation Report, Draft Plan of Condominium, 395 Dundas Street West and 3025 Trailside Drive, 393 Dundas GP Inc., 24CDM-23009/1319

Moved by Councillor Xie

That the Director of Planning and Development be authorized to grant draft plan approval to the Draft Plan of Condominium (24CDM-23009/1319) submitted by 393 Dundas GP Inc, and prepared by J.D. Barnes Ltd. dated August 14, 2024 (sheets 1, 2 & 3), March 25, 2024 (sheets 4 & 5), and May 24, 2024 (sheet 6) subject to the conditions contained in Appendix A of the Planning and Development Report dated September 10, 2024.

CARRIED

4.3 Notice of intention to designate – 128 Reynolds Street – September 24, 2024

Moved by Councillor Xie

That a notice of intention to designate be issued under section 29, Part IV of the *Ontario Heritage Act* for the Kenney House (South) at 128 Reynolds Street.

CARRIED

4.4 Notice of intention to designate – 131 Chisholm Street – September 24, 2024

Moved by Councillor Xie

That a notice of intention to designate be issued under section 29, Part IV of the *Ontario Heritage Act* for the Lewis House at 131 Chisholm Street.

CARRIED

4.5 Notice of intention to designate – 132 Reynolds Street – September 24, 2024

Moved by Councillor Xie

That a notice of intention to designate be issued under section 29, Part IV of the *Ontario Heritage Act* for the Kenney House (North) at 132 Reynolds Street.

CARRIED

4.6 Notice of intention to designate – 176 Douglas Avenue – September 24, 2024

Moved by Councillor Xie

That a notice of intention to designate be issued under section 29, Part IV of the *Ontario Heritage Act* for the McNiel House at 176 Douglas Avenue.

CARRIED

4.7 Notice of intention to designate – 19 Head Street – September 24, 2024

Moved by Councillor Xie

That a notice of intention to designate be issued under section 29, Part IV of the *Ontario Heritage Act* for the Georgia Cottage at 19 Head Street.

CARRIED

4.8 Notice of intention to designate – 2366 Sovereign Street – September 24, 2024

Moved by Councillor Xie

That a notice of intention to designate be issued under section 29, Part IV of the *Ontario Heritage Act* for the Elisha and Christina Grice House at 2366 Sovereign Street.

CARRIED

4.9 Notice of intention to designate – 2370 Sovereign Street – September 24, 2024

Moved by Councillor Xie

That a notice of intention to designate be issued under section 29, Part IV of the *Ontario Heritage Act* for the Percy and Olive Joyce House at 2370 Sovereign Street.

CARRIED

4.10 Notice of intention to designate – 2374 Sovereign Street – September 24, 2024

Moved by Councillor Xie

That a notice of intention to designate be issued under section 29, Part IV of the *Ontario Heritage Act* for the James and Katherine Taylor House at 2374 Sovereign Street.

CARRIED

4.11 Notice of intention to designate – 2378 Sovereign Street – September 24, 2024

Moved by Councillor Xie

That a notice of intention to designate be issued under section 29, Part IV of the *Ontario Heritage Act* for the Permenus and Charlotte Osborne House at 2378 Sovereign Street.

CARRIED

5. Confidential Consent Item(s)

There are no Confidential Consent Items listed for this agenda.

6. Public Hearing Item(s)

There were no public hearing Items.

7. Discussion Item(s)

There were no discussion items.

In accordance with Section 2(8) of the Procedure By-law, the items were considered out of order.

8. Confidential Discussion Item(s)

8.2 Ontario Heritage Trust Nomination

Moved by Councillor Gittings

That the nominee for the Ontario Heritage Trust Awards as set out in Confidential Appendix A of the report from Planning Services dated September 17, 2024, be endorsed.

CARRIED

9. Advisory Committee Minutes

9.1 Heritage Oakville Advisory Committee Minutes September 17, 2024

Moved by Councillor Knoll

That the following recommendation pertaining to Item 4.1 and Item 4.2 of the Heritage Oakville Advisory Committee minutes from its meeting on September 17, 2024, be approved and the remainder of the minutes be received:

4.1 Heritage permit application HP018/24-42.20S 93 Second Street – addition and renovations to existing residence:

1. That Heritage Permit Application HP018/24-42.20S for the addition and renovations to 93 Second Street, as attached in Appendix B to the report dated September 4, 2024, from Planning Services, be approved subject to the following:

    a. That final details on the windows, doors, trim, cladding materials and paint colours be submitted to Heritage Planning staff for final approval; and,

2. That this heritage permit expire two years from the date of final approval by Council.

4.2 Heritage permit application HP019/24-42.20F 31 First Street – Construction of a new enclosed rear porch

1. That Heritage Permit Application HP019/24-42.20F for the construction of a new enclosed rear porch at 31 First Street, as attached in Appendix B to the report dated September 3, 2024 from Planning Services, be approved subject to the following:

    a. That final details on the windows, doors, trim, paint colours, brick and stone be submitted to Heritage Planning staff for final approval;

2. That this heritage permit expire two years from the date of final approval by Council.

CARRIED

8. Confidential Discussion Item(s)

CLOSED SESSION

Moved by Councillor Haslett-Theall

That Council resolve into a closed meeting session under section 239 of the Municipal Act to consider information explicitly supplied in confidence to Council that falls under: litigation or potential litigation, including matters before administrative tribunals, affecting the municipality or local board; advice that is subject to solicitor-client privilege, including communications necessary for that purpose; information explicitly supplied in confidence to the municipality by the province; and a position, plan, procedure, criteria or instruction to be applied to any negotiations carried on or to be carried on by or on behalf of the municipality or local board.

CARRIED

The meeting resolved into closed session at 6:39p.m.

Council resolved back into open session at 7:07 p.m.

8.1 TOC Legal Update

Moved by Councillor Knoll

That the report from the Legal Department titled “Legal TOC Update – Confidential’ be received.

CARRIED

10. Rise and Report to Council

Moved by Councillor Chisholm

That this committee rise and report.

CARRIED

The Mayor arose and reported that the Committee of the Whole has met and has made recommendations on Consent Items 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.11, and Confidential Items 8.1, 8.2 and Advisory Committee Report 9.1, as noted by the Clerk.

Moved by Councillor Xie
Seconded by Councillor Nanda

That the report and recommendations of the Committee of the Whole be approved.

CARRIED

11. New Business

There was no new business.

12. Consideration and Reading of By-laws

12.1 By-law 2024-134

A by-law to declare that certain land is not subject to part lot control (Blocks 200, 201, 202, 203, 204, 221, 222, 223, 288, Plan 20M-1270, and Block 19, Plan 20M-1269 – Valery Homes Joshua Creek Inc.)

12.2 By-law 2024-135

A by-law to declare that certain land is not subject to part lot control (Blocks 224, 225, 231, 232, 233, 234, 235 and 236, Plan 20M-1270 – Valery Homes Joshua Creek Inc.)

12.3 By-law 2024-138

A by-law to declare that certain land is not subject to part lot control, Blocks 94, 95, 96, 97, 98, 99 and 100 Plan 20M-1272 – Caivan (Creekside) Limited.

12.4 By-law 2024-139

A by-law to declare that certain land is not subject to part lot control, Blocks 107, 108, 109, 110 and 111 Plan 20M-1272 – Caivan (Creekside) Limited

12.5 By-law 2024-141

A by-law to confirm the proceedings of a meeting of Council.

12.6 By-law 2024-147

A by-law to declare that certain land is not subject to part lot control (Block 1, Plan 20M-1265 – Sunfield Oakville JV Inc.

Moved by Councillor Grant
Seconded by Councillor Adams

That the by-laws noted above be passed.

CARRIED

13. Adjournment

The Mayor adjourned the meeting at 7:10p.m.

Andrea Holland, Acting Town Clerk

Town of Oakville

Budget Committee

MINUTES

Date:	**September 26, 2024**
Time:	**9:30 a.m.**
Location:	**Council Chamber**

Mayor and Council:	Mayor Burton Councillor Adams Councillor Elgar Councillor Haslett-Theall Councillor O'Meara Councillor Chisholm Councillor Duddeck Councillor Gittings Councillor Grant Councillor McNeice Councillor Nanda Councillor Xie
Regrets:	Councillor Knoll Councillor Lishchyna Councillor Longo
Staff:	J. Clohecy, Chief Administrative Officer N. Sully, Commissioner of Corporate Services and Treasurer P. Fu, Commissioner of Community Infrastructure P. Damaso, Commissioner of Community Services J. van der Heiden, Deputy Treasurer and Director of Finance D. Stancovici, Manager of Financial Planning and Policy D. Carr, Town Solicitor J. Clarke, Director of Corporate Strategy and Government Relations V. Tytaneck, Town Clerk R. Kaminski, Acting Commissioner of Community Development A. Holland, Manager of Council and Committee Services

J. Radomirovic, Council and Committee Coordinator

The Budget Committee met in regular session, this 26th day of September, 2024, in the Council Chamber of the Oakville Town Hall, 1225 Trafalgar Road, Oakville, commencing at time 9:30 a.m.

These minutes will go forward to the Council meeting of October 21st, 2024, for approval. Please view those minutes to note any changes Council may have made.

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1. Regrets

2. Declarations of Pecuniary Interest

No declarations of pecuniary interest were declared.

3. Consent Items(s)

There were no consent items.

4. Confidential Consent Item(s)

There were no confidential consent items.

5. Discussion Item(s)

5.1 2025 Budget Committee public consultation feedback

Mayor Burton called for volunteers for positions of Chair and Vice-Chair of the Budget Committee. Councillor Grant volunteered to be Chair and Councillor Adams volunteered to be Vice-Chair.

Moved by Councillor Xie

That the feedback from Members for the Public Consultation period (June 18 September 25, 2024) for the 2025 Budget be received.

CARRIED

The following feedback was provided by Members of Committee:

a. Staff report on the opportunities and timing for improvements to Holton Heights Park such as shade structures, a splash pad and

upgrades to the courts and play structures including the current state of the existing facilities.

b. Staff report the current speed for issuing building permits for industrial and commercial buildings and what resources would be needed to improve the turnaround time for issuing these types of permits.

c. Staff report the opportunities to bring forward transportation improvements in the midtown area to alleviate traffic on Trafalgar Road (such as the additional crossing points over the QEW).

d. Staff report on options to increase the speed of the building permits, including residential permits, amounts that fail and financial investment to help this.

e. Staff report on the safety on the side streets in Downtown.

f. Staff review and report the headcount in the budget book for all departments.

g. Staff report on transit ridership and how many riders do we have free and paying.

h. Staff report the information if any dollars in this budget going to flood mitigation.

i. Staff report the process to increase the Heritage Grant.

j. Staff report the ridership times related to the student transit program.

k. Staff report an update on Car-a-van for the disabled.

l. Staff report a traffic study to the western boundary on Marine Drive.

m. Staff report on the feasibility of a hybrid library option in Bronte Market Square.

n. Staff report on the possibility to make one-way of Bronte Road permanent.

o. Staff explore and report on winter activity options in Bronte waterfront area.

p. Staff report on the plan for concrete outdoor pools, specifically the Bronte Athletic Park.

q. Staff report on the expenditures in each ward related to the additional $10,000 added to budgets (in 2024) for events.

r. Staff report on budget and/or operational impact to address additional parking in downtown.

s. Staff report on budget and/or operational impact to address transit through the downtown.

t. Staff report on a parking study for the north

u. Staff report on a parking study transit in the north, specifically going to the GO station.

v. Staff provide an update on the existing parking study for Kerr Street and Bronte Road.

6. Confidential Discussion Item(s)

There were no confidential discussion items.

7. Adjournment

The Mayor adjourned the meeting at 9:48 a.m.

REPORT

Council

Meeting Date: October 21, 2024

FROM: Municipal Enforcement Services Department

DATE: October 8, 2024

SUBJECT: **Automated Speed Enforcement-Administrative Penalty System for ticket issuance, By-law 2024-148**

LOCATION:
WARD: Town-wide

RECOMMENDATION:

That By-law 2024-148, a by-law to establish an Administrative Penalties System for automated speed enforcement in Community Safety Zones, attached as Appendix A, to the October 8, 2024 report from Municipal Enforcement Services be passed;

KEY FACTS:

The following are key points for consideration with respect to this report:

- At its October 18, 2021 meeting, Council endorsed the implementation of Automated Speed Enforcement ("ASE") program in conjunction with the Administrative Penalties System ("APS")
- ASE systems will monitor and automatically capture speed violations using camera technology, enforcing speed limits without the need for police presence
- Ontario Regulation 355/22 enacted under the *Highway Traffic Act* ("O. Reg. 355/22") authorizes municipalities to impose Administrative Penalties for vehicle-based contraventions detected using camera systems
- O. Reg. 355/22 authorizes municipalities to pass by-laws imposing fees or charges under section 391 of the *Municipal Act*, 2001 in respect of services related to an administrative penalty imposed under section 21.1 of the *Highway Traffic Act*
- An ASE by-law authorizes administrative penalties for speed violations in community safety zones detected by ASE systems. These penalties are applied to the registered vehicle owner, regardless of the driver at the time.
- Oakville's community safety zones are established by Traffic By-law 1984-1, as amended

- The Automated Speed Enforcement program in community safety zones is scheduled to launch in January 2025 after which penalty orders will be issued under the town's Administrative Penalties System for automated speed enforcement.
- By-law 2024-148 attached as Appendix A to this report sets out an Administrative Penalties System for automated speed enforcement in Community Safety Zones

BACKGROUND:

ASE is an automated system that uses a camera and a speed measurement device to help enforce speed limits in school zones and community safety zones. It is designed to work in tandem with other traffic safety programs, including improvements to road networks, educational programs and police enforcement. ASE is focused on altering driver behaviour to decrease speeding and increase road safety.

At its October 18, 2021 meeting, Council endorsed the implementation of an ASE program in conjunction with the Administrative Penalties System (APS) of ticket issuance.

The APS for ASE legislation came into force in July 2022 to reduce the burden on the court system. Tickets issued under APS allows for municipal oversight of the ticket management and adjudication process.

COMMENT/OPTIONS:

Administrative Penalty Management

Penalty Order Issuance

APS penalties for ASE contraventions will be issued by the Joint Processing Centre (“JPC”), located in Toronto. The JPC will oversee the officers who will review the photo evidence of the speeding contraventions and determine whether a penalty order should be issued. The officer has 23 days to issue a penalty order. The penalty order will be issued to the registered owner of the vehicle and mailed to their last known address, as registered with the Ministry of Transportation (MTO).

Penalty Amounts

O. Reg. 355/22 sets out administrative penalties for contravention of the speed limit in community safety zones designated by Traffic By-law 1984-1. The administrative penalty is issued in the amount specified by O. Reg. 355/22 and depends on the rate of speed the vehicle is travelling. The penalty order will include an amount for a Victim Justice Fund (“VJF”). The fund is primarily supported by surcharges on

fines imposed by courts on offenders. When a person is convicted of a crime, they are required to pay a victim surcharge, which goes into this fund. The Victims' Bill of Rights, 1995 outlines the rights of victims to be treated with courtesy, compassion, and respect, to receive information, and to be given opportunities to participate in the justice system. The VJF is an important mechanism to help fulfill these rights by providing financial resources for victim services. These fees will increase as the rate of speed increases as prescribed under Provincial Regulation 355/22.

Payment

Once the penalty order is issued, the order is deemed to be served after 7 days of issuance. Once served, the registered owner of the vehicle has 30 days to pay the administrative penalty, unless a request for a first stage appeal has been received by the Town.

Appeal Process

Provincial Regulation 355/22 provides for a two-stage appeal process that has been included in By-law 2024-148, as follows:

1. First Stage Appeal: A Screening Officer reviews the appeal
2. Second Stage Appeal: If contested, a Hearing Officer reviews the decision.

The option to dispute a penalty order is available within 30 days of the date of service through a first stage appeal. To choose this option, the registered owner of the vehicle would be required to notify the town to request a first stage appeal screening. This appeal will be reviewed by the screening officer who will provide a decision. The Screening Officer may confirm, vary or set aside the penalty order. The Screening Officer will send a decision letter to the appellant after the review is complete. If the Screening Officer confirms or varies the penalty order, the vehicle owner will have 30 days from the date of the screening decision to pay.

The registered owner of the vehicle has the option to escalate the decision of the screening officer to a second stage appeal allowing for a review by a Hearing Officer. This request must be submitted to the town within thirty (30) days after the date of the screening decision to commence a second stage appeal. The Hearing Officer may confirm, vary or set aside the screening decision. If the Hearing Officer confirms or varies the screening decision, the vehicle owner will have 30 days from the date of hearing decision to pay.

If payment is not received within the required timeline, the penalty order will be submitted to the MTO for collection of the administrative penalty.

Policy and Procedure Update

The Administrative Monetary Penalty Procedure will be updated to be consistent with the provisions of By-law 2024-148. The updated procedure will be presented to the Procedural Committee for approval prior to the APS for ASE program implementation.

CONSIDERATIONS:

(A) PUBLIC

The administrative penalty system of enforcement allows for the processing of by-law penalties outside of the courts, thereby providing the Town and the public with a timely, local dispute resolution system.

Staff will provide ongoing communications and education programs to advise the community of the implementation of Automated Speed Enforcement.

(B) FINANCIAL

The costs and revenues to implement the ASE program are included in the 2024 approved budget along with submissions in the 2025 budget and includes consideration for Screening and Hearing resources within the Legal department to oversee the First and Second Stage appeals under APS for ASE.

Penalties rates and fees are as prescribed through Provincial Regulation 355/22.

(C) IMPACT ON OTHER DEPARTMENTS & USERS

Implementation of ASE is being done in collaboration with the Transportation and Engineering Department. Multiple departments including Municipal Enforcement and Legal have been involved in the development and review of this by-law.

(D) COUNCIL STRATEGIC PRIORITIES

This report addresses Council's strategic priority/priorities: Growth Management, Community Belonging, Environmental Sustainability and Accountable Government.

(E) CLIMATE CHANGE/ACTION

Initiatives to reduce vehicle speeds on Town roads through Automated Speed Enforcement will enhance protection for vulnerable road users. Prioritizing the

safety of these individuals promotes active transportation, which contributes to the reduction of greenhouse gas emissions from motorized vehicles. It can promote public transportation and moving towards Ontario's Vision Zero.

APPENDICES:

Appendix A- By-law 2024-148 Administrative Penalties System for Automated Speed Enforcement

Prepared by:
Mehtab Khan
Strategic Business Advisor, Municipal Enforcement Services

Recommended by:
Margaret Boswell
Manager Enforcement, Municipal Enforcement Services

Submitted by:
Selena Campbell
Director, Municipal Enforcement Services

OAKVILLE

APPENDIX A

THE CORPORATION OF THE TOWN OF OAKVILLE

BY-LAW NUMBER 2024-148

A by-law to establish an Administrative Penalties System for automated speed enforcement in Community Safety Zones

WHEREAS section 214.1(1) of the *Highway Traffic Act,* R.S.O 1990, c.H.8, as amended, authorizes the Council of a municipality to designate by by-law part of a highway under its jurisdiction as a community safety a zone, if in Council's opinion, public safety is of special concern on that part of the highway;

WHEREAS section 11A of the Town of Oakville's Traffic By-law 1984-1, as amended, designates community safety zones and subsection 12(1) of Traffic By-law 1984-1 sets out rates of speed;

WHEREAS section 205.1(1) of the *Highway Traffic Act* permits the use of an automated speed enforcement system in a community safety zone designated by by-law where the prescribed rate of speed is less than 80 kilometres per hour;

WHEREAS Ontario Regulation 355/22 Administrative Penalties for Contraventions Detected Using Camera Systems under the *Highway Traffic Act* sets out the penalty rates for speeding in a community safety zone;

WHEREAS pursuant to the Screening & Hearing Officer By-law 2015-091, as amended, the Town has employed certain persons as Screening Officers and has appointed certain persons as Hearing Officers;

WHEREAS the Council of the Corporation of the Town of Oakville considers it desirable to establish an administrative penalties system for automated speed enforcement in community safety zones;

COUNCIL ENACTS AS FOLLOWS:

1. DEFINITIONS

(1) For the purposes of this By-law, the following definitions shall apply:

"**Administrative Penalty**" means an administrative penalty as set out in Ontario Regulation 355/22 imposed for contravention of the speed limit in a community safety zone designated by Traffic By-law 1984-1;

“**Appear”** means to attend or participate orally, electronically or in writing at the time and date scheduled for an appeal, if a date and time are scheduled;

“**Appeal”** means a first stage appeal and/or a second stage appeal, as the context requires;

"**Automated Speed Enforcement System**" means a system that is used in accordance with Part XIV.1 of the Highway Traffic Act and Ontario Regulation 355/22;

“**Community Safety Zone**” means a section of a roadway designated as a community safety zone under Traffic By-law 1984-1, in accordance with subsection 214.1(1) of the Highway Traffic Act, where public safety is of special concern on that part of the roadway. Community Safety Zones may include roadways near schools, day care centres, active parks, hospitals, senior citizen residences, and may also be used for collision prone areas within a community;

“**Contravention**” means a contravention of or a failure to comply with speed limits in community safety zones as set out in the Traffic By-law and “contravened” has a similar meaning;

“**Council**” means the Council for the Corporation of the Town of Oakville;

“**First Stage Appeal**” means the review of a penalty order by a Screening Officer;

“**Highway Traffic Act**” means the *Highway Traffic Act,* R.S.O 1990, c.H.8, as amended from time to time;

“Hearing Officer” means a person appointed as a Hearing Officer pursuant to Screening and Hearing Officer By-law 2015-091, as amended, or successor by-laws;

“**Ministry**” means the Ministry of Transportation for Ontario;

“**Motor Vehicle**” means as defined in the Highway Traffic Act;

“**Ontario Regulation 355/22**” means Regulation 355/22 Administrative Penalties for Contraventions Detected Using Camera Systems under the Highway Traffic Act;

"**Owner**", in relation to a motor vehicle, means,

(a) the holder of the permit for the motor vehicle, or

(b) if the motor vehicle permit consists of a vehicle portion and plate portion and different persons are named on each portion, the person whose name appears on the plate portion;

"**Penalty Order**" means an order made under Section 3 of this By-law;

"**Provincial Offences Officer**" for the purposes of this By-law, meets the following criteria:

(a) the person is employed by a municipality;

(b) the person has been designated as a provincial offences officer by the Minister of Transportation under subsection 1(3) of the *Provincial Offences Act* for the purposes of all or any class of offences set out in Part XIV.1 of the Highway Traffic Act;

(c) The designation mentioned in paragraph (b) above authorizes the person to issue a certificate of offence under subsection 3(2) of the *Provincial Offences Act* for a contravention of a provision prescribed under section 128(1) of the Highway Traffic Act.

"Rates and Fees Schedule" means the Town's current rates and fees schedule approved by Council as part of the annual budget approval process.

"Screening Decision" means a decision or disposition made by a Screening Officer;

"Screening Officer" means a person employed as a Screening Officer pursuant to the Screening and Hearing Officer By-law 2015-091, as amended, or successor by-laws;

"**Second Stage Appeal**" means the review of a Screening Decision by a Hearing Officer;

"**Town**" means The Corporation of the Town of Oakville.

"**Traffic By-law**" means the Town's Traffic By-law 1984-1, as amended, or successor by-laws.

2. APPLICATION

(1) A penalty order may not be issued for contravention of the speed limit in a community safety zone unless evidence is obtained through the use of an automated speed enforcement system.

3. PENALTY ORDER

(1) If a Provincial Offences Officer is satisfied that evidence has been obtained through the use of an automated speed enforcement system that a person has contravened the speed limit in a community safety zone as set out in the Traffic By-law, the Provincial Offences Officer may, by penalty order, impose an administrative penalty on the owner of the motor vehicle, whether or not the owner was the driver of the motor vehicle at the time of the contravention.

(2) The administrative penalty shall be in the amount specified by Ontario Regulation 355/22.

(3) An administrative penalty may only be imposed within twenty-three (23) days after the day on which the contravention occurred.

(4) The penalty order shall contain the information required by Ontario Regulation 355/22, including:

(a) a unique file number;

(b) the provision contravened;

(c) the date and location of the contravention;

(d) an identification of the motor vehicle that is involved in the contravention;

(e) the amount of the administrative penalty;

(f) a statement that the owner of the motor vehicle must, no later than 30 days after the day the order is served on them, pay the administrative penalty unless they commence an appeal in accordance section 7 of this By-law;

(g) a statement that the owner of the motor vehicle may, no later than 30 days after the day the order is served on them, commence an appeal in accordance with section 7 of this By-law; and

(h) information regarding the appeal process including the manner in which to commence an appeal.

(5) A copy of a photograph or image of the motor vehicle involved in the contravention may be included in the penalty order.

(6) The penalty order may include statements by a Provincial Offences Officer that are certified to be true in respect of the contravention or in respect of the service of the penalty order.

4. SERVICE OF THE PENALTY ORDER

(1) A penalty order may be served on the person who is subject to the order by sending the order by mail or by courier to the most recent address that appears on the Ministry's records in respect of the holder of the plate portion of the permit for the motor vehicle involved in the contravention.

(2) If a Provincial Offences Officer believes that the person who is subject to the order resides outside of Ontario or, in the case of a corporation, has its principal place of business outside of Ontario, the penalty order may be served on the person by sending the order by mail or by courier to the address outside Ontario at which the Provincial Offences Officer believes the person resides or has its principal place of business.

(3) The address mentioned in subsection 4(2) of this By-law may be determined from a document obtained from the government of any province or territory of Canada or from the government of a state of the United States of America, or from a person or entity authorized by any such government to keep records of vehicle permits, number plates or other evidence of vehicle ownership in that jurisdiction.

(4) Service of a penalty order mailed or couriered is deemed to be effected on the seventh (7^{th}) day following the day on which it was mailed or couriered.

5. FINANCIAL MANAGEMENT

(1) The person who is subject to a penalty order shall pay the administrative penalty to the Town within thirty (30) days after the date on which service of the order is deemed to be effected unless the person has commenced a first stage appeal.

(2) If an appeal does not result in the penalty order being set aside, the person who is subject to the order shall pay the administrative penalty to the Town within thirty (30) days after:

(a) the date of the Screening Decision, if no request for a second stage appeal was made in accordance with section 8 of this By-law; or

(b) the date of the decision of the Hearing Officer, if a second stage appeal was requested.

(3) Payment of an administrative penalty must be received by the due date and will not be credited until received by the Town.

(4) If a Screening Officer or Hearing Officer considers it fair and appropriate in the circumstances, they may approve a plan of periodic payments that extends beyond the deadline set out in subsection 5(2) of this By-law. This approval may be:

(a) conditional on the payment of a specified amount of the administrative penalty being made on or before a specified date; and/or

(b) approved even after the thirty (30) day period set out in subsection 5(2) of the By-law has expired.

(5) Once an administrative penalty has been paid or forwarded to the Ministry in accordance with subsection 6(1), it shall not be subject to a first stage appeal or a second stage appeal or to any further review.

6. CONSEQUENCES FOR FAILURE TO PAY AN ADMINISTRATIVE PENALTY

(1) If an administrative penalty is not paid within the thirty (30) day period set out in subsections 5(1) or 5(2) of this By-law or in accordance with a plan of periodic payments approved under subsection 5(4) of this By-law, the Town may notify the Ministry and the Ministry will collect payment of the administrative penalty, and:

(a) the person who is subject to the penalty order shall pay a late payment fee as set out in Ontario Regulation 355/22 for enforcement purposes, which fee shall be included in the amount of the administrative penalty; and

(b) issuance and validation of a permit may be refused to the owner of the motor vehicle who is subject to the penalty order until the penalty is paid.

7. FIRST STAGE APPEAL - REVIEW BY A SCREENING OFFICER

(1) A person who is subject to a penalty order may commence a first stage appeal by requesting that the penalty order be reviewed by a Screening Officer.

(2) The request to commence the first stage appeal shall be made in the manner set out in the penalty order within thirty (30) days after the date on which service of the order is deemed to have been effected.

(3) It is the appellant's responsibility to provide the Town with their current and correct telephone number and email address.

(4) The Screening Officer shall determine whether the first stage appeal shall be conducted orally, electronically or in writing.

(5) The appellant shall be notified:

(a) that their request for a first stage appeal has been received;

(b) of the date and time of the first stage appeal, if a date and time is set; and

(c) of the way in which the first stage appeal will be conducted according to subsection 7(4) of this By-law.

(6) The Screening Officer may confirm, vary or set aside the penalty order and shall do so as soon as practicable after the review is complete.

(7) In deciding whether to confirm, vary or set aside a penalty order, the Screening Officer shall determine whether it was reasonable for the Provincial Offences Officer to impose the penalty order and may consider the information included in subsection 9(1) of this By-law.

(8) The Screening Officer shall not decide whether to confirm, vary or set aside a penalty order unless the appellant has been given an opportunity to make submissions in the same manner in which the first stage appeal is to be conducted.

(9) No witnesses shall be called during a first stage appeal.

(10) The appellant may request that the Screening Officer extend the thirty (30) day period to commence the first stage appeal. If the Screening Officer considers it fair and appropriate in the circumstances, the Screening Officer may extend the thirty (30) day period to commence the first stage appeal. The extension may be made even after the thirty (30) day period has expired.

(11) Where an extension of time is not granted by the Screening Officer, the administrative penalty is deemed to be affirmed.

(12) A request for a first stage appeal or a request for an extension of time to commence a first stage appeal shall include the penalty order number, the person's contact information, and reasons for the appeal. The Screening Officer will consider the request for extension before commencing the first stage appeal.

(13) The Screening Officer shall send a copy of the decision to the appellant by mail, courier or electronic means as soon as practical after the decision is made.

(14) Subject to subsection 7(10) of this By-law, where a person fails to request a first stage appeal or extension of time in accordance with this By-law:

(a) the person shall be deemed to have waived the right to an appeal;

(b) the administrative penalty shall be deemed to be affirmed; and

(c) the administrative penalty shall not be subject to review.

(15) Where the appellant fails to appear at the first stage appeal:

(a) the appellant shall be deemed to have abandoned the first stage appeal;

(b) the administrative penalty shall be deemed to be affirmed;

(c) the administrative penalty shall not be subject to a second stage appeal; and

(d) the appellant shall pay to the Town a no-show fee as set out in the rates and fees schedule, which shall be applied to the administrative penalty.

8. SECOND STAGE APPEAL - REVIEW OF SCREENING DECISION BY HEARING OFFICER

(1) An appellant may commence a second stage appeal by requesting that the Screening Decision be reviewed by a Hearing Officer within thirty (30) days after the date of the Screening Decision.

(2) The Town Solicitor shall determine whether the second stage appeal shall be conducted orally, electronically or in writing.

(3) The appellant shall be notified:

(a) that their request for a second stage appeal has been received;

(b) of the date and time of the second stage appeal, if a date and time is set; and

(c) of the way in which the second stage appeal will be conducted according to subsection 8(2) of this By-law.

(4) It is the appellant's responsibility to provide the Town with their current and correct telephone number and email address.

(5) The Hearing Officer may confirm, vary or set aside the Screening Decision. For clarity, this may include confirming, varying or setting aside the penalty order.

(6) In deciding whether to confirm, vary or set aside a penalty order, the Hearing Officer shall determine whether the Screening Decision was reasonable and may consider the information included in subsection 9(1) of this By-law.

(7) The Hearing Officer shall not decide whether to confirm, vary or set aside a penalty order unless the appellant and a representative of the Town has been given an opportunity to make submissions in the same manner in which the second stage appeal is to be conducted.

(8) No witnesses shall be called during a second stage appeal.

(9) The appellant may request that the Hearing Officer extend the thirty (30) day period to request a second stage appeal. If the Hearing Officer considers it fair and appropriate in the circumstances, they may extend the thirty (30) day period to request the second stage appeal. The extension may be made even after the thirty (30) day period has expired.

(10) Where an extension of time is not granted by the Hearing Officer, the administrative penalty is deemed to be affirmed.

(11) A request for a second stage appeal or for an extension of time to request a second stage appeal shall include the penalty order number and the person's contact information. The Hearing Officer will consider the request for extension before commencing the second stage appeal.

(12) The Hearing Officer shall send a copy of their decision to the appellant by mail, courier or electronic means as soon as practical after the decision is made.

(13) Subject to subsection 8(9) of this By-law, where a person fails to request a second stage appeal or extension of time in accordance with this By-law:

(a) the person shall be deemed to have waived the right to a second stage appeal;

(b) the Screening Decision and the administrative penalty shall be deemed to be affirmed; and

(c) the Screening Decision and the administrative penalty shall not be subject to review.

(14) Where the appellant fails to appear at the second stage appeal:

(a) the appellant shall be deemed to have abandoned the second stage appeal;

(b) the Screening Decision and the administrative penalty shall be deemed to be affirmed; and

(c) the appellant shall pay to the Town a no-show fee as set out in the rates and fees schedule, which shall be applied to the administrative penalty.

(15) The decision of the Hearing Officer is final.

9. CONSIDERATIONS REGARDING DECISION

(1) In deciding whether to confirm, vary or set aside a penalty order, the Screening Officer or Hearing Officer may consider the following information, if available:

(a) photographs or images taken by the camera system;

(b) statements, including certified statements, made by the Provincial Offences Officer who imposed the penalty order;

(c) documents, including certified documents, setting out the name and address of the person who is subject to the order, a description of the permit and the number plate of the motor vehicle;

(d) statements by the appellant, made either in writing or in the manner in which the appeal is conducted;

(e) statements by or on behalf of the Town, made either in writing or in the manner in which the appeal is conducted;

(f) any other information, materials or submissions that the Screening Officer or Hearing Officer considers to be credible or trustworthy in the circumstances.

10. GENERAL

(1) A Screening Officer or Hearing Officer does not have jurisdiction to consider questions relating to the validity of a statute, regulation or by-law or the constitutional applicability or operability of any statute, regulation or by-law.

(2) If, before a final decision is made by a Screening Officer or Hearing Officer, they become aware that the person who is subject to the penalty order is charged with an offence under the Highway Traffic Act for the same contravention, the Screening Officer or Hearing Officer shall set aside the penalty order.

(3) The Town may impose fees as set out in the rates and fees schedule for services rendered, including but not limited to the provision of transcripts, reproduction and mailing fees.

(4) Fees for services in accordance with subsection 10 (3) shall:
(a) be collected before or at the time the service is rendered; and
(b) shall not be added to the administrative penalty.

11. REFERENCES

(1) References in this By-law to any legislation or by-law means as may be amended or successor by-laws or legislation, and includes any regulations thereunder.

12. SEVERABILITY

(1) In the event any provisions of this By-law are deemed invalid or void, in whole or in part, by any court of competent jurisdiction, the remaining terms and provisions shall remain in full force and effect.

13. SHORT TITLE

(1) This By-law may be known as the “Automated Speed Enforcement Administrative Penalty By-law”.

14. EFFECTIVE DATE

(1) This By-law comes into force and effect on the day it is passed.

PASSED this 21st day of October, 2024

_____ MAYOR

_____ CLERK

REPORT

Council

Meeting Date: October 21, 2024

FROM: Clerk's Department

DATE: October 8, 2024

SUBJECT: **2025 Council and Committee Calendar**

LOCATION: Town - wide
WARD: Town-wide

RECOMMENDATION:

That the 2025 Council Meeting Calendar attached as Appendix A to the report from the Clerk's Department, 2025 Council and Committee Meeting Calendar, dated October 8, 2024, be approved.

KEY FACTS:

The following are key points for consideration with respect to this report:

- The Procedure By-law establishes standard meeting dates and times for regular Council, Planning and Development Council and other committees, subject to amendments by Council and the Mayor where appropriate.
- Council approves a schedule of Council and Committee meetings on an annual basis which is posted on the town's website allowing for public notice of the meeting dates, and enables the dates to be scheduled in members' and staff calendars.
- To accommodate a condensed summer schedule, Council and Planning and Development Council meetings are scheduled on separate days in July within the same week and on the same day in August with Council starting at 4 p.m. and Planning and Development Council to start at 7:00 p.m.
- Should business matters arise that Council must address, a special Council meeting may be scheduled in accordance with the Procedure By-Law.
- The 2026 Budget meetings will be brought a future meeting in 2025.
- Additional Planning and Development Council meetings have been added to February, March, April, May, June, September and October to meet legislated timelines in the *Planning Act* and may be cancelled if determined they are not required. Notification of cancellation will be provided on the Town's website.

- While preparing the calendar of meetings, staff considered the 2025 Diversity Calendar from Canadian Centre for Diversity and Inclusion and did not observe any significant conflicts.
- Region of Halton Council Meetings, Statutory Holidays/Town Closures, March Break, Association of Municipal Officers and Federation of Canadian Municipalities have been added to this calendar as a reference only and are not for approval.

BACKGROUND:

Council's Procedure By-law establishes the schedule of regular Council, Planning and Development Council and other committee meetings. Each year Council adopts a modified schedule of meetings recognizing the March Break of the Boards of Education, the Federation of Canadian Municipalities (FCM), the Association of the Municipalities of Ontario (AMO) conferences and a reduced meeting schedule during the summer months.

In accordance with the current procedure by-law, regular Council and Planning and Development Council meetings are scheduled on Monday evenings within a four-week cycle. Where a meeting would fall on a holiday Monday, it is rescheduled to the Tuesday.

COMMENT/OPTIONS:

A condensed summer meeting schedule has Council and Planning and Development Council meetings scheduled on separate days in July within the same week and on the same day in August with Council starting at 4 p.m. and Planning and Development Council to start at 7:00 p.m. Should business matters arise that Council must address, a special meeting of Council may be called.

To date this year, an additional four special meetings of Council were held in 2024 to deal with Midtown and TOC with five more scheduled to come before the end of the year to deal with the Mayor's annual address, Parks, Recreation and Library Master Plan and Community Activation Grant and the Budget matters. In addition to the special Council meetings and regularly scheduled meetings, Council will have attended five additional workshop sessions for Parks, Recreation and Library Master Plan, the Security Plan, Rainwater and Midtown.

The agendas for both Council, Planning and Development Council meetings, and Special Council, usually go out to Council and the public two weeks prior to the meeting date, and addendums go out the next week prior to the meeting date.

Although the public review period is beneficial, there are notable administrative issues in preparing reports so far in advance of the meeting, resulting in additional or new information often being introduced in an addendum or at the meeting, ensuring that Council and the public receive the most current information. Planning

and Development Council meetings have certain statutory requirements and strict timelines afforded by the legislation are often difficult to achieve within the four-week cycle, however, these difficulties can be remedied by the option of adding special meetings or distributing memos containing more current information at or prior to the meetings or, by adding planning matters to the regular Council agenda.

CONSIDERATIONS:

(A) PUBLIC

Notification of this report was provided at the time of the published agenda and upon approval, the calendar will be posted on the town website.

(B) FINANCIAL

Additional and special meetings being added to the schedule will affect overtime budgeting within the Clerk's department and affected departments.

(C) IMPACT ON OTHER DEPARTMENTS & USERS

All departments rely on Council's annual schedule of meetings to facilitate the business of the Corporation. Upon approval, calendar invitations will be issued to Members of Council and staff.

(D) COUNCIL STRATEGIC PRIORITIES

This report supports the Council Strategic Priority to be an Accountable Government that provides the community:

- With timely information;
- Open and Transparent decision-making; and
- With opportunities to engage with Council.

(E) CLIMATE CHANGE/ACTION

N/A

APPENDICES:

Appendix A- Draft 2025 Council and Committee Calendar

Prepared by and Recommended by:
Andrea Holland
Manager, Council and Committee Services

Submitted by:
Vicki Tytaneck
Town Clerk

OAKVILLE

APPENDIX A
2025 Council and Committee Meeting Schedule

January

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

February

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23	24	25	26	27	28	

March

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16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

April

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20	21	22	23	24	25	26
27	28	29	30			

May

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18	19	20	21	22	23	24
25	26	27	28	29	30	31

June

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29	30					

July

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27	28	29	30	31		

August

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24	25	26	27	28	29	30
31						

September

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28	29	30				

October

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November

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30						

December

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28	29	30	31			

January 2026

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25	26	27	28	29	30	31

Council
Planning and Development Council
Regional Council
FCM (May 29 to June 1, 2025)
AMO (August 17-20, 2025)
Designated Holidays/Town Hall Closure
March Break

NOTE: August 11th - the Council meeting will start at 4 p.m. and Planning and Development Council will start at 7:00 p.m.

REPORT

Council

Meeting Date: October 21, 2024

FROM: Recreation and Culture

DATE: October 8, 2024

SUBJECT: **Food For Life Program at Town Hall**

LOCATION: Town Hall
WARD: Ward 6

RECOMMENDATIONS:

That the use of Town Hall, at no cost, for Food For Life to operate the Food Bank Program on a weekly basis be approved.

KEY FACTS:

The following are key points for consideration with respect to this report:

- There is a significant need in the neighbourhood surrounding Town Hall, particularly among residents of Marlborough Court, who experience high levels of food insecurity.
- Food for Life operates a pop-up food bank once a week in the North Atrium of Town Hall since May 2023 as a pilot program.
- An average of 64 individuals attend the weekly program.
- Between July 2023 to March 2024, the Town Hall program received 35,000lbs of rescued food averaging of 924lbs per week.
- Participants reported an overall satisfaction rate of 96%.
- Town staff are working with Food for Life to formalize and continue the program indefinitely, subject to an annual review.
- There is no financial impact to the town.

BACKGROUND:

Through analysis of survey data, Food for Life identified the area around the Town Hall, specifically Marlborough Court residents, indicated a high level of food insecurity even after support was received. Oakville Town Hall was selected as a site to pilot an Intensify Impact Program providing food support and information on services to aid under-resourced households living in the Marlborough Court community.

Since May 2023, a pilot program has operated weekly, offering fresh food selections in a market-style setup. Oak Park Neighbourhood Centre compliments this by providing access to information about community programs and financial services. Recreation and Culture Community Development staff attended regularly onsite to help residents access the Recreation Connection subsidy program. An information memo was shared with Council in May 2023 which is included as Apprendix A.

COMMENT/OPTIONS:

Since May 2023, there has been a steady increase in the number of individuals accessing the food bank at Town Hall. In 2024, the average number of clients attending the service weekly is 64. Many clients access food for their entire families, thereby extending the program's impact beyond just those in attendance.

Satisfaction and impact surveys were conducted by Food for Life between July 2023 and March 2024 indicating very high satisfaction levels with the program. On average, 66% of registered neighbours participated in the surveys and the average self-reported weekly food savings was $50.60.

Over the course of the pilot, Oakville Town Hall neighbours showed overall improvements in food security status, most notably:

- Food security increased by 33% with neighbours experiencing fewer worries about food access,
- Marginal food insecurity increased by 10% as neighbours previously experiencing more severe forms of insecurity moved towards improvement,
- Moderate food insecurity decreased by 29%, reducing reliance on low-cost foods and skipping meals,
- Severe food insecurity decreased overall by 5%, alleviating extreme shortages and days without food.

Food For Life’s program survey summary in included as Appendix B.

With a strong focus on healthy perishable food, Food For Life has distributed 35,000lbs of rescued food (a weekly average of 924lbs), through this initiative.

Food For Life has determined there is an ongoing need and plans to support local residents living in the area by continuing this program. This would provide residents with a safe and accessible location for weekly access to fresh food including produce, meat, and dairy, along with an integration with other services.

Recreation and Culture as well as Facility Services support the continuance of this program. Recreation and Culture will issue a no-charge facility rental contract for the continued use of the North Atrium to operate the program. Staff will review the permit dates and include any exceptions in the permit. If the space is required by the

town the food bank program will be temporarily relocated to a nearby meeting room, if space is available. Food for Life will add the Town of Oakville as an additional insured to their insurance policy for $2,000,000 commercial general liability insurance and provide proof of insurance to the town.

Facility booking terms and conditions allow the town or Food For Life to cancel or amend bookings at anytime. Town Hall space will continue to be permitted to Food For Life, at no cost, as long as the demand for an accessible pop-up food bank warrants the continuation and the space is not required for other town activities.

Continuing the food bank program in Town Hall means that local residents will have a safe and accessible location to visit, along with integration of other municipal and community services onsite, thereby raising awareness of a valuable community resource that serves a significant public benefit.

CONSIDERATIONS:

(A) PUBLIC
N/A

(B) FINANCIAL
N/A

(C) IMPACT ON OTHER DEPARTMENTS & USERS
The agreement and this report have been developed in consultation with the Legal Department and Facility Services.

(D) COUNCIL STRATEGIC PRIORITIES
This report address Council's strategic priority Community Belonging and Environmental Sustainability.

(E) CLIMATE CHANGE/ACTION
Through Food For Life's food rescue program, this program supports environment sustainability in Oakville.

APPENDICES:
Appendix A – Memo May 5, 2023 - Pop-Up Food Bank – Pilot Program at Town Hall
Appendix B – Intensify Impact Program Report – Food for Life

Prepared by:
Chris Clapham
Community Development Specialist

Elizabeth Gordon
Community Development Specialist

Submitted by:
Julie Mitchell
Director, Recreation and Culture

APPENDIX A

Memo

To: Mayor, Members of Council

From: Julie Mitchell, Director – Recreation and Culture

Date: May 15, 2023

Subject: Pop-Up Food Bank – Pilot Program at Town Hall

This memo is to inform Council of a pilot program to operate a weekly pop-up food bank at Town Hall in the North Atrium to help the surrounding community.

The following represents the key facts regarding this pilot initiative:

- Through survey data, Food for Life was able to identify that the area around the town hall, specifically Marlborough Court residents, indicated a high level of food insecurity even after support was received.
- In partnership with Food for Life, the pilot program food bank will operate on Thursdays for approximately three hours between by appointment only.
- The pilot will run between May and December 2023.
- This program is funded through the Halton Region Community Investment Fund.
- There is no financial impact to the town.

In further detail, Food for Life would like to initiate a component of their “Deepening the Impact” program by launching a pilot pop-up food bank program for the immediate area around town hall to help serve those in need who live on Marlborough Court and within the surrounding community neighbourhoods.

The program will also include a component that will assist residents to navigate and connect with community organizations and support systems to help drive meaningful change. This includes Recreation and Culture Community Development staff onsite regularly to help residents access the Recreation Connection subsidy program.

The goal is to serve approximately 100 households, once a week on Thursdays for approximately three hours between May and December 2023. The pilot pop-up food bank will be an appointment-based model, resulting in no line ups, and there will be Food for Life staff available for drop-ins that may arrive onsite. The food bank will be self-contained for each week of the pilot program. Visitors to this program will be guided to the set-up in the North Atrium.

The onsite food bank pilot program is to help test the concept based on the findings from Food for Life's last two years of research around quantifying food security using the Food Experience Index Scale (FIES). The theory is that if residents receive more food, and more choices, this will result in positive economic and health outcomes for these individuals. Those who choose to use the resources that are being leveraged can then connect with a representative for direct assistance and connectivity to other community supports.

Using the North Atrium for this pilot program will provide access to the loading dock and side entrance doors for set-up and take-down purposes and will not disrupt Service Oakville operations.

There will be appropriate communication notice to town hall departments and employees prior to the pilot being initiated.

Staff will report back in the fall on the success of the pilot program and recommendations.

Julie Mitchell
Director - Recreation and Culture
Recreation and Culture

Thank you to Town of Oakville for generously providing space to run this program

Oakville Town Hall Intensify Impact Project

Program in Partnership with: Oak Park Neighbourhood Centre

Food for Life

Food for Life collected survey responses from community members who registered for the Oakville Town Hall program, our 'Neighbours', on their demographics, food access, community services & resources, & program satisfaction & impacts

Oakville Town Hall was selected as a site to pilot an Intensify Impact program providing food support and information on services to aid under-resourced households living in the Marlborough Court community. The program operates weekly, offering fresh food selections in a market-style setup. Oak Park Neighbourhood Centre supplements this by providing access to information about community programs and financial services. Satisfaction and impact surveys were conducted at 3 intervals between July 2023 and March 2024. On average, 66% of registered neighbours participated in the surveys.

Program Satisfaction Highlights

*Percent of Surveyed Neighbours who responded as either 'Very satisfied' or 'Satisfied' to the below prompts in Spring 2024

AMOUNT OF FOOD

HOW FOOD IS OFFERED

PROGRAM HOURS

ACCESSIBILITY OF PROGRAM LOCATION

OVERALL SERVICE

Over the course of the pilot program (July 2023-March 2024), the Oakville Town Hall program received over 35,000lbs of rescued food and an average of 924lbs of food each week. Each household that is registered with the program had weekly access to fresh food including produce, meat, and dairy.

$50.60 Average self-reported weekly food savings

"Participating in this program helps us cope with financial struggles, allows us to use money for other needed things in life, and buy less food. It has helped in our daily lives! Thank you so much!"
- Oakville Town Hall neighbour

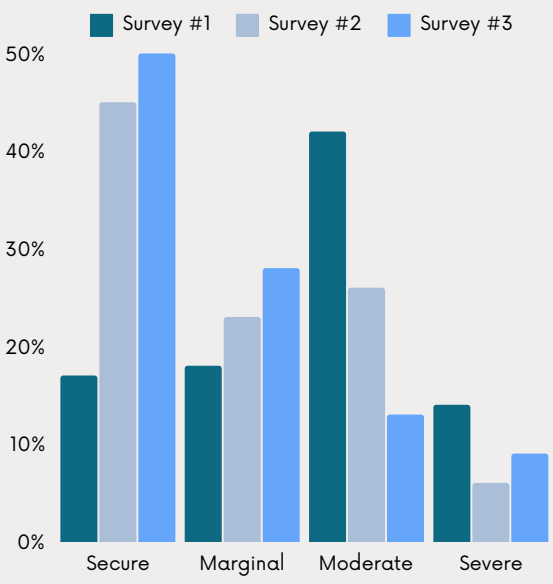


Fig. 1: Food Security Level of Respondents using FIES Summer 2023, Fall 2023, & Spring 2024 data comparison
*Data represents population-level changes

Over the course of the pilot, Oakville Town Hall neighbours showed overall improvements in food security status (Fig. 1)

- Food security increased by **33%** with neighbours experiencing fewer worries about food access
- Marginal food insecurity increased by **10%** as neighbours previously experiencing severer forms of insecurity moved towards improvement
- Moderate food insecurity decreased by **29%**, reducing reliance on low-cost foods and skipping meals
- Severe food insecurity decreased overall by **5%**, alleviating extreme shortages and days without food

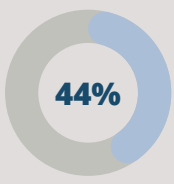
"[This program gives me] a better feeling socially and psychologically and able to feel confident and safe." - Oakville Town Hall neighbour

Program Impact Highlights

*Percent of Surveyed Neighbours who self-reported the following social wellbeing and financial impacts in Spring 2024

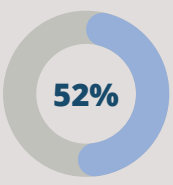
DECREASED STRESS

INCREASED TRUST WITH SOCIAL SERVICE PROVIDERS

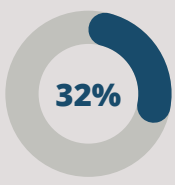


INCREASED SENSE OF SAFETY & WELLBEING IN COMMUNITY

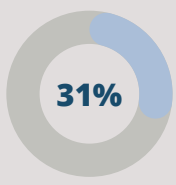
ATTENDED ADDITIONAL COMMUNITY SUPPORTS & RESOURCES



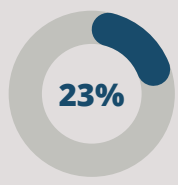
IMPROVED FINANCIAL SECURITY



MONEY TO SPEND ON MEDICATIONS & HEALTH SUPPORTS



MONEY TO PURCHASE OTHER NEEDED FOOD ITEMS



ABLE TO PAY BILLS ON TIME

"Hope this program continues and does not go away so low-income people can continue to get supports." - Oakville Town Hall neighbour

REPORT

Council

Meeting Date: October 21, 2024

FROM: Legal Department

DATE: October 8, 2024

SUBJECT: **Wallace Park Tennis Club License Agreement**

LOCATION: 245 Reynolds Street
WARD: Ward 3

RECOMMENDATION:

1. That staff be authorized to renew the license agreement with the Wallace Park Tennis Club for an additional ten years on the terms set out in this report.

2. That the license renewal agreement be executed in accordance with By-law 2013-057 and the Town Solicitor be authorized to enter into any minor amendments, as required.

KEY FACTS:

The following are key points for consideration with respect to this report:

- The Wallace Park Tennis Club (the "**Club**") licenses 5 tennis courts and a clubhouse from the Town in Wallace Park at 245 Reynolds Street.
- The Club's license agreement will expire on December 31, 2024 and they are seeking a renewal.
- Staff are recommending renewing the license agreement for a further ten years with the license fee to remain at a nominal amount.

BACKGROUND:

The Town owns the lands known as Wallace Park at 245 Reynolds Street. The Wallace Park Tennis Club has operated a not-for-profit tennis club in Wallace Park for over 50 years. The Club has almost 700 members and provides lessons and camps for all ages. Members get access to competitive leagues with other clubs in Halton and the GTA as well as in-house round robins, tournaments and house leagues.

The space licensed to the Club includes 5 tennis courts and a clubhouse (the **Premises**") as well as storage space in the adjacent Town washroom building. One of the courts is a public court that always remains open to the public except for a limited number of Club events like the competitive tournaments.

The previous license ran for twenty years and in 2023 Council authorized a short-term two-year extension that expires on December 31, 2024. Typically, the Town provides longer-term commitments for these types of club licenses, so the club has security to make long-term plans for the site. However, in this case there were a few reasons to delay the long-term commitment and have a short two-year bridge extension.

First, the Town was in the early stages of completing a Parks, Recreation and Library Master Plan that would better inform the current status of tennis and Club tennis. This plan is more advanced at this stage and the final plan is expected to be presented to Council in November 2024. The plan does not recommend any changes to advanced tennis play being provided by the various Clubs.

Second, the Club had made some recent changes to its governance, policies and structures and staff wanted to ensure the implementation of those changes was successful and stable before considering entering into a long-term agreement. It appears the governance changes have been successful since there have been no material concerns or issues raised to staff during this interim period.

Third, the Town was in the process of making improvements to Wallace Park and by the end of the two-year term staff would have a finalized improvements plan needed for the Premises. The courts are in poor condition, the public court requires relocation to be a fully fenced court accessible to the public, fencing is in disrepair, and grading improvements are necessary for accessibility. The work is budgeted for 2025 and if approved would begin in fall 2025.

With the two-year interim renewal coming to an end, the Club would like to renew its license for a ten-year period to have the longer-term certainty to make long-term plans for the operation of the site.

COMMENT/OPTIONS:

Staff are supportive of renewing the license agreement with the Club for a further ten years. The Club has been a good tenant over the history of this relationship, and they provide a valuable service to the community. The new agreement will be on similar terms as the prior agreement but updated to reflect the current Town standard terms for these types of club licenses such as a demolition fund for the clubhouse and membership residency requirements.

The current rent is nominal and staff are recommending keeping the rent at a nominal rate. Pursuant to the report from the Legal Department dated January 3, 2018 titled “Town Club Leases/License” staff are required to provide a formal rationalization or streamlined business case for recommending a tenant pay a nominal rent instead of market rent. Staff have considered the following questions as set out in the January 3, 2018 report:

- Is the tenant providing an additional or supplemental service/program that the Town would otherwise consider offering to the community at Town expense?
    - Yes, the Town only offers basic introductory tennis lessons. The Club offers a place for more advanced levels of tennis play including participation in tournaments, leagues, lessons and camps.

- What is the potential cost to the Town if the Town had to provide the programs/services?
    - The costs would be very significant as the Town does not have the resources to offer advanced tennis lessons, camps and leagues.

- What are the benefits provided to the community from the tenant’s programs/services?
    - Health, wellness and youth engagement are some of the benefits provided to the community. The Club offers social events throughout the year, including family friendly events targeted at children and youth.

- Is there a gap/need/demand for the programs/services in the community?
    - Yes, there is a demand for advanced tennis beyond the introductory courses offered by the Town programs. Other than Wallace Park and two other not for profit tennis clubs in the Town, the only other opportunity to obtain this level of tennis would be at a private club.

- Is the service/program open to the general public, and if the club has a limited number of membership spots available, what percentage will be made up of Oakville residents?
    - The Club maintains a public court that is open to the public to use. There is a limited number of memberships available and currently the Club estimates 95% are made up of Oakville residents. New memberships will only be offered to Oakville residents while there is a waiting list.

- Are there alternative uses/needs for the Town facility?
    - The current state of the facility would only support tennis. Staff are nearing completion of the Parks, Recreation and Library Master Plan

and there is no contemplation noted in the Plan to alter or amend the current usage of the site.

- Is the Tenant part of the Town's CORE membership program?
    - Yes

- Is the tenant the main provider of the programs/services in the community or are there other providers that need to be consulted or offered the chance to bid on the space?
    - There are two other tennis clubs in Oakville who have license agreements with the Town, Bronte Tennis Club and Lawson Park Tennis Club. Wallace Park Tennis Club has been operating from this location for over 50 years.

- Is the tenant a not-for-profit organization in good standing?
    - Yes

- Are there appropriate controls in place to ensure financial capability and sustainability and good governance of the tenant?
    - The proposed agreement will require the Club to provide the Town with unaudited financial statements each year and copies of the minutes from all of its BOD and AGM meetings. The Club will also be required to create and adhere to a code of conduct in accordance with the Town's RZone policy that will include a dispute resolution process for complaints.

A copy of the proposed ten-year license agreement is available in the legal department for review.

CONSIDERATIONS:

(A) PUBLIC

The public will be aware of the license renewal through public notification of the council agenda. Approval of this license renewal agreement will provide for continued use of these lands in accordance with the current use.

(B) FINANCIAL

Staff recommend that the renewal term continue at nominal rent. The Town should not have any additional costs in respect of the Property during the term as the Club will be responsible for all the ongoing costs and maintenance of the Property. However, the Town is responsible for the capital reconstruction and resurfacing of the courts as well as rehabilitation of fencing and lighting.

(C) IMPACT ON OTHER DEPARTMENTS & USERS

This report was prepared together with the Parks and Open Space department.

(D) COUNCIL STRATEGIC PRIORITIES

This report addresses the corporate strategic goal to be the most livable town in Canada.

(E) CLIMATE CHANGE/ACTION

N/A

APPENDICES:

Appendix A – Location Map

Prepared by:
Ryan Maynard
Assistant Town Solicitor

Prepared by:
Chris Mark
Director, Parks and Open Space

Submitted by:
Paul Damaso
Commissioner, Community Services

Submitted by:
Doug Carr
Town Solicitor

Appendix “A”

Wallace Park
Sheldon Ave
Reynolds St
Wallace Park Ln
248110024
248080061
248080072
248080054
248110014

REPORT

Council

Meeting Date: October 21, 2024

FROM: Clerk's Department

DATE: October 8, 2024

SUBJECT: **Application to Conduct Charitable Lottery Events – Golf for the Physically Challenged**

LOCATION:
WARD: Town-wide

RECOMMENDATION:

That the request from Golf for the Physically Challenged to conduct charitable lottery events in the Town of Oakville be approved.

KEY FACTS:

The following are key points for consideration with respect to this report:

- All first-time applicants are required to be approved by the Council of the municipality in which the event is to be held.
- The applicant complies with all licensing requirements.

BACKGROUND:

Under the Lieutenant Governor of Ontario's Order in Council 208/2024 as amended, all first-time applicants seeking permission to conduct lottery events are required to be approved by the Council of the municipality in which the event is to be held. Once Council has approved the original application, staff is then authorized to approve all renewals without further referral to Council.

COMMENT/OPTIONS:

Golf for the Physically Challenged has applied for permission to conduct charitable lottery events to reach more individuals in need in Oakville. They are dedicated to supporting physically challenged members by providing opportunities to engage in physical activities and to foster mental well-being through the game of golf. They provide essential equipment and expert advice while enabling participants to enjoy and excel at golf to the best of their abilities. This much needed financial support will benefit the organization and their ability to successfully serve the Oakville community. Staff has checked the documentation provided by the applicant and found it to comply with the licensing requirements for the Province of Ontario and

the Town of Oakville. Staff has reviewed the charity's by-laws, financial statements and mandate and has found them to be in compliance with AGCO and OLG requirements. It is therefore recommended that Council approve this request to conduct lottery events.

CONSIDERATIONS:

(A) PUBLIC
Local charitable and not-for-profit organizations use lottery licensing to raise funds that are used to benefit the community.

(B) FINANCIAL
There is no financial consideration to the Town

(C) IMPACT ON OTHER DEPARTMENTS & USERS
Lottery licensing is provided by the Clerk's Department under the regulations established by the Province. There is no impact on other departments.

(D) COUNCIL STRATEGIC PRIORITIES
This report addresses Council's strategic priority of Community Belonging.

(E) CLIMATE CHANGE/ACTION
There is no impact.

APPENDICES:
Appendix A: Letter of request from Golf for the Physically Challenged

Prepared and Recommended by:
Michelle Morris Corporate Records, FOI & Lottery Coordinator

Submitted by:
Vicki Tytaneck Town Clerk

Golf for the Physically Challenged

1165 Rushbrooke Drive Oakville ON L6M 1H8

Mark Jennings
Golf for the Physically Challenged
1165 Rushbrook Dr
Oakville, Ontario, L6M-1J4
omjennings@rogers.com
647-926-1128

Oakville Council

Dear Members of the Oakville Council,

I hope this letter finds you well. I am writing to you on behalf of Golf for the Physically Challenged to respectfully request the approval of our application for a bingo license at Delta Bingo.

Our charity is dedicated to supporting physically challenged members of our community in their journey towards a more active and fulfilling life. Our mission is to provide these individuals with opportunities to engage in physical activities and to foster mental well-being through the game of golf. By offering a welcoming environment, essential equipment, expert advice, tuition, and the encouragement of our dedicated volunteers, we enable our participants to enjoy and excel at golf to the best of their abilities.

In addition to our regular activities, we organize golf tournaments that allow our participants to feel integrated into the community. These events are instrumental in promoting a sense of belonging and camaraderie among our members, enhancing their social interaction and overall quality of life.

To sustain and expand our efforts, we rely on fundraising initiatives such as bingo events. Securing a bingo license at Delta Bingo would significantly aid us in raising the necessary funds to continue our work and reach more individuals in need. The proceeds from these events will directly support our programs, ensuring that we can continue to provide valuable services to our community.

We kindly ask for your support in approving our bingo license application. Your approval will not only assist us in our fundraising efforts but also demonstrate the council's commitment to fostering inclusive and supportive community initiatives.

Thank you for considering our request. We look forward to your positive response and the opportunity to continue making a difference in the lives of physically challenged individuals in Oakville.

Mark Jennings- (Director)
Golf for the Physically Challenged

Andy Liu
Chair

REPORT

Council

Meeting Date: October 21, 2024

FROM:	Clerk's Department
DATE:	October 8, 2024
SUBJECT:	**2024-2029 Multi-Year Accessibility Plan**
WARD:	Town-wide

RECOMMENDATION:

That the 2024-2029 Multi-Year Accessibility Plan be approved.

KEY FACTS:

The following are key points for consideration with respect to this report:

- Developing, posting and implementing a multi-year accessibility plan (MYAP) is an ongoing requirement of the Integrated Accessibility Standards Regulation (IASR) under the *Accessibility for Ontarians with Disabilities Act, 2005*.
- The Town of Oakville is committed to being an inclusive workplace and community where everyone feels they belong.
- As the town has met most AODA requirements and there are no new requirements set out by the province at this time, the 2024-2029 Multi-Year Accessibility Plan builds on past achievements and outlines actions to help the town continue to meet or exceed AODA requirements.
- Public engagement opportunities were provided, along with consultations with community partners, organizations, the Accessibility Advisory Committee (AAC), and staff, to support the development of this plan.
- Staff will provide annual status updates on the progress of actions and initiatives aimed at meeting or exceeding AODA requirements, and report on any legislative changes.

BACKGROUND:

Developing, posting and implementing a multi-year accessibility plan (MYAP) is an ongoing requirement of the Integrated Accessibility Standards Regulation (IASR) under the *Accessibility for Ontarians with Disabilities Act, 2005*. This plan outlines the actions the Town of Oakville will take to continue to meet AODA requirements, prevent and remove barriers, and provides timelines for when these actions will be completed.

The Town of Oakville is committed to being an inclusive workplace and community where everyone feels they belong. This includes eliminating barriers towards achieving Council's vision to be a vibrant and livable community for all and providing accessible programs, services and facilities. It includes building an inclusive community where all individuals have equitable access to the town's services, programs and facilities in a manner that is integrated and promotes dignity and independence.

The town's previous multi-year accessibility plans focused on specific, phased-in requirements under the IASR and our actions and timeframes to meet them. The town has now met most of these requirements and there are no new requirements currently set out by the province. The 2024-2029 Multi-Year Accessibility Plan **(Appendix A)** builds on the accomplishments of previous plans, most recently the 2018-2023 Multi-Year Accessibility Plan, and provides a road map outlining areas of focus and actions that will continue to drive the town forward to meeting and/or exceeding the requirements under the AODA.

Presented differently from previous multi-year plans, the 2024-2029 Multi-Year Accessibility Plan:

- Highlights the town's recent key accomplishments within the IASR areas of customer service, information and communication, employment, transportation, and the design of public spaces.
- Shares trends in community feedback related to what an accessible Oakville means to them.
- Outlines the town's ongoing commitments, new initiatives/areas of focus for the next five years.

Consultation

The town has made considerable efforts to ensure this plan is comprehensive, inclusive, and reflective of the diverse needs of the community. Multiple opportunities for input were provided to residents and staff, including a public survey, early consultation with the Accessibility Advisory Committee (AAC), and online engagement with community partners, groups, and organizations.

Staff engaged with subject matter experts from all town departments and business areas, gathering valuable insights that identified key successes, areas for

improvement, and opportunities to align strategies with other town plans addressing accessibility challenges. A public survey was conducted, to understand community accessibility concerns. The survey was accessible online and in alternate formats, receiving over 100 responses from diverse groups, including community organizations, resident groups, and school boards. A summary of common themes on the MYAP is linked under Community input. Staff will continue to work with community partners to address resident concerns from the survey. Our commitment to transparency ensured ongoing collaboration and opportunities for residents to share feedback throughout the plan's development and implementation.

Staff recognize and acknowledge the active participation and collaboration of both staff and residents in the development of this plan. Together, we are taking meaningful steps in the town's ongoing commitment toward creating an inclusive environment that honours, respects, and benefits the diverse needs of our community.

COMMENT/OPTIONS:

Staff are pleased to present the final 2024-2029 Multi-Year Accessibility Plan, which reflects the valuable feedback received from the Accessibility Advisory Committee (AAC). This plan builds on the hard work and continued commitment of both staff and the town, reinforcing our dedication to fostering a more accessible and inclusive community.

Once approved by Council, this plan will be published in an accessible format on oakville.ca, similar to the town's 2023 Annual Report, ensuring it is easily accessible and convenient for the entire community.

As we move forward, annual status updates will be provided to track the progress of actions and initiatives aimed at continuing to meet or exceed AODA requirements, as well as any updates to these requirements. This ensures ongoing transparency and accountability as we work toward achieving our accessibility goals.

CONSIDERATIONS:

(A) PUBLIC

Community engagement was crucial in developing the town's 2024-2029 Multi-Year Accessibility Plan. Staff consulted with experts across various departments and business areas. Engagement included a public survey and consultation with the town's Accessibility Advisory Committee, community partners, and organizations.

(B) FINANCIAL

There are no immediate financial impacts associated with approving this report. Any resource requirements related to accessibility compliance will be addressed through the annual budget process.

(C) IMPACT ON OTHER DEPARTMENTS & USERS

All town departments have been consulted and are actively involved in supporting accessibility efforts and ensuring compliance with relevant accessibility legislation.

(D) COUNCIL STRATEGIC PRIORITIES

This report addresses Council's strategic priorities of Community Belonging and Accountable Government.

(E) CLIMATE CHANGE/ACTION

Addressing climate action effectively includes considering accessibility principles in decision-making processes, with attention to representation and ensuring that solutions are developed with input from individuals of all abilities.

APPENDICES:

Appendix A – 2024-2029 Multi-Year Accessibility Plan

Prepared and Submitted by:

Andrea Coyne
Manager, Elections, Policy, Print Services
Clerk's Department

Sarah Stewart
Corporate Strategy Program Advisor
Communications and Customer Experience Department

Town of Oakville Multi-Year Accessibility Plan 2024-2029

Statement of commitment

The Town of Oakville is committed to being an inclusive workplace and community where everyone feels they belong. This includes eliminating barriers towards achieving Council's vision to be a vibrant and livable community for all, and providing accessible programs, services and facilities. It includes building an inclusive community where all individuals have equitable access to the town's services, programs and facilities in a manner that is integrated and promotes dignity and independence.

The town's inclusion, diversity, equity and accessibility statement of commitment, Accessibility Policy and related procedures, the Inclusion, Diversity, Equity and Accessibility (IDEA) Multi-year Plan 2024-2028, 2024-2029 Multi-Year Accessibility Plan, Development Standards and Oakville Universal Design Standards for town buildings, and other town-wide plans all work together to reinforce the town's commitment to embed accessibility into its culture and business practices and to go above and beyond the legislated requirements of the AODA.

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Introduction

Developing, posting and implementing a multi-year accessibility plan (MYAP) is an ongoing requirement of the Integrated Accessibility Standards Regulation (IASR,O. Reg 191/11) (IASR) under the *Accessibility for Ontarians with Disabilities Act, 2005* (AODA). The town's

The town is committed to transparency and ongoing resident collaboration, ensuring our efforts align with Council's Strategic Plan priorities of Community Belonging and Accountable Government. As a fast-growing municipality, we will regularly review the plan to keep it relevant and focused on meaningful improvements for persons with disabilities, ensuring our efforts lead to measurable outcomes.

About this plan

The 2024-2029 Multi-Year Accessibility Plan builds on the accomplishments of previous plans and provides a road map outlining areas of focus and actions that will continue to drive the town forward to meet and/or exceed the requirements under the AODA.

This plan was developed in consultation with the town's Accessibility Advisory Committee, persons with disabilities, staff, and other key community partners. A public survey was conducted to gain a better understanding of community concerns and expectations, and staff were consulted to gather insights from all departments to identify successes and areas for improvement.

Since the town has met most of the AODA requirements and there are no new requirements set out by the province, the 2024-2029 plan is presented differently from previous multi-year plans. Each section highlights key accomplishments the town is most proud of, shares any trends in community feedback related to what an accessible Oakville means to residents, and outlines the town's ongoing commitments, new initiatives and areas of focus for the next five years.

Town of Oakville Accessibility Advisory Committee

Under the AODA, municipalities with more than 10,000 residents must establish an Accessibility Advisory Committee (AAC), comprising of at least 50 per cent people with disabilities. The town's AAC meets quarterly to provide advice to Town Council on accessibility initiatives. The goal of the AAC is to identify and eliminate barriers for people with disabilities in town programs, services, initiatives, and facilities, promoting accessibility for residents of all abilities in accordance with AODA requirements. The committee has representation from various community groups and disability advocates with lived experience. The town benefits greatly from their input, education, and expertise and recognizes the significant value they bring. As a result, the AAC has played an active role in the consultation process for developing the 2024-2029 MYAP.

Inclusion, Diversity, Equity and Accessibility Multi-Year Plan

The town is committed to being an inclusive workplace and community where everyone feels a sense of belonging. Inclusion, diversity, equity and accessibility (IDEA) not only benefit employees and residents, but the overall success and sustainability of our organization and the community.

While the MYAP speaks to the regulations in the IASR, the town's Inclusion, Diversity, Equity and Accessibility Multi-Year Plan supports inclusion, diversity, equity and accessibility both within the organization and the community. It is a shared responsibility with goals and actions to further the town's IDEA efforts and enhance community belonging.

Community input

The town has taken significant strides to ensure this plan is comprehensive, inclusive, and reflective of the diverse needs of the community. The process was collaborative, with multiple opportunities for residents and staff to share their thoughts and perspectives.

In the early development stage of this plan, a public survey was conducted, aimed at engaging the Oakville community and gaining a deeper understanding of their accessibility concerns and expectations. The survey was accessible online, available in alternate formats upon request, and was available for just over one month. The opportunity to participate was shared with numerous partners and groups, including community organizations, resident groups, business improvement areas, schoolboards, and more. The responses were encouraging towards our ongoing efforts, and from a diverse range of voices. A summary of the survey input received and common themes identified was shared with the AAC as part of the development of the plan.

Engagement with internal staff was dynamic and encouraging, with valuable insights gathered from all departments and business areas. The input received was instrumental in identifying successes from the previous MYAP, areas for improvement, and opportunities to tailor approaches and align with other town plans that address specific accessibility challenges within the town.

Building accessibility into other town-wide plans, strategies and initiatives

All master plans and key planning documents incorporate community engagement, accessibility considerations and best practices, aligning with AODA requirements and Council's strategic priority to make Oakville a welcoming and inclusive community. By embedding community and AAC consultation and accessibility needs into master plans, action plans, and development standards, staff ensure that town programs, services, and infrastructure meets the needs of all residents and visitors, creating a safer and more inclusive environment. A few examples include:

- The Transportation Master Plan sets a long-term vision for Oakville as it relates to all modes of transportation, which includes strategic roadway improvements to ensure the safe, convenient and efficient movement of people and goods, in which accessibility plays a critical role. The town's Neighbourhood Traffic Safety Program, an integral part of this vision, addresses aggressive driving and enhances safety in residential areas through traffic calming, pedestrian crossovers, community safety zones, automated speed enforcement, a reduced default speed limit, and the Vision Zero initiative. Pedestrian crossings, identified through the Pedestrian Crossing Plan and incorporated into this program, adhere to the Ontario Urban Design Standards (OUDS) and Engineering Standards, ensuring the inclusion of curb cuts, tactile surfaces, and appropriate traffic signal designs.
- The Downtown Cultural Hub (DCH) is an initiative that explores opportunities to update and improve downtown cultural and performing arts spaces that contributes to the vibrancy of our cultural spaces and local economy.
- The updated Parks, Recreation and Library Master Plan will guide the current and future direction of town spaces for the next 10+ years, ensuring that community parks, outdoor pools, recreation, culture, and library facilities continue to meet the needs of residents, and that AODA requirements are included in any redevelopments.
- The Oakville Museum Accessibility Plan is a five-year plan to ensure full compliance with the AODA and create an inclusive and accessible environment for everyone at the Oakville Museum.

Improvements to and regular monitoring and maintenance of town amenities and public spaces, including curbs, sidewalks, trails, and pathways, contribute to a more inclusive environment, ensuring that residents, including those with diverse needs, can navigate and enjoy community spaces with ease. Roads and Works and Transportation and Engineering follow the provincial Minimum Maintenance Standards.

General Requirements

The General Requirements apply to all five standards of the Integrated Accessibility Standards Regulation: customer service, information and communications, employment, transportation, and the design of public spaces.

While each department has their own responsibilities and accountability associated with accessibility regulations, the town recognizes there is crossover of each requirement and collaborates to achieve the best possible outcomes.

Key ongoing achievements in meeting or exceeding the requirements include:

- Providing town-wide training on the integrated standards and the Human Rights Code. This training continues to be provided to new and existing staff, Council, volunteers, and those who provide goods, services or facilities on the town's behalf.
- Establishing and maintaining an accessibility statement of commitment and accessibility policies and procedures on how the town will meet the requirements and make this information available to the public.
- Establishing and maintaining a multi-year accessibility plan and annual status updates.
- Ensuring availability to accessible feedback processes.
- Ensuring accessibility criteria are embedded into the procurement process when acquiring or purchasing goods, services and/or facilities, including the review and update of the town's procurement by-law and practices.
- Establishing and maintaining standards for preventative and emergency maintenance of accessible elements and amenities, and temporary service disruptions to accessible public spaces.

Customer Service

The Customer Service Standard outlines how the town will make it easier for everyone to use its goods, services and facilities.

We're proud of what we've accomplished

The town is committed to customer service excellence, ensuring services are accessible and inclusive for employees, residents, and visitors with disabilities. Key recent accomplishments include:

- Installing hearing loop aerials, speech transfer systems and universal signage at the ServiceOakville main counter at Town Hall and other front counters.
- Establishing policies and procedures to provide accessible services and supports for people with disabilities. Policies are rooted in principles of dignity, independence, integration, and equality.
- Providing multi-channel feedback and communications options and alternate document formats.
- Maintaining and communicating about the language line tool and other accessibility-related resources as part of the Inclusion, Diversity, Equity, and Accessibility (IDEA) plan.
- Providing training that consistently meets and/or surpasses the AODA requirements to ensure all town employees, volunteers, public appointees, and officials providing services on behalf of the town understand the purpose of the AODA and adhere to the town's Accessible Customer Service Procedure.

What we've heard from the community

Community consultation was an important part of the development of this plan. The following are key trends and insights from those who shared their feedback and experiences related to this standard:

- Town programs and services are typically accessed online.
- Consideration should be given for those who may have difficulty navigating the internet, be cognizant of different customer service needs.
- Remove barriers/layers of options to access services and have easily accessible locations for in-person services.
- Difficulty connecting with a person by phone was identified as a barrier to providing feedback.
- Several accessibility challenges when using a town service or visiting a town facility (i.e. registering for a program, using transit, visiting a facility in person, etc.) go unreported. For those who did provide feedback, the majority called or emailed ServiceOakville.
- Town staff appear well-trained in accessibility; however, it is felt that additional focused training could improve the experience with town programs and services for customers of all abilities, noting:
    - There are known and unknown disabilities
    - Not all disabilities are mobility or sight-related
    - Need for more focus on hearing impairments and those who are neurodiverse

Looking ahead

The town recognizes the digital shift experienced when it comes to accessing services and programs. The impact of this shift is at the forefront, and the town maintains its commitment to accessible customer service through this transition.

The town will maintain its strong commitment to accessible and inclusive customer service excellence, and build on existing initiatives, listen to community feedback, and continue to explore new ways to enhance accessibility including:

- Continuing to offer and educate staff about the available tools and technology to enhance customer service and communication including:
    - Online accessible customer service feedback form
    - iPad Pro at ServiceOakville
    - Hearing loop aerials and universal signage across the town
- Exploring additional resources and technology such as the use of Bluetooth and other audio signal transmission options, ASL interpreters, and closed captioning, to accommodate hearing impairments in public spaces.
- Continuing to offer and enhance training and resource availability to promote the awareness of inclusion, diversity, equity, and accessibility with a focus on:
    - The importance of clear communication, particularly in serving individuals with hearing or vision impairments and other disabilities and extending this training to consultants and contractors working on behalf of the town.
    - A comprehensive understanding of both known and unknown disabilities, ensuring that all customers receive appropriate support.
    - Continuing to offer training through the Rick Hansen Foundation for select staff.
    - Regularly evaluating and enhancing the cultural competence of staff, broadening their knowledge of inclusion and belonging.
- Maintaining and reviewing accessibility policies every five years for continued relevance and effectiveness.
- Aligning and connecting IDEA Multi-Year Plan efforts through communication, learning, and measurement with the aim of:
    - Developing tools for staff awareness on inclusion, diversity, equity, and accessibility.
    - Growing cultural competence among staff, elected officials, and leadership.
    - Ensuring IDEA awareness and training aim to provide a broader understanding of inclusion and belonging.
    - Creating safe spaces, fostering inclusive behaviours among leaders, and enhancing cultural competence to improve customer experiences.
- Providing sensory kits at community centres.
- Providing rental sledges and larger skate aids at rinks.

Information and Communications

The Information and Communications Standard outlines how the town creates, provides and receives information and communications in ways that are accessible for people with disabilities, ensuring everyone has an equal chance to learn and participate in the community.

We're proud of what we've accomplished

In 2023, the town redesigned and rebuilt oakville.ca, oakvilletransit.ca, oakvillecentre.ca and invest.oakville.ca to better meet or exceed legislative and industry standards for web accessibility (WCAG 2.0 Level AA). Most notable improvements across all sites include better colour contrast and larger text. Other key accomplishments include:

- Initiating the town's first compliance plan with the province with the focus on making more documents accessible online.
- Implementing plain language and clear, step-by-step instructions, including the use of videos with closed captions, on how to successfully create a town account and access online services

What we've heard from the community

- Work done to refresh the town's websites has been well received.
- Most users describe their experience accessing the town's website and social media for information on events, programs and services as accessible.
- Users who described the websites and social media channels as inaccessible suggested opportunities for improvement including providing more detailed information about accessibility features and amenities available at town facilities, such as which locations have adult change tables, Hoyer lifts, etc.
- Many found participating in virtual/online Council or committee meetings, or other public engagement opportunities as accessible.

Looking ahead

Staff across the organization will continue to engage with the community and build on previous accomplishments and establish new ways to ensure accessible information and communication is provided across all channels to residents, visitors and employees.

Staff will continue to:

- Ensure all town websites and web content continue to conform to the Web Content Accessibility Guidelines (WCAG) 2.0 Level AA.
- Ensure processes for receiving and responding to feedback are accessible to people with disabilities.
- Provide accessible formats and communication supports upon request in consultation with the individual making the request and considering their accessibility needs.
- Offer alternative formats and communication supports upon request and notify the public of the availability of accommodations.
- Work with the staff and the province on the town's web accessibility compliance plan, to ensure more documents are available in accessible formats online.

- Follow accessibility standards for all external meetings, according to the Planning Accessible Meetings Procedure, to proactively plan and arrange for accommodations for participants and provided clear instructions on how to request additional support.

Staff will improve and/or explore:

- Improving how information is shared with the community about what accessible spaces and amenities are available at all town facilities.
- Accessibility enhancements and information updates to the interactive accessibility map.
- Community interest in using assistive accessibility tools or toolbars on town websites.
- Creating community safety and awareness campaigns related to cross walks, bike lanes, etc.
- Creating virtual tours to help potential visitors understand what to expect upon arrival at a town facility including the layout and information about available accessible amenities.
- Updating town standards for more consistent/universal templates for video content.
- Building staff capacity through training focused on producing inclusive digital content across diverse platforms and formats, as well as promoting the use of inclusive and plain language guides and best practices.

Oakville Public Library

We're proud of what we've accomplished

Over the past five years, Oakville Public Library (OPL) has maintained its commitment to providing accessible materials, where feasible, including many alternative formats such as large print books, books on CD, Dyslexia-friendly (decodable) books, e-books, and e-audiobooks.

Other accomplishments include:

- Ongoing partnership with the Centre for Equitable Library Access (CELA), which provides access to a million items in Braille, Print braille, E-Braille as well as audio formats for individuals with print disabilities.
- Providing reading aids such as magnifiers.
- Creating accessible computer workstations and public access computers that have NVDA screen-reading software.
- Adding the ReachDeck toolbar to the OPL website to increase the accessibility to programs and the library catalogue.
- Addition of text-to-speech capabilities at checkout kiosks.

Looking ahead

Going forward, OPL will maintain the connection to CELA and Bookshare and continue to assess how technology may support those with disabilities in the library.

Other areas of focus include:

- Adding dementia-friendly reading material to OPL's new Cognitive Care kits.
- Continuing its Delivery by Mail service to ensure customers who are not able to come into the library can receive items at their own homes.
- Training for customer experience staff so that they may strengthen their skills in terms of suggesting applicable formats for those with print disabilities.

- Digitizing OPL's collection of historical local newspapers to make these collections available in accessible formats.
- Public access computers will be updated to provide a wider range of accessible features for those with print disabilities.

Employment

The Employment Standard outlines how the town makes employment practices and its workplace more accessible to potential and existing employees with disabilities.

We're proud of what we've accomplished:

Significant milestones have been achieved in promoting accessibility including:

- Conducting the town's first employee survey on inclusion, diversity, equity, and accessibility in partnership with CCDI Consulting Inc.
    - Included a demographic census and an inclusion and belonging questionnaire, open to all staff.
    - Insights from the results helped shape the Inclusion, Diversity, Equity, and Accessibility Multi-Year Plan for 2024–2028, which includes commitments to accessibility and aims to cultivate a diverse, inclusive, and safe work environment where staff feel respected and valued.
- Collaborating with CCDI Consulting Inc., which contributed to staff benefitting from their expertise in training and best practices related to IDEA.
- Implementation of other staff surveys and focus groups with participants from diverse areas within the organization, ensuring a comprehensive understanding of accessibility needs and fostering a collective commitment to removing barriers from our community.
- Creating employment related plans and initiatives that are informed by best practices and community engagement.
- Continuing the commitment to an accommodation process that explores, assesses and supports requests for accommodation due to disability that respects the principles of dignity, privacy, inclusion, and individualization.

What we've heard from the community

- Accessibility accommodation information was useful or helpful when considering whether to apply or applying for a job or volunteer opportunity at the town.
- Requests for an easier and more streamlined application process when applying for a job or volunteer opportunity.

Looking ahead

The town remains committed to providing accessible programs, services, and facilities for staff as outlined in the Employment Standard. In addition, the new IDEA Plan underscores key focus areas, including policy and procedure reviews, along with staff and leadership training. Other future initiatives that reflect the town's dedication to continuous improvement in accessibility, include:

- Improving policies and procedures to enhance accessibility.
- Continuing an accommodation process that explores, assesses, and supports requests.
- Exploring improvements to employment processes to remove potential barriers.
- Streamlining and enhancing broader training for all town staff and management on accessibility, diversity, unconscious bias, and more.

Transportation – Moving around Oakville

The Transportation Standard outlines how the town will make it easier for anyone to use its public transportation services.

We're proud of what we've accomplished:

The town has undertaken a comprehensive approach to adhere to the Transportation Standards, ensuring the removal and prevention of barriers in public transportation. Recent accomplishments include:

- Enhancing bus stop landing pads and platforms for accessibility and ease of access to public transit, including wheelchair-accessible ramps and lifts at key bus stations.
- Maintaining an Oakville Transit fleet of fully accessible, 100 per cent low-floor conventional vehicles with high colour contrast stanchions, non-glare flooring, pre-boarding and next-stop visual and audio announcements, and accessible enhancements at bus stops.
- Implementing robust Oakville Transit driver training and refresher programs, fostering a culture of sensitivity and awareness towards diverse needs among commuters.
- Maintaining several other ongoing Oakville Transit initiatives such as fare parity and cross-boundary travel; offering a joint application and appeal process for para-transit services with Milton, Burlington, and Oakville; and providing free rides for children 19 and under, as wells as seniors 65+, support persons, and welcoming all service animals on Oakville Transit vehicles.
- Exceeding the standards for the number of accessible parking space requirements throughout the community.

What we've heard from the community

- Most Oakville Transit users find their experience to be accessible and are happy with continuous improvements in transportation accessibility and the friendly service received from Transit staff.
- Those reporting the experience as inaccessible/sometimes accessible suggested additional training for drivers and other transit staff to further enhance their knowledge in accessibility and improve the overall user experience.
- Users of specialized transit services (care-A-van) expressed tremendous support for the accessible services and friendly staff, but also encouraged improvements to reduce wait times and seek a solution to scheduling pick-up times after medical appointments, etc.
- Positive feedback about the availability of town-licensed ride share services.
- Suggestions on how the town can improve accessibility when using sidewalks, crosswalks, pedestrian signals, bike lanes, etc., including increased lighting around key intersections, longer crosswalk times, improved snow removal response times at intersections, crosswalks and bus stops, and improvements to bike lanes/bike lane markings.

Looking ahead

Oakville Transit will continue to implement its annual accessibility plan as well as the following ongoing initiatives to support the town's commitment to accessible programs, services and facilities:

- Implementation of the Oakville Transit On-Demand mobile app, a curb-to-curb shared-ride service on fully accessible vehicles, allowing riders to manage and book rides in real time, reducing wait times, travel times and providing more flexibility.

- Development of the Oakville Transit Annual Accessibility Plan.
- Continuing to enhance bus stop landing pads and platforms for accessibility and ease of access to public transit.
- Adding route number markers to Oakville Transit bus stop signs.
- Continuing the joint review of care-A-van applications and appeal process (through a third-party provider) with Oakville, Burlington and Milton.
- Continuing to review and adjust the size of the transit fleet to meet community needs.
- Continuing regular fleet audits to monitor and improve the audio and visual system.
- Maintaining ongoing staff representation on the town's Accessibility Advisory Committee.
- Reviewing the Licensing By-law with an accessibility lens, which includes looking at requirements for licensing related to accessibility taxicabs, such as insurance and modification requirements.
- Ongoing driver training and refresher courses, including:
    - Mandatory accessibility training for all driving staff
    - Specialized and enhanced training for care-A-van staff
    - Focus on understanding a variety of accessibility needs, with an emphasis on the need for specific training in serving people with hearing or vision impairments, in addition to other disabilities, known and unknown.

The town's Transportation Master Plan (TMP) will build on previous plans and studies, accessibility will be a key component in building walkable, cycle and transit friendly neighbourhoods integrated with accessible transportation options. The TMP is scheduled to be shared publicly in early 2025. Key areas of focus include:

- Updating guidelines to enhance the town's transportation system as a path forward for all modes of transportation.
- Establishing safe and accessible bike and pedestrian lanes, and multi-purpose lanes and walkways, particularly for those who are visually impaired.
- Coordinating accessibility enhancements through other regulations and work identified through other plans such as the Neighbourhood Traffic Safety Program as well as the Pedestrian Safety Program to identify the different types of pedestrian crossings across the town and learn how to navigate them safely. While not required, the town is proud to follow the Minimum Maintenance Standards established by the province.

And through various parking studies, staff will continue to assess, plan for, and manage current and future urban mobility. These studies and related work will be informed by town policies and plans such as the Livable Oakville Plan and the TMP, as well as legislation such as the AODA and the CSA/ASC B651:23 Accessible Design for the Built Environment. Key areas of focus include:

- Reviewing Bronte Village, Bronte Lakefront Park, Bronte Heritage Park, and others, for accessible parking improvements to ensure these areas meet the town's vision for the number of accessible spaces, which exceeds legislated standards.
- Improving staff consultation with AAC to gain valuable insights and to improve access and design of parking related projects.
- Reviewing and addressing identified accessibility barriers created by boulevard parking and overhanging sidewalks through the enforcement of the established Boulevard Parking in Residential Areas Procedure .
- Retrofitting all signalized intersections with accessible pedestrian signals (APS)

Design of Public Spaces and Built Environment

The Design of Public Spaces Standard outlines how the town will make it easier for everyone to use its public spaces. This standard only applies to new construction and major renovations.

We're proud of what we've accomplished

The town is committed to increasing the accessibility of public spaces in the built-environment and building for the future. In addition, the town strives to achieve a high level of accessibility in public spaces as well as in staff workspaces.

The town is proud of the Oakville Universal Design Standards (OUDS) for town facilities that provides guidelines for new construction and renovations. The OUDS requirements often go above and beyond the minimum requirements set out in the Ontario Building Code (OBC) and AODA. Its use is mandatory for all new construction, additions, and renovations in town facilities. Development of the current OUDS version included planning and consultation with people with disabilities and includes new sections covering design for neurodiversity, informed by *CSA B651:23* and the BSI fast-track standard *PAS 6463:2022 Design for the mind,* and maintenance.

Additional initiatives and accessibility accommodations in town parks and facilities include:

- Achieving a Rick Hansen Foundation Accessibility Certification Gold Rating in 2021 for Oakville Town Hall and Oakville Trafalgar Community Centre — the first community centre in Ontario to receive this achievement.
- Conducting significant public consultation on the development of the Sixteen Mile Sports Complex Community Centre and Library addition.
- A town-wide accessibility audit of town-owned buildings constructed before AODA legislation in 2005 was performed to assess the compliance with AODA, Ontario Building Code and Oakville Universal Design Standards (OUDS). Items that were non-compliant with AODA-DOPS in the areas of exterior paths, rest areas, accessible parking, service counters, and waiting areas were prioritized and were remediated in the built-environment from 2020-2024 using the results from the audits.
- Continuously upgrading town buildings to improve accessibility, prioritizing washrooms and safety, installing touchless sensors on doors, fixtures and flush mechanisms.
- Installing emergency evacuation chairs in multi-level buildings to assist wheelchair users in the event of power outages when elevators cannot be used.
- Ensuring 100 per cent compliance in waiting areas with accessible fixed seating and waiting lines in town buildings, except where heritage or structural implications apply.
- Upgrading playgrounds by replacing sand or gravel with Fibar engineered mulch, adding ramps and accessible features, and providing continual mulch top-ups to ensure safety and navigability.
- Enhancing parks such as Postridge Park where the splash pad and playground area are connected through accessible components; and Memorial Park where seven accessible garden plot tables have been added.
- Upgrading park washrooms with touchless door openers and fixtures, and ensuring adequate accessible parking spaces in all park lots.
- Paving sloped limestone screening pathways on trails to provide more accessible recreational and social opportunities, making trails more accessible for individuals using mobility aids.

- Adding new pool lifts for better access in community centre pools without ramp access and making accessibility accommodations in outdoor pools, such as alternative accessible entrances at Wedgewood Outdoor Pool and Brookdale Pool.
- Offering inclusive and therapeutic programming during pool lessons including Aqua Adapt, an inclusive aquatics program to support individuals with disabilities.

Over the last five years, the town continued its work on pedestrian safety to identify the different types of pedestrian crossings across the town and learn how to navigate them safely. While not required, the town is proud to follow the Minimum Maintenance Standards established by the province.

What we heard from the community

- Positive experiences using accessible features and amenities at town-owned facilities, including accessible ramps at building entrances, parking spots, washrooms/changerooms, seating, tactile surfaces, etc.
- Suggested improvements to town-owned facilities include improved lighting and accessibility to some park washrooms and extending seasonal operating times.
- Positive experiences using accessible features and amenities at outdoor town-owned facilities, including beach access routes, recreational trails and pathways, eating areas, play spaces, etc.
- Suggested improvements at outdoor town-owned facilities include improving picnic table access on grassy areas, offering more paved trail options for those using mobility devices such as walkers or scooters, more shade options at playgrounds, and offering more playground equipment for wheelchair users and sensory seekers.

Looking ahead

- Implementing designated electric vehicle charging stations (EVCS) for mobility devices and scooter charging outlets, including considerations for the number and location of EVCS, directional signage, and accessibility of EVCS terminals and controls.
- Creating temporary or permanent sensory rooms or respite areas with adjustable lighting and other features will be included in the next version of OUDS.
- Continuing the town-wide accessibility audit program of town-owned buildings constructed before AODA legislation in 2005 was performed to assess the compliance with AODA, Ontario Building Code and Oakville Universal Design Standards (OUDS). Items that are non-compliant with the current OBC and OUDS in the areas of washrooms and changerooms will be prioritized and remediated in the built-environment from 2025-2029 using the results from the audits.

Accessibility related areas of focus of the Parks, Recreation and Library Facilities Master Plan include:

- Continuing the use of mulch top-ups and adding ramps where necessary.
- Extending operating hours for park bathrooms during the off-season.
- Improving exterior lighting. Lighting levels must adhere to a minimum as prescribed by the Illuminating Engineering Society of North America (IESNA) or Ontario Building Code, whichever is greater.
- Adding accessible picnic tables and clear pathways in all outdoor eating areas.
- Adding benches and seating options along rest areas on beach routes, trails, and parks, with enhanced collaboration between facilities and parks to improve seating options.

- Continuing the conversion of sloped limestone screening trails to asphalt to provide accessible recreational and social opportunities and rehabilitate allotment gardens, including accessible garden plot tables.
- Improving beach and waterfront access, including Bronte Beach and its surrounding landscape; and the Shipyard redevelopment, which will feature accessible parking, furnishings and roadwork.
- Incorporating covered seating solutions and accessible pool access in future redevelopment plans for outdoor pools.
- Renovate Wallace Park Tennis Club, which is currently not fully accessible, in future redevelopment plans to ensure accessibility.
- Ongoing accessibility conversions of playgrounds and splashpads as they come up for replacement including considerations for sensory seeking play equipment, surfaces, and shade options.
- Improving how information about what accessible amenities are available at town facilities and outdoor spaces will be explored, starting with updating the accessibility map.
- The town will continue its commitment to annually increasing the number of audible pedestrian crossings annually, ensuring they meet Ontario Traffic Manual and AODA standards, and continuing the conversation with the AAC.
- Spaces included for improvement as part of the Downtown Cultural Hub initiative include:
    - A new branch location of Oakville Public Library
    - An updated Oakville Centre for the Performing Arts
    - A new location for Oakville Galleries
    - Redevelopment of Centennial Square and Navy Street
    - A new Riverfront Park
- The Trail Accessibility Audit & Strategy outcome resulted in actionable recommendations that we will be implementing. This includes:
    - Better signage and rest station options
    - Additional paved trail options
    - More accessible pathways
    - Safer pedestrian crossing options on trails that intersect streets
    - Continued collaboration across departments.
- Improvements to and regular monitoring and maintenance of town amenities and public spaces, including curbs, sidewalks, trails, and pathways, contribute to a more inclusive environment, ensuring that residents, including those with diverse needs, can navigate and enjoy community spaces with ease. Roads and Works and Transportation and Engineering follow the provincial Minimum Maintenance Standards.

REPORT

Council

Meeting Date: October 21, 2024

FROM: Office of the Mayor

DATE: October 8, 2024

SUBJECT: World Council on City Data Funding Request for Adoption of ISO 37125 – Environmental, Social, and Governance (ESG) Indicators for Cities

LOCATION: Town Hall
WARD: Town-wide

RECOMMENDATION:

1. That the Town of Oakville join the World Council on City Data (WCCD) and Standardized Urban Metrics (SUM) as one of the first adopters of ISO 37125 – Environmental, Social, and Governance (ESG) Indicators for Cities.

2. That Council approve funding of $300,000 from the contingency fund to participate in the adoption of a new data standard, ISO – 37125 Environmental, Social and Governance Indictors for Cities.

3. That a sole source award be approved.

KEY FACTS:

The following are key points for consideration with respect to this report:

- ISO 37125 is the very first global standard ever to be published by the International Organization (ISO) in Geneva on Environmental, Social, and Governance (ESG).
- ISO 37125 is designed to support city and regional governments in creating data-informed ESG Profiles and to demonstrate commitment to Environmental Sustainability, Social Inclusion and Sound Governance. Local governments can use ISO 37125-verified ESG indicators to create a data-driven *Annual ESG Profile Report* to attract, drive, and develop investment attraction. This new ISO Standard on Key Performance Indicators for ESG will also support the growing demand for cities and their regions to both enter

the debenture markets and expand their bond issuances to support their capital plans.

- The WCCD, through its previous work with the Town of Oakville and partnerships with the Federal and Provincial governments, has expressed confidence in the Town's ability to achieve ISO 37125 certification during the course of the program.
- Working with WCCD allows the town to benchmark our performance, with consistent criteria and measures, against national and international cities and regions.
- ISO 37125 certification will provide the Town of Oakville with valuable data to foster a prosperous, inclusive, and vibrant community, enhancing the quality of life for all residents.

BACKGROUND:

The World Council on City Data (WCCD) was founded in Canada in 2014 and exists to help cities and communities of all sizes globally embrace ISO standardized, independently verified, and globally comparable city data to make data driven decisions on management, planning and investment, monitor progress and results, and overall become more sustainable, safe and resilient, prosperous, inclusive and smart.

Working with national standards bodies, the WCCD has established a third-party verification and certification scheme for cities to become WCCD ISO certified - supporting a city's commitment to data driven planning, management and investment.

The Town of Oakville achieved WCCD ISO 37120 Platinum Certification for 2017. This certification recognized that Oakville had achieved the highest possible standard for data collection on 100 key performance indicators for City Services and Quality of Life.

Since its founding, the WCCD has been expanding a global network of cities dedicated to high calibre data. WCCD is now working with 100 cities in 35 countries, helping these cities to become ISO certified. The WCCD and the Council's City Data Platform now includes over 276 key performance indicators (KPIs) across the ISO 37120 Series that enable a city to determine infrastructure deficits and investment decisions, build accurate baselines and monitor year over year progress, attract foreign direct investment and advance economic development through nationally

and globally comparative data and benchmarking, and overall - assess city services and quality of life for residents.

As a partner of WCCD, Standardized Urban Metrics (SUM) is at the forefront of implementing the new ISO 37125 Standard on ESG for cities. This Standard provides city leaders, governments, and the private sector with a robust, data-driven framework to guide ESG initiatives. By leveraging standardized data, SUM develops strategic roadmaps for annual reporting, ESG leadership, and investment.

SUM draws on over several decades of combined experience, helping cities, governments, and the private sector collect and utilize globally comparable and independently verified city-data. WCCD, which created the first-ever certification system for city standards, manages the Global Cities Registry® for ISO 37120, ISO 37122, and ISO 37123.

SUM and WCCD staff were pivotal in publishing the ISO 37120 Series of Standards for City Indicators, the first globally recognized performance standards on city data, released by the International Organization for Standardization (ISO) in Geneva. WCCD and SUM's expertise in developing and implementing ISO 37120, ISO 37122, and ISO 37123 is proevident, with these standards now adopted by over 100 cities across 40 countries.

Building on this foundation, SUM and WCCD have established a global hub for innovative learning partnerships among cities, international organizations, corporate partners, and academia. Together, they aim to foster innovation, imagine alternative futures, and create more livable cities.

SUM is welcoming cities to join this exciting global cohort of ISO 37125-certified cities.

Since 2014, cities across Canada being certified under the ISO 37120 Series have included: the County of Brant, Brampton, Edmonton, Mississauga, Vaughan, Toronto, Richmond Hill, Markham, Oshawa, Whitby, North Grenville, Yellowknife, Selkirk, Sudbury, Charlottetown, Annapolis Valley Region, Corner Brook, Halifax, Mount Pearl, St. John’s, Quebec City, Saint-Augustin-de-Desmaures, Shawinigan, Saskatoon, Surrey, Kitchener, Welland, Waterloo, Cambridge, Caledon and Guelph**.**

Cities across the globe being certified under the ISO 37120 Series include Dubai, London, Boston, Buenos Aires, Johannesburg, Amsterdam, Helsinki, Los Angeles, San Diego, and others across over 40 countries.

COMMENT/OPTIONS:

If approved, the Town will collaborate with WCCD, SUM, and staff experts to gather all available Key Performance Indicators (KPIs) and submit them for ISO 37125 certification in Q4 2024 and 2025. These KPIs will help create ESG Profiles and Annual Impact Reports, which are essential for managing capital plans and investments. The data collected will support the development of a comprehensive Annual ESG Profile Report, highlighting the Town's commitment to sustainability, social inclusion, and transparent governance. This will attract investment and demonstrate progress to residents, businesses, and visitors.

Conversations with WCCD also confirmed that participation in this initiative will not result in additional staff work and that the audit protocol will be done through publicly available data. Any staff impacts required to implement changes in order to conform to the standard will need to be assessed after the audit protocol has been completed.

CONSIDERATIONS:

(A) PUBLIC

This initiative promotes and advances the Town's leadership in data management and commitment to data-based decisions. The Town is committed to public transparency and accountability. Progress towards ISO 37125 Certification will be reported to Council and the public every year. KPIs and ESG Profiles will be made public.

(B) FINANCIAL

For this two-year Pilot Project, the Town will pay $205,000 USD (approximately $300,000 CAD), plus applicable sales taxes, for ISO 37125 certification over the two-year period. This amount will be funded from the corporate contingency budget. The Town's commitment to this certification will be reviewed and assessed upon completion of the Pilot Project.

(C) IMPACT ON OTHER DEPARTMENTS & USERS

As a result of its previous work with the Town of Oakville and partnerships with the Federal and Provincial governments, there will be no staff impacts.

(D) COUNCIL STRATEGIC PRIORITIES

This report addresses the corporate strategic goal(s) to:

- Support a transparent and accountable government.
- Attract and drive investment attraction.
- Managing growth for a vibrant local economy.
- Enhancing community belonging.
- Ensuring environmental sustainability to meet future needs related to natural areas and greenspaces and act on climate change adaptation and mitigation.

(E) CLIMATE CHANGE/ACTION

(F) ISO 37125 focuses on environmental responsibility and sustainability and supports efforts in generating sustainable finance and building a green economy. ISO 37125 builds a baseline on resilience and WCCD/SUM are core partners with the United Nations Office for Disaster Risk Reduction (the UN organization whose mandate is supporting communities in resilience and safety) in Geneva to support cities in building more resilient futures**.**

APPENDICES:

Appendix A: Town of Oakville Letter of Invitation World Premiere City

Prepared by:
Jorge Gomez, Chief of Staff
Office of Mayor and Council

Submitted by:
Mayor Rob Burton

SUM Standardized Urban Metrics

WCCD | WORLD COUNCIL ON CITY DATA

Appendix A

May 17, 2024

Mayor Rob Burton
Town of Oakville
1225 Trafalgar Road
Oakville, ON L6H 0H3

Dear Mayor Burton,

I am writing to personally invite you and the Town of Oakville to be part of a unique and ground-breaking opportunity. **We are now ready to take the next steps for your Town to join an exclusive global cohort of local governments and to take up the position as a "World Premiere City" on the global stage, by becoming one of the first adopters of ISO 37125. This innovative global first – being the very first global standard ever to be published by the International Organization (ISO) in Geneva on Environmental, Social, and Governance (ESG) – is filling a strategic data gap being declared as now critical in the ESG Ecosystem that is currently unfolding worldwide.**

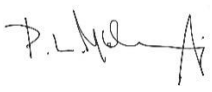
The adoption of ISO 37125 marks a significant milestone for cities dedicated to sustainable finance and transformative economic development. It offers credible, third-party verified and globally standardized ESG metrics to empower governments globally.

For cities engaged in the bond market, these metrics facilitate the validation of debenture programs and enable efficient allocation of funds by the private sector across markets, bridging the gap between the private sector's investment readiness and the necessary local government data and information required for such investments. In this regard, the Key Performance Indicators (KPIs) support the creation of ***ESG Profiles and Annual Impact Reports***, vital for a bond's lifecycle.

Moreover, local governments not currently issuing bonds or that are exploring future issuance, can leverage these ESG indicators to develop a strong data-informed ***Annual ESG Profile Report***, thereby attracting investment and showcasing to citizens, businesses, and visitors alike, their commitment to the core values of sustainable environmental progress, social inclusion, and effective and transparent governance.

I would be honoured to count Oakville one of the leading cities in our network, as a part of this premiere group. Please sign back this letter as indicated below (as well as the attached certification agreement) to signal your affirmation to join the World Premiere Cities cohort. We look forward to welcoming Oakville to this transformative endeavour. We will soon be announcing exciting details on the global launch event at which we hope you will take up a leadership position. Please do not hesitate to contact me directly should you require further information or have any questions.

Yours sincerely,



Dr. Patricia McCarney
President and CEO, World Council on City Data
Director, Standardized Urban Metrics

Confirmation of Participation

The signing of this document affirms the Town of Oakville's commitment to becoming a World Premiere City.

Town of Oakville

Name: _____

Title: _____

Signature: _____

Date: _____

REPORT

Council

Meeting Date: October 21, 2024

FROM: Corporate Services Commission

DATE: October 8, 2024

SUBJECT: **OEC Quarterly Update – October 21, 2024**

LOCATION:
WARD: Town-wide

RECOMMENDATION:

That the presentation from Rob Lister, President and CEO of Oakville Enterprises Corporation (OEC) regarding the quarterly update be received.

KEY FACTS:

The following are key points for consideration with respect to this report:

- On a quarterly basis, Council is provided with progress reports from Oakville Enterprises Corporation (OEC).

BACKGROUND:

The Corporation of the Town of Oakville ("the Town") is 90% shareholder of Oakville Enterprise Corporation ("Oakville Enterprises, OEC"). The unanimous shareholder agreement requires Oakville Enterprises to make periodic reports to Council.

COMMENT/OPTIONS:

Oakville Enterprises Corporation President and CEO, Rob Lister, will present the OEC Quarterly Update.

CONSIDERATIONS:

(A) PUBLIC

There are no public considerations with this report.

(B) FINANCIAL

The town share of Oakville Enterprises Corporation is an important asset of the town.

(C) IMPACT ON OTHER DEPARTMENTS & USERS

n/a

(D) COUNCIL STRATEGIC PRIORITIES

This report addresses Council's strategic priority/priorities:

- Accountable Government

(E) CLIMATE CHANGE/ACTION

The matter addressed in this report doe not directly affect climate change, however, Oakville Enterprises Corporation is an important asset of the town and it is important to ensure its growth as our community grows and energy demand changes

Submitted by:
Nancy Sully
Commissioner, Corporate Services & Treasurer

REPORT

Council

Meeting Date: October 21, 2024

FROM:	Corporate Strategy and Government Relations Department
DATE:	October 8, 2024
SUBJECT:	**Future Energy Oakville Annual Update**
LOCATION:	Town Hall
WARD:	Town-wide

RECOMMENDATION:

That the presentation from Future Energy Oakville regarding its annual update be received.

KEY FACTS:

The following are key points for consideration with respect to this report:

- Council endorsed the Community Energy Strategy in February 2020, including support to develop and establish Future Energy Oakville (FEO) as an independent, community-based, not-for-profit organization to accelerate the transition to a low-carbon economy.
- As per FEO's Services Agreement with the Town, FEO delegates annually to Council, providing its own progress update with financial, analytic, and operational data to show its progress.

BACKGROUND:

Community Energy Strategy

The Community Energy Strategy (CES) was unanimously endorsed by Council in February 2020, which was developed in collaboration between the Town, Sheridan College, and the Oakville Energy Task Force (OETF). The CES established a common community vision for innovation and collaboration to achieve a sustainable energy future and set 2041 community-wide goals for improving energy efficiency, reducing GHG emissions, and enhancing the local economy.

Along with the endorsement of the CES, Council committed to providing financial and in-kind support to develop and establish an Implementation Management Office,

initially over a five-year period. To that end, Future Energy Oakville (FEO) was established in 2021 as an independent, community-based, not-for-profit organization, and potential funding was available for a sixth year through 2025.

The intent was that FEO would be a community-funded organization, potentially offset by its own revenue generation activities from forward-thinking investors, community sponsors, and partners.

On November 20, 2023, Council approved that future community energy planning and partnerships proceed with and through FEO.

Future Energy Oakville

FEO's mandate is:

> "to accelerate the transition to a low-carbon economy through engagement and collaboration with government, local businesses, the community, and other stakeholders. We will coordinate an Oakville tailored approach to this effort focusing on the roadmap outlined in Oakville's Community Energy Strategy by providing information and engaging the community with talks, workshops showcasing global best practices, innovative solutions and advocating for policy changes. Our approach will be positive and collaborative, with a focus on achieving measurable outcomes to the community."

The town has a Services Agreement with FEO that was first executed in June 2021. The current Services Agreement ends on December 31, 2025.

FEO delegates annually to Council, providing a progress and financial update as per the Services Agreement.

Town's Role and Commitments under the Community Energy Strategy

Along with a call for community-wide action, the CES defines where the Town can best play a role as one of many key stakeholders, which the town will report on through the Community Energy Strategy Implementation Update on October 21, 2024. These roles include:

- Convener and Facilitator: The Town is uniquely positioned to convene and facilitate stakeholders to develop plans, strategies, etc.
- Policy Maker: The Town has to ensure that policies, procedures, and by-laws are aligned with the CES vision and goals to, among other things, enable local stakeholders and others to act in the transitioning energy market.
- Leading by example: The Town must demonstrate corporate leadership in the community.
- Economic Development Supporter: The Town plays a key role in retaining and attracting businesses through the value-added opportunities of achieving the vision and goals of the CES.

- Promoting Energy Literacy and Climate Action: The Town has many opportunities to engage with residents and business owners to promote the benefits of implementing the CES.

COMMENT/OPTIONS:

On October 21, 2024, FEO will deliver a presentation to Council with financial, analytic, and operational data to show its progress in the items listed in the Services Agreement.

Also on October 21, 2024, town staff will provide an update to Council titled Community Energy Strategy Implementation Update, regarding the town's actions to advance priority projects identified in the CES.

CONSIDERATIONS:

(A) PUBLIC

Interested parties in the community have committed significant hours to date to support the setup and establishment of Future Energy Oakville. Community engagement also went into the development of the Community Energy Strategy.

(B) FINANCIAL

The current Services Agreement between the Town and Future Energy Oakville is for the period November 20, 2023 to December 31, 2025 and outlines the terms of financial contributions from the town to Future Energy Oakville. The original five-year commitment to provide financial and in-kind support, which Council extended by one year, is intended to end in 2025.

(C) IMPACT ON OTHER DEPARTMENTS & USERS

The energy initiatives led by the Town that directly support implementation of the Community Energy Strategy's 2020-2025 priority projects are being spearheaded and supported by several departments including: Corporate Strategy and Government Relations; Facilities and Construction Management; Finance; Legal Services; Municipal Enforcement Services; Oakville Transit; Planning Services; and Transportation and Engineering.

(D) COUNCIL STRATEGIC PRIORITIES

This report addresses Council's strategic priorities related to: Environmental Sustainability.

(E) CLIMATE CHANGE/ACTION

The Community Energy Strategy provides the pathway to achieving an ambitious greenhouse gas reduction goal while securing a livable, sustainable, and resilient energy future for Oakville.

APPENDICES:

None

Prepared by:
Mark Bebawy, Senior Climate Officer

Recommended by:
Swaraj Mann, Manager, Intergovernmental Affairs and Public Policy

Submitted by:
Julie Clarke, Director, Corporate Strategy and Government Relations

REPORT

Council

Meeting Date: October 21, 2024

FROM: Corporate Strategy and Government Relations

DATE: October 8, 2024

SUBJECT: **2024 Community Energy Strategy Implementation Update**

LOCATION: Town Hall
WARD: Town-wide

RECOMMENDATION:

1. That a public ownership model for the proposed hospital district energy system be endorsed in principle with Oakville Enterprises Corporation ("OEC") as the delivery partner.
2. That staff be directed to explore a partnership with OEC to further assess the creation of a district energy system.
3. That the release of Town funds to Future Energy Oakville (FEO) in the amount of $50,000 as approved for 2024 and $50,000 as planned for 2025, be subject to Council's upcoming budget decisions on additional funding being requested by FEO.

KEY FACTS:

The following are key points for consideration with respect to this report:

- This report provides an update on the implementation of the Community Energy Strategy (CES) over the last two years, including actions to advance priority projects including:
  - The completion of the detailed feasibility study for district energy in the hospital district;
  - Partnership with the Heating, Refrigeration and Air Conditioning Institute (HRAI) of Canada to provide heat pump training to contractors;
  - Initiation of research on green development standards in preparation for project launch in 2025; and
  - Promotion of energy literacy through the town's new Climate Solutions at Home interactive house and Climate Action Initiatives Interactive Map.
- Regarding the District Energy System (DES) in the Hospital District:

- The feasibility study concluded that it is technically feasible and financially viable to construct a DES. The financial analysis showed that for the majority of scenarios the unlevered internal rate of return is within or exceeds the typical profitable range for district energy projects of 8-12%.
- An entity (thermal utility) would need to be created to build and manage such a system.
- The town does not have the financial or technical capability to take ownership of this project.

BACKGROUND:

Community Energy Strategy

A priority action of Council's 2019–2022 Strategic Plan was for the town to facilitate partnerships to develop and implement the town's first Community Energy Strategy (CES). Council unanimously endorsed the CES in February 2020 which was developed in collaboration between the Town, Sheridan College, and the Oakville Energy Task Force (OETF). The CES established a common community vision for innovation and collaboration to achieve a sustainable energy future and set 2041 community-wide goals for improving energy efficiency, reducing GHG emissions, and enhancing the local economy. The CES represents a significant part of the community's response to Oakville's climate emergency, as declared unanimously by Council in June 2019. Council received two updates on the implementation of the CES on April 26 2021 and September 19, 2022. Following those updates, on November 20, 2023, Council approved that future community energy planning and partnerships proceed with and through FEO.

Community Energy Strategy Priority Projects

The CES recognizes the Town as a key stakeholder in implementation but not the sole actor, reflecting the broad and transformative nature of the 2041 goals and strategic objectives. The CES established 12 priority projects to be completed by 2025 to put the community of Oakville on the right track for achieving the Strategy's 2041 goals. Each priority project serves a long-term strategic objective and has milestones, delivery partners and proposed budgets where possible.

Town's Role and Commitments under the Community Energy Strategy

Along with a call for community-wide action, the CES defines where the Town can best play a role as one of many key stakeholders. These roles include:

- Convener and Facilitator: The Town is uniquely positioned to convene and facilitate stakeholders to develop plans, strategies, etc.

- Policy Maker: The Town has to ensure that policies, procedures, and by-laws are aligned with the CES vision and goals to, among other things, enable local stakeholders and others to act in the transitioning energy market.
- Leading by example: The Town must demonstrate corporate leadership in the community.
- Economic Development Supporter: The Town plays a key role in retaining and attracting businesses through the value-added opportunities of achieving the vision and goals of the CES.
- Promoting Energy Literacy and Climate Action: The Town has many opportunities to engage with residents and business owners to promote the benefits of implementing the CES.

Future Energy Oakville

FEO was established in 2021 as an independent, community-based, not-for-profit organization that is supported by the Town of Oakville and forward-thinking investors, community sponsors, and partners.

FEO's mandate is:

> “to accelerate the transition to a low-carbon economy through engagement and collaboration with government, local businesses, the community, and other stakeholders. We will coordinate an Oakville tailored approach to this effort focusing on the roadmap outlined in Oakville’s Community Energy Strategy by providing information and engaging the community with talks, workshops showcasing global best practices, innovative solutions and advocating for policy changes. Our approach will be positive and collaborative, with a focus on achieving measurable outcomes to the community."

The town’s Services Agreement with FEO was first executed in June 2021 for a 14-month term, ending August 2022. This agreement was then extended in September 2022 for an additional 6 months, ending March 2023. In November 2023, council approved that the term of the agreement shall end on December 31, 2025.

FEO delegates annually to Council, providing a progress and financial update as per the Services Agreement. To date the Town has transferred $300,000 to FEO, through the capital budget, to support start-up costs. The town has also budgeted additional capital dollars of $50,000 in 2024 and $50,000 in 2025.

FEO will delegate at the October 21, 2024, Council meeting to provide an update on work to date and request the release of 2024 funding and 2025 funding, pending Council approval of the 2025 budget. In addition to town funding, FEO has received in-kind support from Sheridan and has received $180,000 from Suncor, specifically earmarked towards additional fundraising. FEO has attempted to fill its Executive Director position and will provide an update to Council on October 21st. Work to date

includes public education initiatives, such as events and ongoing podcasts, Discovery Workshops and plans to launch a fundraising campaign to secure the resources needed to increase FEO's ability to support the execution of the CES. This past year, FEO actively participated in the Ontario Geothermal Association Conference 2024 (OGA24) on May 22, 2024, by assisting the organizers in procuring speakers for the round table segment of the conference. In June, FEO received the report titled "Fund Development Plan and recommendations" which was commissioned to Global Philanthropic, providing FEO with a three-year fund development plan.

COMMENT/OPTIONS:

2020 – 2025 Priority Projects: Town Implementation Update

The table below highlights updates on the progress of CES priority projects, including connections with town program and service areas that support these priority projects. FEO is to accelerate the implementation of 2020–2025 priority projects not currently underway and support the town and other stakeholders to explore opportunities to collaborate on and scale projects.

Strategic Direction	#	2020 – 2025 Priority Project	Status Update	Town Role
Home and Building Efficiency	1.1 1.2	Complete a business case for establishing a company to deliver energy retrofits for homes and buildings in Oakville Incorporate a company to deliver standardized retrofits based on the results of the business case	OEC and town staff delivered a joint workshop to Council on April 4, 2023 that highlighted important changes in the landscape and lessons learned from other municipalities. The path forward that was presented included a focus on homeowner education and outreach to promote the benefits of home energy retrofits and existing incentive and rebate programs available, leading to the creation and launch of the town's Home Energy Retrofits 101 website and a home energy coach service for Oakville residents, a Town position that was filled in September in the Building Services department.	Convener & Facilitator
Home and Building Efficiency	2.1	Complete a business case for establishing an Energy Performance Labelling	Market scan for existing energy performance labeling programs and confirming scope for a business case.	Lead TBD

Strategic Direction	#	2020 – 2025 Priority Project	Status Update	Town Role
		Program for homes and buildings in Oakville		
Home and Building Efficiency	2.2	Establish Energy Performance Labelling Program based on the results of the business case	Not started pending the conclusion of the market scan to initiate the work on the business case.	
Home and Building Efficiency	3	Implement the Corporate Energy Conservation and Demand Management Plan	GHG emissions reduction of corporate facilities is on schedule to meet the 2030 target established in the 2024 Corporate Energy Conservation and Demand Management Plan. This has been a result of lighting retrofits, energy conservation projects, retro-commissioning at various facilities and an overall increase in staff engagement on energy management initiatives.	Leading by Example
Home and Building Efficiency	4	Continue to integrate CEP home and building efficiency targets into municipal policy, regulations and processes, and ensure municipal measures are identified to achieve this strategy.	Community Green Building Standard (GDS) is planned for development in 2025 Corporate Green Building Standard (GBS) for new construction and retrofits is planned for development in 2025	Policy Maker
Industrial Efficiency	5	Establish a community of practice to share industrial energy management expertise	The Town of Oakville has partnered with the Heating, Refrigeration, and Air Conditioning Institute (HRAI) of Canada, the Town of Halton Hills, and the City of Burlington to offer heating/cooling pump training for individuals working in the energy service business. Participants in the free workshop will learn more about this pump equipment, its	Convener & Facilitator

Strategic Direction	#	2020 – 2025 Priority Project	Status Update	Town Role
			benefits, and how to promote them to potential customers. While this training opportunity is open to the public, it is tailored to those working in the residential and commercial heating/cooling industry. • 3 In-person sessions on: September 10, 2024; October 9, 2024; and October 10, 2024 • 3 online training sessions on: October 23, 2024; November 19, 2024; and November 25, 2024	
Local Energy Supply	6.1	Complete a business case for establishing a company to distribute thermal energy to homes and buildings	• District energy prefeasibility study completed in 2022. • Detailed district energy feasibility study completed for the hospital district (Appendix A)	Convener & Facilitator
Local Energy Supply	6.2	Create a district energy company, based on the results of the business case		
Local Energy Supply	7	Develop Integrated Energy Master Plans (IEMPs) for high growth areas for opportunities for district energy and/or near-net zero neighbourhoods	• District Energy prefeasibility study • Hospital District Energy System feasibility study • Alignment with GDS in 2025 • Alignment with GBS in 2025	Convener & Facilitator Policy Maker
Local Energy Supply	8	Develop Portfolio/Campus Integrated Energy Master Plans (IEMPs)	Scope definition and costing to be further defined as part of the CES update	Lead TBD
Local Energy Supply	9	Continue to integrate CEP local energy supply and distribution	Integration of Community Energy Strategy goals in the planning process, through the following initiatives/working groups: • North Oakville Working Group	Policy Maker Convener &

Strategic Direction	#	2020 – 2025 Priority Project	Status Update	Town Role
		targets into municipal policy, regulation and processes, and ensure municipal measures are identified to achieve this strategy	• North Oakville East and West Secondary Plan Review • Official Plan Review Upcoming green development standards work planned for 2025 Upcoming corporate green building standard for new construction and retrofits DES prefeasibility study Hospital DES feasibility study	Facilitator
Transportation Efficiency	10	Integrate CEP transportation targets and emissions lens into municipal planning tools and processes as well as master plans (e.g., Switching Gears: Oakville's Transportation Master Plan, Active Transportation Master Plan, Transit Strategy) and ensure municipal measures are identified to achieve this strategy	As electrification of the town's fleet progresses, staff will look to develop a holistic Electric Vehicle Plan to address greening the town's fleet and small equipment in 2025. GHG emissions lens integrated in Urban Mobility and Transportation Strategy, and Community Energy Strategy goals to be considered in the ongoing Transportation Master Plan update.	Leading by Example Policy Maker
Transportation Efficiency	11	Increase public electric vehicle charging stations at municipal owned sites	Through a collaboration with Natural Resources Canada (NRCan), 46 Level 2 electric vehicle charging stations were installed and are available for public use across Oakville.	Leading by Example
Transportation Efficiency	12	Pursue opportunities to electrify local	Collaboration with the Province of Ontario and Government of Canada to begin the transition and expansion of Oakville's local public	Leading by Example

Strategic Direction	#	2020 – 2025 Priority Project	Status Update	Town Role
		transit and corporate fleets	transit fleet with fully battery-electric buses. Over the next six years approximately 50% of Oakville Transit's fleet will be converted from diesel to battery electric power.	

Hospital District Energy as a Priority Project

A key deliverable of the town under Strategic Direction 3 (SD3) – Local Energy Supply and Distribution, are a series of Priority Projects which form a roadmap for the development of a district energy utility in Oakville to supply heating and cooling to buildings.

The pre-feasibility project and governance model assessment supported Priority Project 6.1 (Complete a business case for establishing a company to distribute thermal energy to homes and buildings). The purpose of this pre-feasibility study was to provide supporting information on district energy viability in Oakville to potential delivery partners, including Oakville Enterprises Corporation (OEC). In addition, the pre-feasibility study was a step toward achieving Priority Project 6.2 (Create a district energy company, based on the results of the business case).

In 2022, the pre-feasibility study on district energy was completed which included:

- A mapping analysis to identify heating and cooling demand and supply opportunities in Oakville
- Areas for district energy systems
- Detailed analysis on two potential areas of focus:
    - Hospital District
    - Downtown and Kerr
- Lifecycle cost-benefit assessment, emissions reduction potential, economic modelling of the areas of focus
- Recommended area of focus to pursue
- Next steps
    - Based on discussions with the town, the Hospital District was chosen as a site to pursue for a district energy system

Following the completion of the pre-feasibility study in 2022, Rathco ENG Ltd. was engaged by the town, and supported by the Danish Energy Agency, to conduct a detailed feasibility study. This study, now completed, is a continuation of the pre-feasibility study completed in 2022. Urban Equation, commercial experts engaged by Rathco ENG, supported this project.

This detailed feasibility study is organized around 6 milestones (see Appendix A – Town of Oakville - Detailed District Energy Feasibility Study):

- Milestone 1: Develop Scope of Work for Feasibility Study: Town of Oakville
- Milestone 2: Project Kick-off and Basis: Rathco
- Milestone 3: Modelling and Design: Rathco
- Milestone 4: Economic and Financial Analysis: Urban Equation
- Milestone 5: Implementation Planning: Urban Equation
- Milestone 6: Draft and Final Report: Rathco and Urban Equation

The results, findings, and design of the study for the Hospital District include the following key highlights on the proposed system:

- An ambient loop thermal energy distribution system that can transmit heat generated from various sources to buildings and institutions. The heat transfer to and from the ambient loop is achieved via heat exchangers and heat pumps. This loop then sends thermal energy to the buildings and institutions where dedicated energy transfer stations, consisting of pumps, heat exchangers and controls take the place of natural gas boilers, chillers and cooling towers to provide thermal energy for the buildings heating, cooling and domestic hot water needs.
- The current design has 10 phases, starting in 2028 through to 2049 with a waste heat recovery system and a geothermal borefield forming the backbone of the ambient loop district energy system. Waste heat recovery from Halton Region sewer system satisfies early development phases while geothermal and ambient loop system address later phases.
- The following table and figures present the business model results for all 10 phases of the DES, considering with and without a terminal value of the asset. The tables below show that the UIRR (Unlevered internal rate of return) is within or exceeds the typical profitable range for district energy projects of 8-12%.

District Energy System – Including Terminal Value		
Capital Costs	$201	M
Operating Costs	$404	M
TOTAL COSTS	**$606**	**M**
Thermal Energy Sales	$586	M
Connection Charges	$117	M
Terminal Value	$470	M
TOTAL REVENUE	**$1,173**	**M**
TOTAL PROFIT (FV)	**$706**	**M**
UIRR (pre-tax, excluding funding/financing)	**13.3**	**%**

District Energy System – Excluding Terminal Value		
Capital Costs	$201	M
Operating Costs	$404	M
TOTAL COSTS	**$606**	**M**
Thermal Energy Sales	$586	M
Connection Charges	$117	M
Terminal Value	$0	M
TOTAL REVENUE	**$703**	**M**
TOTAL PROFIT (FV)	**$236**	**M**
UIRR (pre-tax, excluding funding/financing)	**10.7**	**%**

In the study, two ownership models are considered: private and public.

1. 100% private ownership: owned by private developer / investor
2. 100% public ownership: owned by the town or a subsidiary of the town

Benefits of a public ownership model include:

1. Rate control and stability: Public ownership allows for more stability through rate control as it is not purely driven by profits, but rather municipal mandate.
2. Policy and regulation framework for connections: Public ownership provides greater flexibility in using policy and regulatory tools to promote customer connections to the DES.
3. Access to funding and low-cost capital: Public entities have access to funding opportunities including grants, subsidies, and low-interest loans.
4. Returns: Any potential returns or positive business cases can be controlled and benefited by the public entity.

The town does not have the financial or technical capability to take ownership of this project due to its complexity and therefore, staff are recommending an exploratory partnership with Oakville Enterprises Corporation (OEC) to further assess the creation of a district energy system.

Ninety percent of OEC is owned by the town and 10 percent is owned by an Enbridge entity. OEC and its subsidiaries may engage in business activities as its board may authorize that are permitted by applicable laws. This would include the proposed district energy system. OEC is expected to provide the town and Enbridge with a reasonable return on their respective investments, which the detailed feasibility study demonstrates. Accordingly, as long as the DES does not negatively impact OEC's return to its shareholders, OEC could deliver most of the public ownership benefits anticipated above.

Following the discussions to be had between the town and OEC about an exploratory partnership, if OEC is supportive of a decision to own, fund, and operate a DE system, a Memorandum of Understanding between the Town and OEC on the development and implementation of a district energy system will be negotiated and presented to Council for review and approval, including ownership terms and considerations, direct and indirect financial implications to the town, required policy and advocacy support by the town, an implementation timeline, funding options, and request for approval to proceed.

If OEC is unable to proceed with the implementation, staff would return to Council with considerations and requirements related to pursuing a private ownership model that would be pursued through an open market request for proposals (RFP).

For greatest clarity, staff has prepared financial principles and considerations to help guide discussions with OEC on this matter, which are outlined as follows:

- That the costs of the proposed district energy system be incurred by OEC, with no impact on the town's finances.
- That the existing and expected dividends provided to the shareholders by OEC's other operations remain unaffected by this proposed system.
- That the financing for this system be provided by OEC and not rely upon financing from the town (either debt or use of the town's reserves).

Indirect financial impacts due to policy or advocacy support for this project will be examined in detail during the next exploration phase. Impacts and concerns will be shared with the town's Executive Leadership Team (ELT) and council before approval of the project. Regarding external financial implications, the business case already considers the system as a potential revenue stream for Halton Region due to the sewer heat recovery component of the project as well as a nominal land acquisition cost specifically relating to the location of the central plant which the study identifies to either be on Infrastructure Ontario or OEC land.

CONSIDERATIONS:

(A) PUBLIC

Community stakeholders have committed significant hours to date to support the setup and establishment of Future Energy Oakville. Significant community engagement also went into the development of the Community Energy Strategy.

(B) FINANCIAL

To-date, the Town, through the capital budget, has approved $300,000 for FEO to support start-up costs, based on the below breakdown:
2020: $100,000
2021: $100,000
2022: $50,000
2023: $50,000
2024: $50,000
2025: $50,000

(C) IMPACT ON OTHER DEPARTMENTS & USERS

The energy initiatives led by the Town that directly support implementation of the Community Energy Strategy's 2020-2025 priority projects are being spearheaded and supported by several departments including: Corporate Strategy and Government Relations; Facilities and Construction Management; Finance; Legal Services; Municipal Enforcement Services; Oakville Transit; Planning Services; and Transportation and Engineering.

(D) COUNCIL STRATEGIC PRIORITIES

This report addresses the corporate strategic priorities:

- Environmental Sustainability - Ensuring environmental sustainability to meet future needs related to greenspaces, natural areas, and act on climate change mitigation and adaptation
- Growth Management - Managing growth for a vibrant local economy, meeting infrastructure needs and ensuring we have complete communities and efficient mobility across the town
- Accountable Government - Providing accountable government for excellence in service delivery and responsible management of resources

(E) CLIMATE CHANGE/ACTION

Progress on the priority projects outlined in the Community Energy Strategy is fundamental to mitigating our community's impact to climate change. The Community Energy Strategy provides the pathway to achieving an ambitious greenhouse gas reduction goal that supports a livable, sustainable and resilient energy future for Oakville.

APPENDICES:

Appendix A – Town of Oakville - Detailed District Energy Feasibility Study
Appendix B – Presentations by Rathco and Urban Equation
Appendix C – Outstanding Council Report Back - City of Guelph Greener Homes Program Memo

Prepared by:
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Recommended by:
Swaraj Mann, Manager, Intergovernmental Affairs and Public Policy

Submitted by:
Julie Clarke, Director, Corporate Strategy and Government Relations

TOWN OF OAKVILLE – DETAILED DISTRICT ENERGY FEASIBILITY STUDY - FINAL REPORT

Town of Oakville

2024-09-20

RATHCO ENG
106-111 Farquhar Street
Guelph, ON N1H 3N4
1-888-632-3330
URBAN EQUATION

Report

To:	Town of Oakville
From:	Rathco ENG and Urban Equation
Date:	2024-09-20
Project Number:	TO-1019-C
Project Name:	Town of Oakville District Energy System – Detailed Feasibility

Revision	Date	Description	Made By	Approved By
1	2024-08-15	Draft Final	Mairead Kennedy Darynne Hagen Shirin Karoubi Aditya Bhujle	John Rathbone Aditya Bhujle
2	2024-09-16	Draft Final	Mairead Kennedy Darynne Hagen Shirin Karoubi Aditya Bhujle	John Rathbone Aditya Bhujle
3	2024-09-20	Final	Mairead Kennedy Darynne Hagen Shirin Karoubi Aditya Bhujle	John Rathbone Aditya Bhujle

TERMS OF USE

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EXECUTIVE SUMMARY

Rathco ENG Ltd. were engaged by the Corporation of the Town of Oakville (the Town), supported by the Danish Energy Agency, to conduct a detailed feasibility study. Rathco ENG retained Urban Equation as a subcontractor to act as the business and financial advisor for the study. The detailed feasibility study is a continuation of the pre-feasibility study completed in 2022. With reference to Oakville's Community Energy Strategy (CES), this report falls under Strategic Direction 3 (SD3) - Local Energy Supply and Distribution. Under SD3, the CES established a series of Priority Projects which form a roadmap for the development of a district energy utility in Oakville to supply heating and cooling to buildings in Oakville. This detailed feasibility study is the final report that outlines the recommended DES for the Town of Oakville with consideration to the Council endorsed goals of the CES[1]:

- Increase energy efficiency by at least 40% by 2041 (compared to a 2016 baseline).
- Enable transition to carbon neutrality by reducing greenhouse gas (GHG) emissions by at least 50% by 2041 (compared to a 2016 baseline).
- Return at least $7 billion in cumulative energy cost savings to the community by 2041.

PROJECT BACKGROUND

The Hospital District is largely a new development area that has the potential to implement district energy in the short- to medium-term. The Hospital District covers 177 acres of land including the existing Oakville Trafalgar Memorial Hospital. The Area Specific Plan (ASP) for the Oakville Hospital District was used to develop land use, population and density. Landowners were engaged to better assess development timeline and potential customer connections to the DES. Of those landowners that were engaged, all stated an interest in connecting to the future DES depending on commercial outcome.

Figure 1: Hospital District

DEMANDS AND BASELINE EMISSIONS

Loads for heating, cooling, and domestic hot water (DHW) were approximated by applying a scaling factor for the projected floor areas to building profiles for typical new buildings of the corresponding use types in Ontario.

[1] Community Energy Strategy (last accessed 2020-12-29)

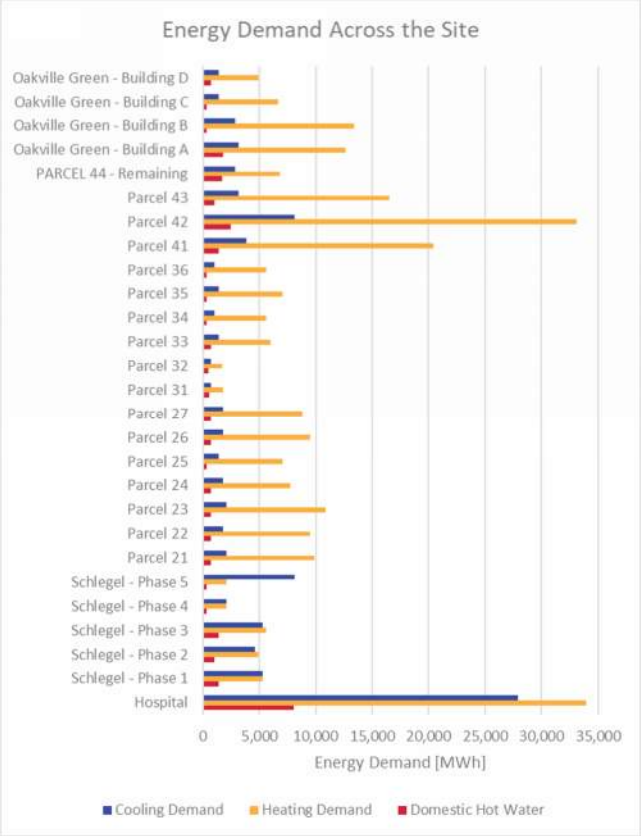

Figure 2: Energy Demand Across Hospital District

The approximate GHG emissions associated with the BAU were 16,932 tonnes per annum at full build-out. The GHG emissions and economics are based on a building HVAC system which comprised the following:

- Heating: Natural gas boilers connected to building condenser loop with in-suite heat pumps
- Cooling: Rooftop Fluid Coolers connected to building condenser loop and in-suite heat pumps
- Domestic Hot Water (DHW): Natural Gas Boilers

PROJECT DESCRIPTION

The recommended concept at the hospital site from the pre-feasibility study was the **hybrid geothermal** and **sewer energy exchange ambient district energy system**. This is the scenario that was agreed with the Town to take forward to this detailed feasibility study. The technologies are well suited for each other as the sewer can be used to balance the geothermal borefields instead of running external equipment like boilers or fluid coolers. The hybrid concept offers the added benefit of resiliency and borefield balancing with the addition of the sewer energy exchange component. In this feasibility study, DHW is provided by the ambient district energy system connected to heat pumps located at customer buildings.

PHASING

Table 1: Total Connected Floor Areas

Phase	GFA m2	Est. Operational Year
1	148,644	2028
2	97,633	2030
3	51,000	2031
4	98,399	2032
5	82,077	2033
6	136,682	2034
7	133,309	2040
8	57,048	2043
9	95,242	2045
10	47,481	2049

Table 2: System Phasing Summary

Phase	1	2	3	4	5	6	7	8	9	10
Investment Year	2027	2027	2028	2030	2031	2032	2038	2041	2043	2047
Operational Year	2028	2030	2031	2032	2033	2034	2040	2043	2045	2049

EMISSION REDUCTIONS

Annual emissions following Phase 10 are consistent with emissions represented in Phase 10.

Table 3: GHG Emission Assessment

Phase	1	2	3	4	5	6	7	8	9	10
Emissions (Electricity) [tonnes CO2e/yr]	310	478	520	731	831	1,036	1,267	1,364	1,594	1,625
Emissions (Natural Gas) [tonnes CO2e/yr]	0	373	525	346	454	821	1,529	1,933	2,613	3,006
Total Emissions [tonnes CO2e/yr]	310	852	1,045	1,077	1,284	1,857	2,796	3,297	4,207	4,632

The chart below shows the cumulative emissions comparison between the DES and the BAU scenarios. By full buildout, the DES is saving ~12,300 tonnes of CO2e per year, approximately 62% emissions reductions.

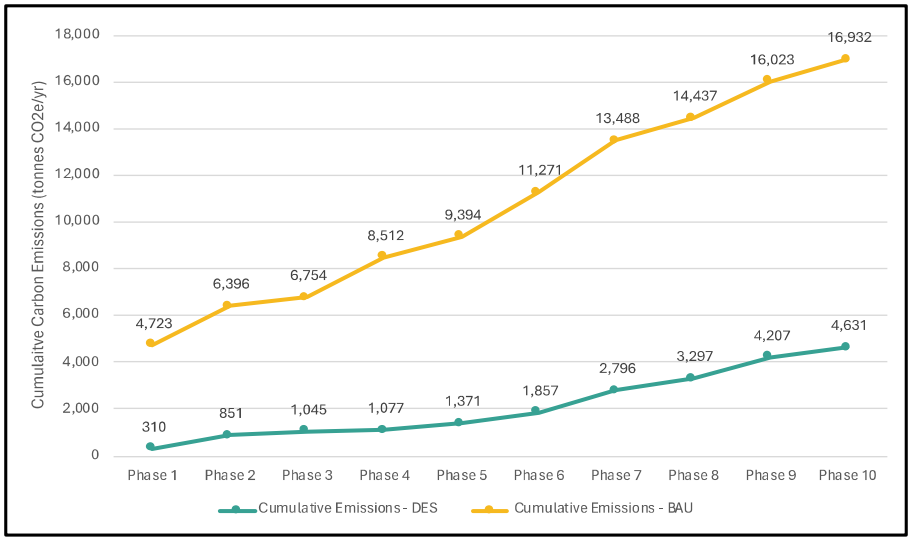

Figure 3: Emissions Comparison (Cumulative)

PROJECT COST SUMMARY

Table 4: Capital Cost Estimates

Capital Cost Estimates	CAPEX	Contingency	Total
Phase 1	$25,199,002	$3,779,850	**$28,978,853**
Phase 2	$15,171,056	$2,275,658	**$17,446,714**
Phase 3	$3,606,522	$540,978	**$4,147,500**
Phase 4	$16,060,857	$2,409,129	**$8,469,986**
Phase 5	$7,892,088	$1,197,313	**$9,179,401**
Phase 6	$10,836,343	$1,625,452	**$12,461,795**
Phase 7	$18,956,442	$2,843,466	**$21,799,908**
Phase 8	$7,207,726	$1,081,159	**$8,288,885**
Phase 9	$10,375,884	$1,556,383	**$11,932,267**
Phase 10	$5,727,524	$859,129	**$6,586,653**
Total	**$121,123,444**	**$18,168,517**	**$139,291,961**

Table 5: Cumulative Fixed Operating Cost Estimates

Phase	Water and Chemical Treatment	Insurance	Equipment Maintenance	Network Maintenance	Sewer Infrastructure Costs	Admin Costs	O&M Staffing
1	$19,808	$144,894	$122,115	$33,986	$39,980	$125,995	$150,000
2	$29,910	$232,128	$243,218	$74,945	$39,980	$201,850	$150,000
3	$32,533	$252,865	$261,700	$96,929	$39,980	$219,883	$150,000
4	$42,218	$345,215	$326,011	$104,277	$39,980	$300,187	$150,000
5	$47,390	$391,112	$363,168	$126,148	$39,980	$340,098	$150,000
6	$58,050	$453,421	$422,660	$138,646	$39,980	$394,279	$150,000
7	$70,324	$562,421	$528,750	$157,034	$39,980	$489,062	$200,000
8	$75,576	$603,865	$571,900	$178,905	$39,980	$525,100	$200,000
9	$84,345	$663,527	$640,337	$190,481	$39,980	$576,980	$200,000
10	$89,355	$696,460	$676,550	$194,656	$39,980	$605,617	$200,000

Annual operating costs following Phase 10 are consistent with operating costs represented in Phase 10, adjusted for inflation.

BUSINESS CASE

Table 6 and Table 7 present the business model results for a DES at the hospital district, both including and excluding terminal asset value, given the assumptions and estimates presented in the report. There is a promising business case for the project to proceed further, both with and without the consideration of terminal value.

No grants or funding have been assumed in this business case – this would only improve the business case. If financing facilities can be obtained at a low cost, then there would be substantial improvements as well.

Table 6: District Energy System Results with Terminal Value Considered

District Energy System – 30 Year Term		
Capital Costs	$201	M
Operating Costs	$404	M
TOTAL COSTS	**$605**	**M**
Thermal Energy Sales	$586	M
Connection Charges	$117	M
Terminal Value	$470	M
TOTAL REVENUE	**$1,173**	**M**
TOTAL PROFIT (FV)	**$706**	**M**
TOTAL PROFIT (PV)	**$13.8**	**M**
UIRR (pre-tax, excluding funding/financing)	**13.3**	**%**

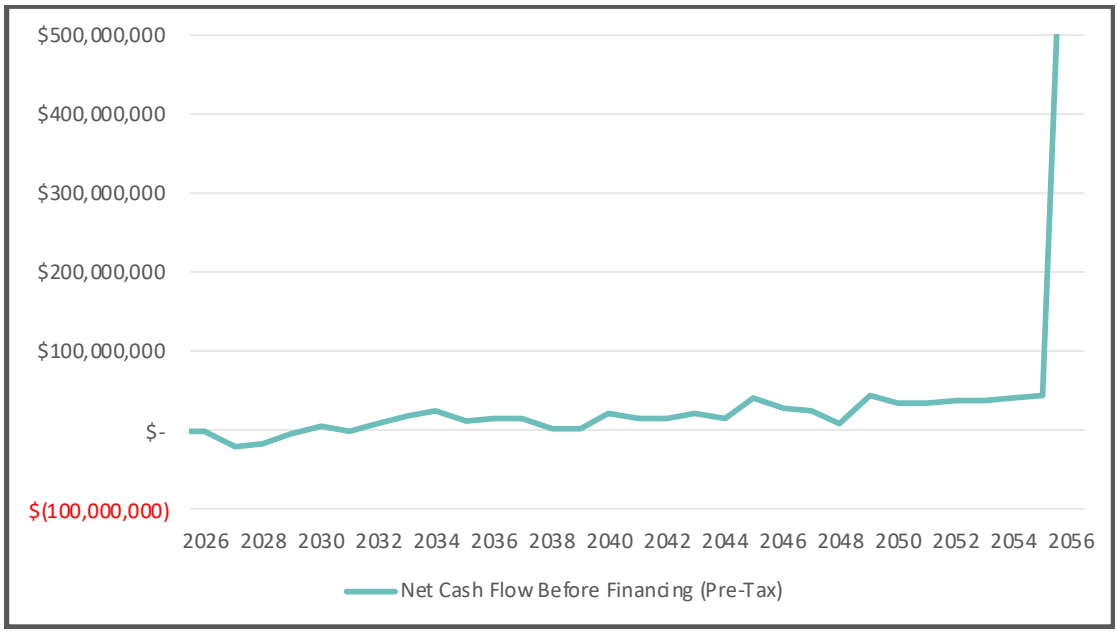

Figure 4: Net Cash Flow for the DES Business Case (With Terminal Value)

Table 7: District Energy System Results Without Terminal Value Considered

District Energy System – 30 Year Term		
Capital Costs	$201	M
Operating Costs	$404	M
TOTAL COSTS	**$605**	**M**
Thermal Energy Sales	$586	M
Connection Charges	$117	M
Terminal Value	$0	M
TOTAL REVENUE	**$703**	**M**
TOTAL PROFIT (FV)	**$236**	**M**
TOTAL PROFIT (PV)	**($1.2)**	**M**
UIRR (pre-tax, excluding funding/financing)	**10.7**	**%**

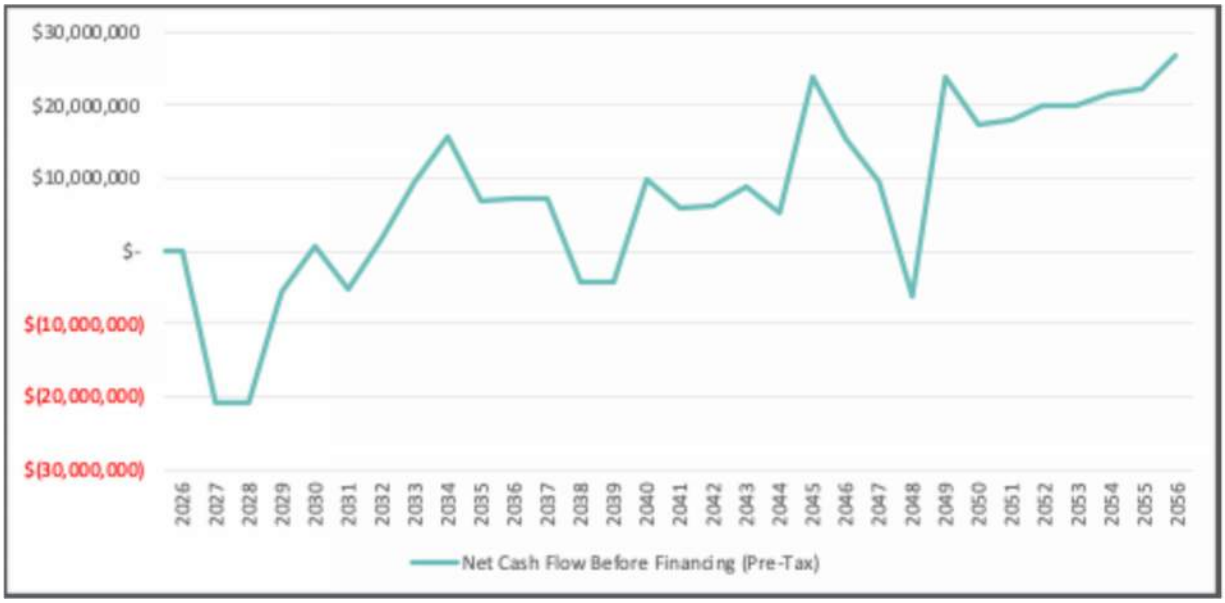

Figure 5: Net Cash Flow for the DES Business Case (Without Terminal Value)

Table 8 summarizes the business case for the wastewater heat supplier (WHS). Given that supplier capital costs are absorbed by the DES system, there is a substantial net present value for the WHS, gained through wastewater heat revenue. Figure 6 shows the WHS cash flow over the study period.

Table 8: Wastewater Heat Supplier Business Case Results

Wastewater Heat Supplier – 30 Year Term		
Capital Costs	$0	M
Operating Costs	$0	M
TOTAL COSTS	**$0**	**M**
Thermal Energy Sales	$7.2	M
TOTAL REVENUE	**$7.2**	**M**
TOTAL PROFIT (FV)	**$7.2**	**M**
TOTAL PROFIT (PV)	**$1.4**	**M**
UIRR (pre-tax, excluding funding/financing)	**-**	**%**

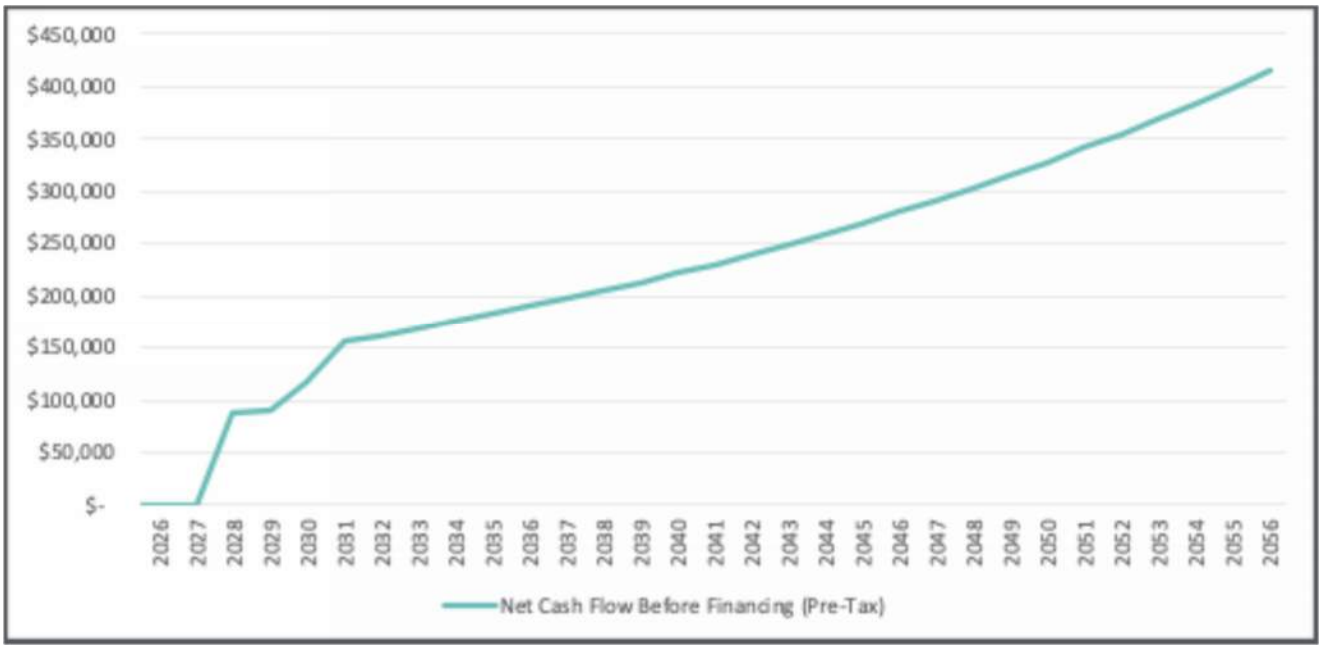

Figure 6: Net Cashflow for Wastewater Heat Supplier

Sensitivity Analysis: A detailed sensitivity analysis was performed to evaluate how changes to the assumptions or market conditions would impact the financial results. The analysis evaluated upside cases and downside cases relative to the target or assumed values for key variables as detailed in the report. This analysis was performed for the following reasons:

- To appropriately size the capacity of the project to withstand major financial and economic headwinds
- To establish a realistic and robust investment-grade baseline for the project

Ownership Archetype Modelling: There are three typical ownership models used to deliver district energy projects:

- Private project development companies,
- Public project development companies, and
- Hybrid public/private partnerships

A detailed list and descriptions of the ownership structures are presented in the report. For the purpose of this analysis, only two ownership archetypes were considered: a fully private and a fully public model.

Financing: The assumptions and associated returns for the two ownership structures evaluated are provided in Table 9. A publicly owned DES was modelled both with and without a terminal asset value in order to provide the Town with additional insights. Without terminal asset value considered, the publicly owned utility would be expected to receive a lower levered internal rate of return (LIRR) and a negative NPV over the 30-year term. While this may appear to indicate that a publicly owned utility would be a poor investment if not sold after 30 years, we do not believe this to be the case, as the DES would continue generating income if not sold after 30 years. This additional revenue would increase the LIRR for the public DES owner. Further, the benefits of such a system transcend economic considerations and bring enhanced social and environmental benefits.

For all financing options, a construction loan type of financing facility has been assumed over a 20-year term with an amortized repayment spanning 10 years following the loan maturity date.

Table 9: Ownership Model Results

Ownership Structure	Equity Ratio – Construction Costs	Terminal Asset Value	Discount Rate	Interest Rate	Net Present Value (NPV)	Levered Internal Rate of Return (LIRR)	Peak Equity Invested	Peak Equity Multiple
Private Ownership	40%	Terminal Value Included	9%	7.95%	$4.2M	9.53%	$56.4M	9.76x
	Total Construction costs (Escalated): $201,417,972 Total Construction Loan Proceeds: $120,850,783 Total Construction Equity Proceeds: $80,567,189							
Public Ownership	20%	Terminal Value Included	11%	6.3%	$971K	11.21%	$40.9M	13.11x
	Total Construction costs (Escalated): $201,417,972 Total Construction Loan Proceeds: $161,134,378 Total Construction Equity Proceeds: $40,283,594							
	20%	Terminal Value Excluded	11%	6.3%	($13M)	3.26%	$40.9M	1.61x
	Total Construction costs (Escalated): $201,417,972 Total Construction Loan Proceeds: $161,134,378 Total Construction Equity Proceeds: $40,283,594							

Governance Framework: Depending on the type of ownership model selected for the DES, a governance framework will be critical to ensure project success. Both public and private ownership models have their merits; however, a public governance framework would provide the following unique benefits:

- Allows for the alignment of municipal or town policy to enable low carbon community energy.
- Provides a means for the municipality/town to also generate revenues or dividends.
- Instills trust, given that municipalities are capable of carrying a long-term ownership model, which will ensure that the DES ownership and management will remain consistent for customers.
- Ensures that benefits of DES implementation (i.e. financial, environmental and social) remain within and are driven by the municipality.
- Provides access to more favourable financing terms, potentially improving project profitability.
- Similar to the governance and jurisdictional power like OEB, who regulates gas and electricity rates, the governance council of the municipality/town can ensure fair energy rates for the customers and residents while enjoying the benefits of low carbon energy.

Risk & Mitigants Study: It is important to understand key risks that can impact the project and understand their likelihoods, financial impact on the project budget and the impact to the project schedule. The report outlines the key risks and potential mitigation strategies that can be considered and developed further in the next stages of the project. For each risk a likelihood, impact and severity have been estimated, along with the project aspects each risk is expected to impact. The qualification is on a pre-mitigation basis or as seen today.

RECOMMENDATIONS AND NEXT STEPS

Based on the technical and economic findings of this assessment, it is expected that a publicly owned DES at the Hospital District is feasible. It is recommended that the Town move onto the next stage of project feasibility, which involves further assessment of the project ownership and governance model. The Town will need to investigate the possibility of bringing in a DES partner, who can lead the following next steps:

1. Engage with decision makers at the Town based on this document to ensure the municipality and public officials understand the significance and benefits of this project
2. Engage with primary lending and funding agencies to detail out application requirements and timelines and have a better view into commercial terms and structures
3. Engage a prime consultant or consortium to act as expert District Energy project managers and manage partner procurement and planning
4. Progress the outlining of major contracts and key material terms
5. Start discussions with key customers who can provide large anchor loads
6. Engage regularly with the Region to look into technical and commercial aspects of sewer energy exchange with an understanding of long-term commitments and impacts on design
7. Establish a position on the ownership and transfer of carbon credits and or energy attribute certificates that is in line with carbon accounting protocols
8. Public engagements

There is a significant opportunity for the Town of Oakville to develop a world-class and exemplary low-carbon district energy system that will enable the Town to achieve its GHG reduction targets and Climate action goals.

MILESTONE 1

PROJECT INTRODUCTION AND PURPOSE

1 PROJECT INTRODUCTION

Rathco ENG Ltd. was engaged by the Corporation of the Town of Oakville (the Town), supported by the Danish Energy Agency, to conduct a detailed feasibility study. Rathco ENG retained Urban Equation as a subcontractor to act as the business and financial advisor for the study. The detailed feasibility study is a continuation of the pre-feasibility study completed in 2022. Oakville's Community Energy Strategy (CES). Urban Equation are the Commercial Experts engaged by Rathco ENG to support this project.

This study is organized around 6 milestones:

- Milestone 1: Develop Scope of Work for Feasibility Study: Town of Oakville
- Milestone 2: Project Kick-off and Basis: Rathco
- Milestone 3: Modelling and Design: Rathco
- Milestone 4: Economic and Financial Analysis: Urban Equation
- Milestone 5: Implementation Planning: Urban Equation
- Milestone 6: Draft and Final Report: Rathco and Urban Equation

The Project Team for this project consists of the Consultant Team (Rathco ENG Ltd and Urban Equation), the District Energy Task Force at the Town (DE Task Force), Oakville Hydro, and Halton Region.

In this report, Oakville refers to the broader community while the Town refers to the municipal corporation.

1.1 District Energy Overview

District energy describes a distribution system that supplies heating and/or cooling to multiple buildings from a central location(s). There are three main elements to a district energy system:

1. Heat/cooling source,
2. Distribution piping,
3. Building connection to distribution piping.

A sample district heating system is shown below, where the energy supply is the heating/cooling source, the red and blue lines represent the distribution piping (where the red pipes are the heating supply piping and the blue pipes are the heating return piping), and the building connections are the points at which the red and blue lines connect to the buildings.

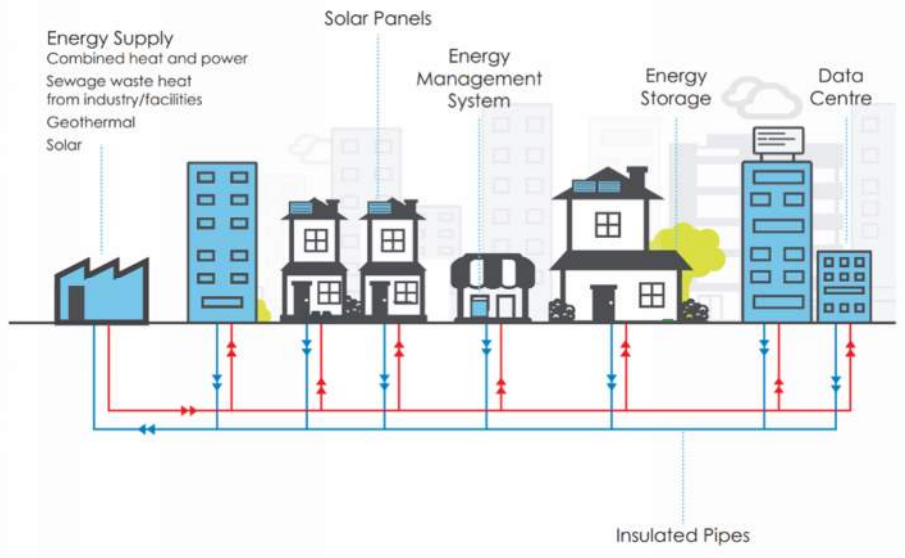

Figure 7: District Energy System (image courtesy of CES

1.2 Work to Date

1.2.1 Community Energy Strategy

In 2019 the Town's Council endorsed Oakville's Community Energy Strategy (CES) which identified emissions reduction strategies and energy savings initiatives. The goals and targets set out in the CES were pivotal in informing the development of the work of the completed pre-feasibility study.

The Council endorsed goals of the CES[2] are as follows:

- Increase energy efficiency by at least 40% by 2041 (compared to a 2016 baseline).
- Enable transition to carbon neutrality by reducing greenhouse gas (GHG) emissions by at least 50% by 2041 (compared to a 2016 baseline).
- Return at least $7 billion in cumulative energy cost savings to the community by 2041.

1.2.2 Governance Model Information Gathering

The Town of Oakville has already started the investigation into different governance models, which can be accessed in the August 2021 report titled "District Energy Governance Models: Opportunities for the Town of Oakville[3].

1.2.3 Heat Mapping and Pre-Feasibility Study

In 2022 a pre-feasibility study was completed that included:

[2] Community Energy Strategy (last accessed 2020-12-29)
[3] District Energy Governance Models: Opportunities for the Town of Oakville. August 2021.

- A mapping analysis to identify heating and cooling demand and supply opportunities in Oakville;
- Areas for district energy systems;
- Detailed analysis on two potential areas of focus;
- Lifecycle cost-benefit assessment, emissions reduction potential, economic modelling of the areas of focus;
- Recommended area of focus to pursue;
- Next steps.

For details on the analysis please refer to the pre-feasibility study.

Based on discussions with The Town, the Hospital District was chosen as a site to pursue for a district energy system.

2 PURPOSE

District Energy falls under Strategic Direction 3 (SD3) - Local Energy Supply and Distribution. Under SD3, the CES established a series of Priority Projects which form a roadmap for the development of a district energy utility in Oakville to supply heating and cooling to buildings in Oakville.

The pre-feasibility project and governance model assessment supported Priority Project 6.1 (Complete a business case for establishing a company to distribute thermal energy to homes and buildings). The purpose of this pre-feasibility study was to provide supporting information on district energy viability in Oakville to potential Delivery Partners, including Oakville Enterprises Corporation (OEC). In addition, the pre-feasibility study was a step toward achieving Priority Project 6.2 (Create a district energy company, based on the results of the business case). **The detailed feasibility study is a direct continuation of this work.**

The CES lists the following target for 2041:

- Serve 70% of existing target property and 80% of new target property with district heating in areas targeted for densification or new growth.

A goal of 70% of existing target properties connecting to district energy by 2041 is ambitious in the context of international best practice district energy systems. The goal of an 80% connection rate of new target property is also ambitious, although the Town has considerably more influence on early decision-making for new developments. The Consultant Team is seeing a large number of new developments in Southern Ontario pursuing community energy systems based on low-carbon thermal energy. The approach being assessed here could form the basis of a new approach across new developments in Oakville to achieve this 80% approach.

In terms of other goals, the proposed district energy system will exceed the first two bullet points:

- Increase energy efficiency by almost 100% at the Hospital District site by leveraging heat pumps.
- Reduce emissions by 62% based on the current approach.

It will further contribute to the CES by returning approximately 40 $/MWh in cost savings (capital, operational and fuel, etc.) back to the community.

MILESTONE 2

PROJECT KICK OFF AND BASIS

This Section outlines the work completed in Milestone 2 of the project to set the technical basis of the work prior to the detailed technical analysis in Milestone 3.

1. PROJECT BACKGROUND

1.1 Hospital District – Site Description

The Hospital District is largely a new development area that has the potential to implement district energy in the short-to-medium term. New developments have a variety of options for supply technologies as they can be designed to operate at temperatures more suitable to low carbon heating and cooling sources. The original pre-feasibility study outlined individual likely areas for DES success. It also articulated a potential future scenario whereby these areas could be interconnected. The Hospital district is physically separated from this future interconnected scenario. In saying that, although this study focuses on the feasibility assessment of the district energy system for the Hospital District, district energy infrastructure has the potential for expansion should development occur in the surrounding areas of the Hospital District. A cost-benefit analysis would be necessary depending on the distance of the development to the Hospital District's district energy system. Similarly, should Oakville be interested in DES in other parts of the Town, including urban areas a prefeasibility and a feasibility assessment need to be completed to assess viability. Typically, expansion would be limited to a few hundred metres due to distance piping costs however, a cost-benefit analysis would be required.

Figure 8: Oakville Hospital District demonstration plan from Area Specific Plan (ASP)[4].

[4] Revised Final Hospital District Area Specific Plan_Final.pdf (oakville.ca)

1.2 Area Specific Plan

The Area Specific Plan (ASP) for the Oakville Hospital District specified that the area should incorporate a variety of use types. These included residential, employment, and institutional (predominantly focussed on healthcare).

The ASP detailed population and employment densities for each area are on the following map in Figure 9. The use types and net floor areas (NFAs) for each of the residential, employment, and institutional parcels indicated on the map were derived from Appendix J of the ASP[5]. The NFAs and use types were used to develop load profiles for each development block (these load profiles can be seen in Sec. 3.2). Note that the floor areas for Parcel IDs 41-44 were adjusted upward by 14% from the ASP to reflect the plans provided by Oakville Green (OG). In addition, the load estimates for Parcel 44 were further revised to reflect more recent submissions by OG to the Town. Similarly, Parcels 11 – 15 were revised to reflect information provided by the Schlegel Group.

As part of the original pre-feasibility assessment, the Hospital was excluded from the district energy concept. Following good initial engagement with the Hospital the original exclusion was revisited, and **the DES concept was revised to include the Hospital as a potential energy customer**.

Figure 9 shows the parcels defined in the ASP. Figure 10 shows the breakdown of the use types and floor areas.

[5] Appendix J - Population and Employment Densities.pdf (oakville.ca)

Figure 9: Development blocks for specifying use type and densities from the ASP[4].

The floor area assessment carried out for the pre-feasibility assessment identified a breakdown that skewed heavily toward employment and institutional-type development as seen in Figure 10. At this time the data available for the site development was limited.

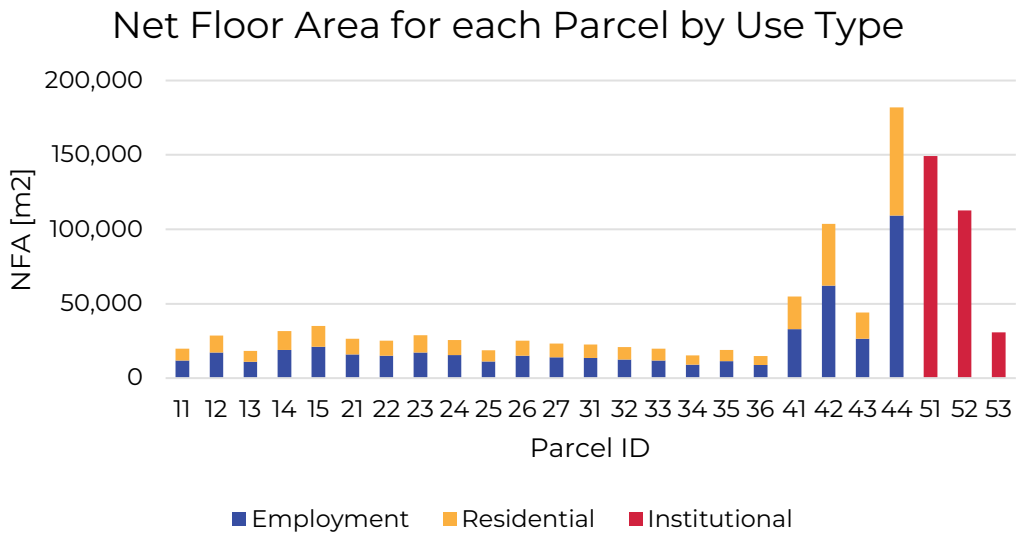

Figure 10: Hospital District net floor areas by use type for (a) parcels, including Hospital

Figure 11: Hospital District ASP Development Update

Rathco engaged with the Town of Oakville Planning Department as part of this first assessment phase and received the following update on the development status as follows: **As this project develops beyond this feasibility study additional engagement should be pursued with site developers to understand phasing and site demands at a more detailed level.**

Table 10: Site Update

11 Reference	Notes	Update	Outcome
A	Site owned by Infrastructure Ontario – Planning Consultant currently engaged	The Project Team spoke with IO. No plans for development at this time.	Demand Assessment based on ASP information – included as Future Phases
B	Oakville Enterprises Corporation Site	Discussed with OEC	Demand Assessment based on ASP information – included as Future Phases
C	Oakville Green Site – Draft Plan Subdivision Approved	Good conversations with the Oakville Green team – data provided as requested.	Stage 1 of Oakville Green included with as much detail as is available – Future phases based on ASP information.
D & D*	Mattamy have a registered subdivision adjacent to the ASP at D* -there is also some proposed development south of Dundas Street Ownership of D is by Others	Good conversations with the Mattamy Team	Future phases based on ASP information for energy demands.
E	Hospital Site already constructed	Good conversations with the Hospital and IO Team – data provided as requested.	Included as a discrete Phase 1 for the project to build on.
F	Further expansion plans for the Hospital	Good conversations with the Hospital and IO Team.	Not enough information on future expansion plans currently available.
G	Constructed Seniors Care Home	No response to outreach.	Excluded at this time.

11 Reference	Notes	Update	Outcome
H	Schlegel Site Two Long Term Care Facilities, a retirement home and staff residences proposed – in the process of submitting an application.	Good conversations with the Schlegel Team – data provided as requested.	Included based on received information.
I	Infrastructure Ontario have recently sold land to the west	IO had no information on this site.	Excluded. (Not part of original ASP)

1.2.1 Site A

Site A is currently owned by Infrastructure Ontario (IO). The team met with IO and representatives indicated that there are no current plans for development at the site. As such the team has assumed that Site A would be developed after sites with current plans. The IO sites are included as Phases 7 – 10 in the phased analysis.

Should this Site be developed earlier they could still be included in the DES solution.

Site A is the assumed location for the Central Plant, given the potential land availability and the proximity to the trunk sewer in a currently undeveloped location.

1.2.2 Site B

Site B is currently understood to be owned by Oakville Enterprises Corporation (OEC). There are no known active planning applications or early engagements for this site. As such the team has assumed that Site B would be developed after sites with current plans. The sites are included as Phases 8 and 9 in the phased analysis.

Should this Site be developed earlier they could still be included in the DES solution.

1.2.3 Site C

Site C is the Oakville Green (OG) Site. The team had a productive meeting with the Site owners and identified the opportunities for energy services at the site.

Given the Timelines for OG and the proximity to the Hospital and Sewer connection, the OG Phase 1 site is assumed to be the DES Project Phase 2.

There are currently well-defined plans for OG Phase 1, and these are reflected in the site energy modelling. The remainder of the OG site (ASP areas 41, 42, 43 and 44 (less OG Phase 1)) is as of yet to be determined from a phasing and development standpoint. Assumptions have been made as to the remainder of the site.

1.2.4 Sites D & D*

This is a site adjacent to the ASP owned by Mattamy and Others. The team had a productive meeting with Mattamy representatives and determined that the low-rise portions for the development are already too far in development to be connected to this system and likely would not have been good candidates for connection due to the low density of the development (which can result in a high cost of connection compared to the business-as-usual/BAU). There are medium-density buildings proposed for the Mattamy sites, but these are also likely developing too quickly for inclusion in the initial DES opportunity (considering their distance from the initial site). Instead, these sites are potential candidates for connection at a later date. It is quite possible that these sites would feature some form of low-carbon energy source and may be available for future incorporation into the energy system, although details on the site are not currently available in sufficient detail to confirm this.

Sites D & D* are excluded from current energy modelling but connection in the future is safeguarded in the system sizing.

1.2.5 Site E & F

Sites E and F are the Hospital sites and the Hospital site's future development. The Hospital is currently determining a long term (30 year) development plan for the site and details are not yet available. The team conducted a fact-finding meeting with the Halton Healthcare and IO team including their Site operators EllisDon. As part of this meeting, the following was established:

- The Hospital central plant is sized for the full future site development,
- The Hospital operates a hot and chilled water HVAC distribution system with temperatures suitable for a district energy project.
- The Hospital is open to exploring potential decarbonization means for the site.
- The Hospital would need to have guaranteed supply at all times as a healthcare facility – meaning that there is limited opportunity for the DES system to leverage existing hospital equipment.

As an existing system, the Hospital was considered as a good candidate for a Phase 1 project.

1.2.6 Site G

Attempts were made to contact the Seniors Centre at Site G. This was unsuccessful, so this site is excluded at this time.

1.2.7 Site H

The team met with representatives for the Schlegel Site and has a very productive discussion regarding their development. The Schlegel team provided indicative phasing and floor areas for the site. The Schlegel team also indicated that they will be developing the site to a high energy standard (not a code SB-10 building) and indicated a willingness to share site load information once it is available, although this information could not be shared in time for this technical feasibility for the site.

The following was confirmed through discussion:

1. The Phase 1 building will progress before a DES system is developed. There may be a potential to connect this site later but that would be a negotiation with the DES developer.
2. Schlegel are considering geo-exchange and in-building heat pumps for parts of the site.
3. Phases 1 - 3 of the Schlegel site will have similar resiliency requirements as the healthcare facility.

Phase 1 of Schlegel is excluded from current energy modelling but connection in the future is safeguarded in the system sizing.

1.2.8 Site I

The team engaged with IO regarding this site, IO confirmed that this site was recently sold but has no further information. This site was excluded from further consideration.

2 DEMAND ASSESSMENT

2.1 Demands

The original Energy Demand Intensity (EDI) values from the pre-feasibility study for the aggregated loads of the Hospital District are shown in Table 11. These loads incorporated residential, employment, and institutional buildings.

Oakville does not have green development standards, so the assumptions used in the original study will be used here unless otherwise advised by **developers of specific sites or by the Town.**

Based on available information at this stage, the following assumptions have been made for the energy demand intensity at the new developments (not including Schlegel).

Table 11: Energy Demand Intensity (EDI) values for aggregated Hospital District New Developments (excluding Schlegel)

OBC SB-10	**EDI [kWh/m2]**		
Use Type	**Residential**	**Office**	**Retail**
Heating	77	82	75
Cooling	30	35	31
DHW	40	12	3.2

Table 12: Schlegel EDI Assumptions

Higher Performance		
Heating	30.9	kWh/m2
Cooling	45	kWh/m2
DHW	30	kWh/m2

The approach taken in the feasibility study is as follows:

> Loads for heating, cooling, and domestic hot water (DHW) were approximated by applying a scaling factor for the projected floor areas to building profiles for typical new buildings of the corresponding use types in Ontario.

The energy demands for the site were considered on aggregate. A summary of the peak and annual demands is shown in. These loads and demands are being updated.

Demands for the Hospital in the Tables below are based on actual metered data for the Hospital Site.

Table 13: Peak Block Loads for the Hospital District

Parcel / Building ID	DHW [MW]	Heating [MW]	DHW + Heating [MW]	Cooling [MW]
Hospital	10.6	12.2	14.1	13.4
Schlegel - Phase 1	0.4	1.5	1.8	1.5
Schlegel - Phase 2	0.3	1.4	1.6	1.3
Schlegel - Phase 3	0.4	1.6	1.9	1.5
Schlegel - Phase 4	0.1	0.6	0.7	0.6
Schlegel - Phase 5	0.1	0.6	0.7	2.3
Parcel 21	0.2	2.8	2.9	0.6
Parcel 22	0.2	2.7	2.8	0.5
Parcel 23	0.2	3.1	3.2	0.6
Parcel 24	0.2	2.2	2.3	0.5
Parcel 25	0.1	2.0	2.1	0.4
Parcel 26	0.2	2.7	2.8	0.5
Parcel 27	0.2	2.5	2.6	0.5
Parcel 31	0.2	2.0	2.1	0.5
Parcel 32	0.2	2	2.3	0.4
Parcel 33	0.2	1.7	1.8	0.4
Parcel 34	0.1	1.6	1.7	0.3
Parcel 35	0.1	2.0	2.1	0.4
Parcel 36	0.1	1.6	1.6	0.3
Parcel 41	0.4	5.8	6.1	1.1
Parcel 42	0.7	9.4	9.9	2.3
Parcel 43	0.3	4.7	4.9	0.9
Parcel 44 Remaining	0.567	9.055	9.34	1.799
Oakville Green - Building A	0.5	3.6	3.9	0.9
Oakville Green - Building B	0.1	3.8	3.8	0.8
Oakville Green - Building C	0.1	1.9	1.9	0.4
Oakville Green - Building D	0.2	1.4	1.6	0.4

Table 14: Annual Block Energy Demands Per Parcel

PARCEL / BUILDING ID	DHW [MWH]	HEATING [MWH]	COOLING [MWH]
HOSPITAL	8,068	33,912	27,877
SCHLEGEL - PHASE 1	1,110	1,143	1,665
SCHLEGEL - PHASE 2	990	1,020	1,485
SCHLEGEL - PHASE 3	1,140	1,174	1,710
SCHLEGEL - PHASE 4	420	433	630
SCHLEGEL - PHASE 5	420	432	630
PARCEL 21	613	2113	872
PARCEL 22	582	2006	828
PARCEL 23	669	2306	951
PARCEL 24	595	2053	847
PARCEL 25	433	1492	616
PARCEL 26	582	2008	828
PARCEL 27	540	1862	768
PARCEL 31	525	1812	747
PARCEL 32	486	1674	691
PARCEL 33	457	1575	650
PARCEL 34	353	1218	502
PARCEL 35	440	1518	626
PARCEL 36	343	1184	488
PARCEL 41	1,272	4,386	1,809
PARCEL 42	2,405	8,295	3,422
PARCEL 43	1,023	3,526	1,455
PARCEL 44 - REMAINING	1,706	6,797	2,830
OAKVILLE GREEN - BUILDING A	1,375	2,646	1,031
OAKVILLE GREEN - BUILDING B	395	2698	1152
OAKVILLE GREEN - BUILDING C	200	1367	583
OAKVILLE GREEN - BUILDING D	548	1054	411

Note in both tables above the action of in-building HVAC systems has not been considered (i.e. additional efficiencies have not been applied). This is applied in the energy supply section.

2.2 GHG Emissions

The approximate GHG emissions associated with the BAU were as follows: 9,636 tonnes for a total emissions intensity of 121.4 kg CO_2 / MWh.

This assessment will be revisited and the GHG emissions will be based on the following emissions factors:

- Natural gas emissions intensity: 189.9 kg CO2e/m3
- Grid electricity emissions intensity: 50 kg CO2e/MWh

The emissions factors are from the Ontario Building Code SB-10 (2017), Division 3 documentation. The results represent the energy consumption and emissions for the thermal system only.

2.3 Building HVAC Assumption

The GHG emissions and economics for the pre-feasibility were based on a building HVAC system which comprised the following:

- Heating: Natural gas boilers connected to building condenser loop with in-suite heat pumps
- Cooling: Rooftop Fluid Coolers connected to building condenser loop and in-suite heat pumps
- Domestic Hot Water: Natural Gas Boilers.

As part of the feasibility study and engagement with developers of the actual buildings – business-as-usual HVAC systems were assessed. Zonal or in-suite heat pumps are assumed as the preferred Building HVAC solution although it is noted that mechanical design for these buildings may vary as the site develops.

3 GEO-EXCHANGE POTENTIAL

3.1 Geo-Exchange Description

A geo-exchange or geothermal system uses the ground as a heat source to provide heating or a heat sink (heat storage) to provide cooling. The ground stays at moderate temperatures year-round, so it is able to meet heating and cooling needs in combination with a heat pump. Heat transfer with the ground occurs through a system of pipes with a circulating fluid. In a vertical geo-exchange system, numerous boreholes are drilled, and pipes installed within them to maximize the pipe surface area in the ground and therefore maximize the heat transfer potential.

Geo-Exchange Definitions

Heating: The space in the building is heated by extracting heat from the ground (borefield) through heat exchangers and transferring it into the building system. The heat is then rejected into the building space through coils or heat pumps. As a result, the ground (borefield) temperature trends down over the course of the heating season.

Cooling: The space in the building is cooled by extracting heat from the building through coils or heat pumps and transferring it to the building system. The heat is then transferred through a heat exchanger into the ground (borefield). As a result, the ground (borefield) temperature trends up over the course of the cooling season.

Heat of Compression: The heat of compression is the heat that is generated by the electrical component operation of the heat pumps (including the compressor and the fan). When the heat pump is in heating mode, the heat of compression (the additional heat) becomes part of the heat delivered to the space, reducing the amount of heat generation required from the system. When the heat pump is in cooling mode, the additional heat is added to the already existing heat rejection load due to cooling the space, increasing the amount of cooling required by the system.

Causes of Imbalance

Heating Dominance: The heating energy extracted from the ground is greater than the heat energy rejected into the ground during cooling.

Cooling Dominance: The heating energy rejected to the ground during cooling is greater than the heating energy extracted from the ground.

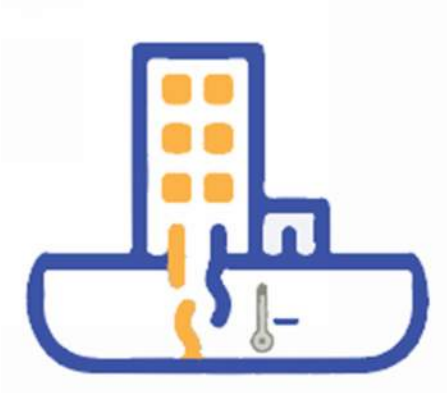

Figure A: Imbalanced borefield due to heating dominance

Figure B: Imbalanced borefield due to cooling dominance

The impact of imbalance can be a net increase (cooling dominant scenario) or decrease (heating dominant scenario) of the ground temperature over time. This can lead to negative impacts to system efficiency and in extreme cases can result in geo-exchange systems becoming non-operational.

This is why it is important to monitor system balance year on year and make adjustments to set points as necessary. Typically, these adjustments occur in the first 1 – 3 years of operation after which time the operators have the system fine-tuned.

Because balance is required, additional heat rejection and injection sources are often necessary.

3.2 Geo-Exchange Potential at the Hospital District Site

The values below are based on a nearby test hole drilled to 640 ft. A borehole depth of 850 ft is also common in Ontario and is likely an option at the Hospital District Site. The greater depth allows for fewer boreholes and greater efficiency in drilling equipment mobilization. The thermal properties presented for the site can be considered applicable for the 850 ft boreholes as well. It is recommended that prior to the first project commencing at the site, a site-specific test hole be drilled to 850 ft in order to confirm assumptions and uncover potential underground construction challenges. It is recommended that this borehole be used both as a test hole and a production hole (i.e., an operational part of the borefield).

The parameters below are favourable for a geo-exchange system at the site, the low overburden will reduce overall capital costs and improve efficiency for the site. There are many other sites in the GTHA moving forward with less favourable thermal properties.

Additionally, the North Oak project in Oakville (close to the hospital site) demonstrates the technical, environmental, and economic feasibility of site-level geo-exchange approaches.

An overview of the site and the proposed density indicates that there is ample room for geo-exchange boreholes to supply the majority of the heating and cooling for the site.

Table 15:Geo-exchange Borefield Assumptions

Property	Assumption
Undisturbed Ground Temperature	10.2 – 12.1 °C
System Fluid	Basis of design will be 25 % Propylene Glycol. Alternative approaches such as 20 % ethanol also acceptable.
Ground Thermal Conductivity	2.55 W/mK
Ground Thermal Diffusivity	0.104 m2/day
Grout Thermal Conductivity	2.08 W/mK *
Borehole Thermal Resistance	0.101 mK/W

For the purposes of this detailed feasibility assessment the following assumptions will be made when modelling the borefield:

- 4” borehole diameter
- 1.5” circuit piping diameter
- Pipe material will be HDPE 4710 DR11 for all circuit piping with DR 13 used for lateral runouts.
- A minimum borehole spacing of 6 m will be maintained.
- Approximately 20 m of overburden is assumed at the site (based on drilling records).
- An operational temperature range of -1 °C – 32 1 °C entering water temperature to heat pumps.

Using all of the inputs outlined here and the indicative building energy profile, the geo-exchange system will be modelled using the Ground Loop Design (GLD) software. The borefield will be sized to maintain system temperatures within the range outlined above.

3.3 Technical Description of the Proposed Borefield Design

A geo-exchange borefield comprises 3 main elements, the boreholes themselves, the runouts, and the manifold.

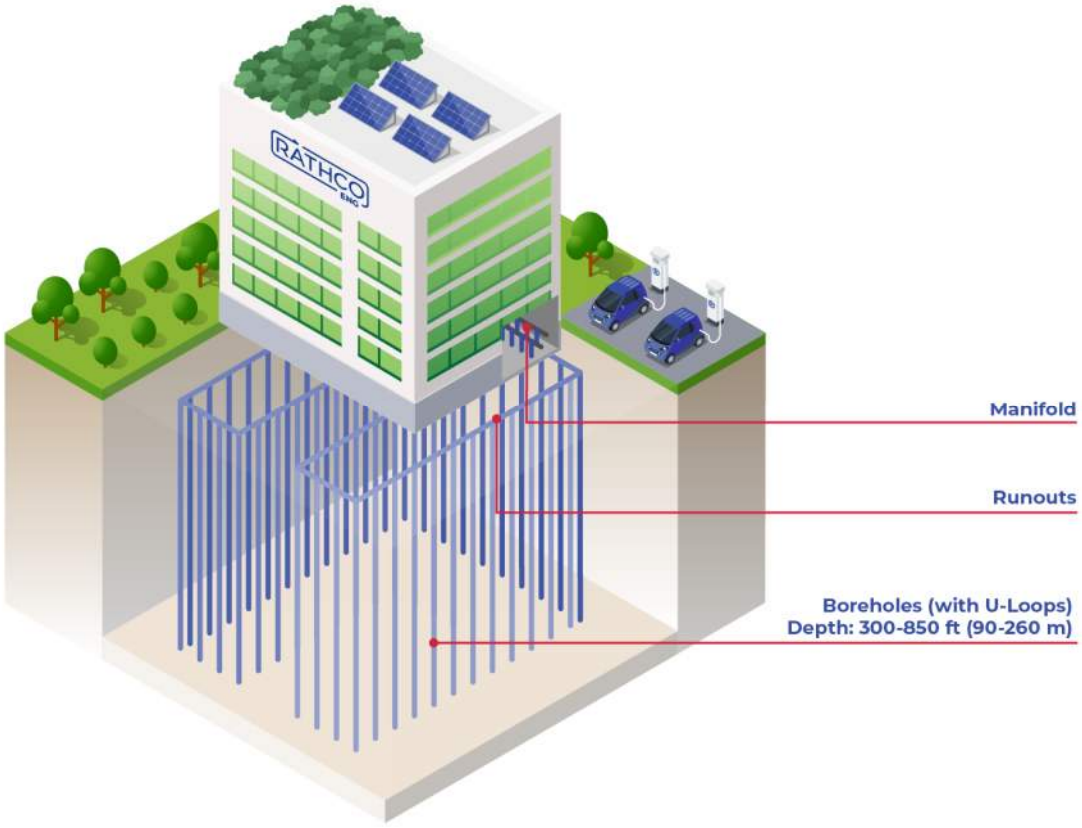

Figure 12: Borefield Infographic

The boreholes are drilled to depths of 600 – 850 ft, HDPE U loop piping in then installed the length of the borehole and then grouted in place.

Groups of 10 – 12 borehole U loops (or circuits) are then connected with headers referred to as runouts or laterals and meet at a common header (the manifold).

Boreholes can be drilled, and runouts laid beneath new development buildings with manifolds located in the basement mechanical rooms of these buildings.

The images below show the construction details of boreholes as described in 3.2 above.

Figure 13 shows the borehole construction in plan view with the corresponding section view shown in Figure 14. Figure 15 shows the typical header design for the runouts and Figure 16 shows a typical mechanical room detail for a geo-exchange system, including the Geo-exchange manifold.

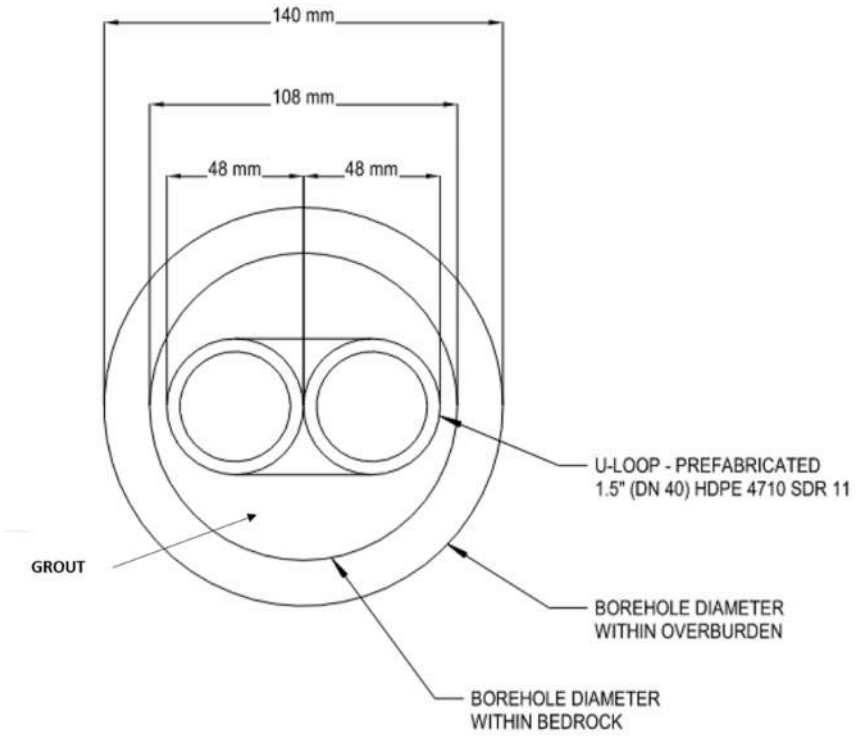

Figure 13: Borehole Construction Plan View

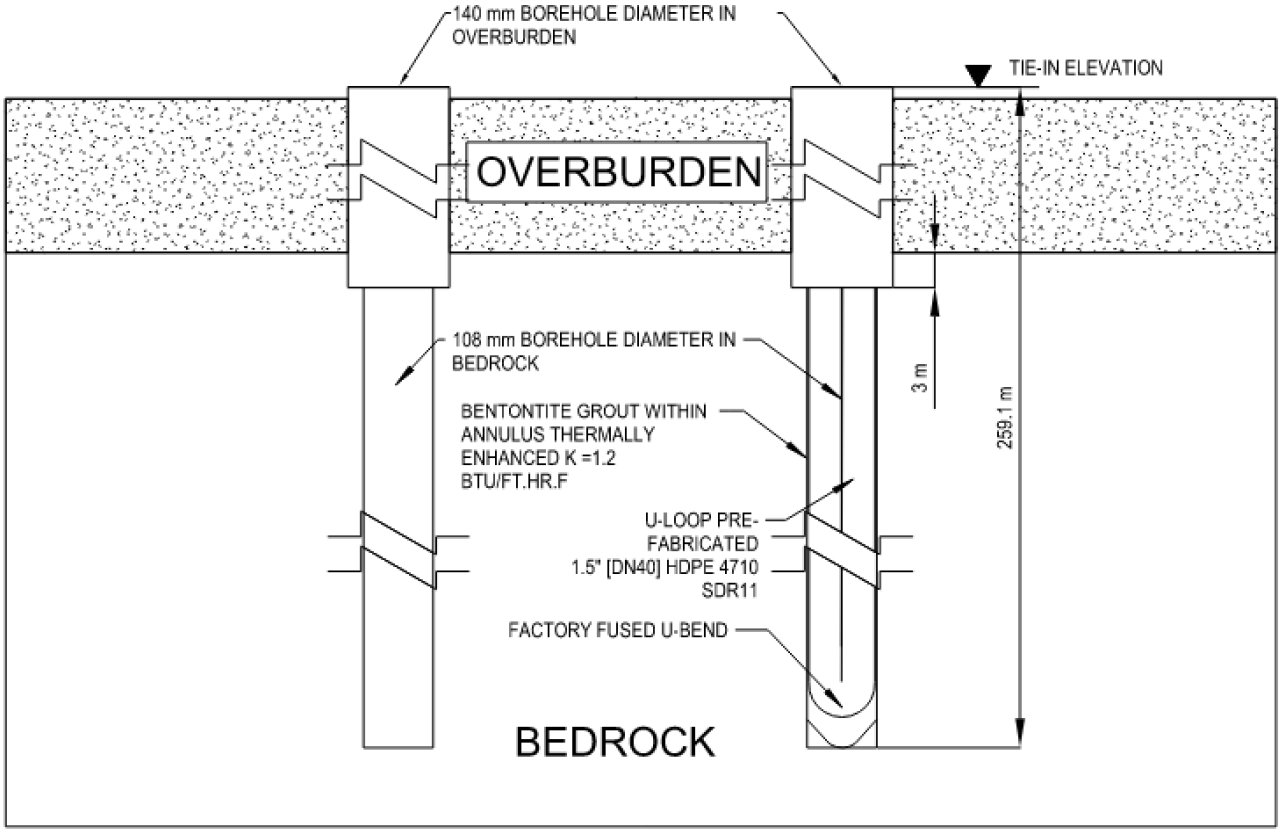

Figure 14: Borehole Construction Section View

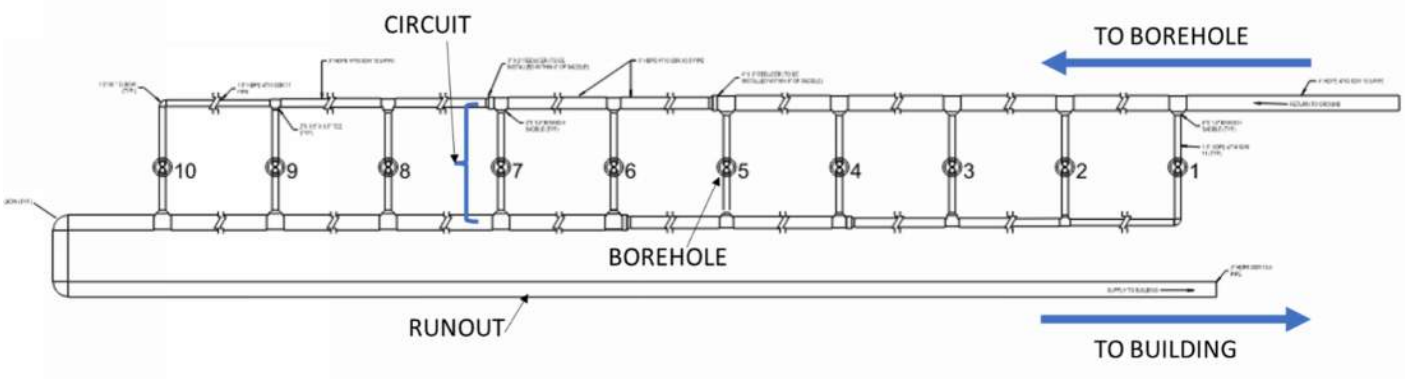

Figure 15: Header Piping (10 Circuits)

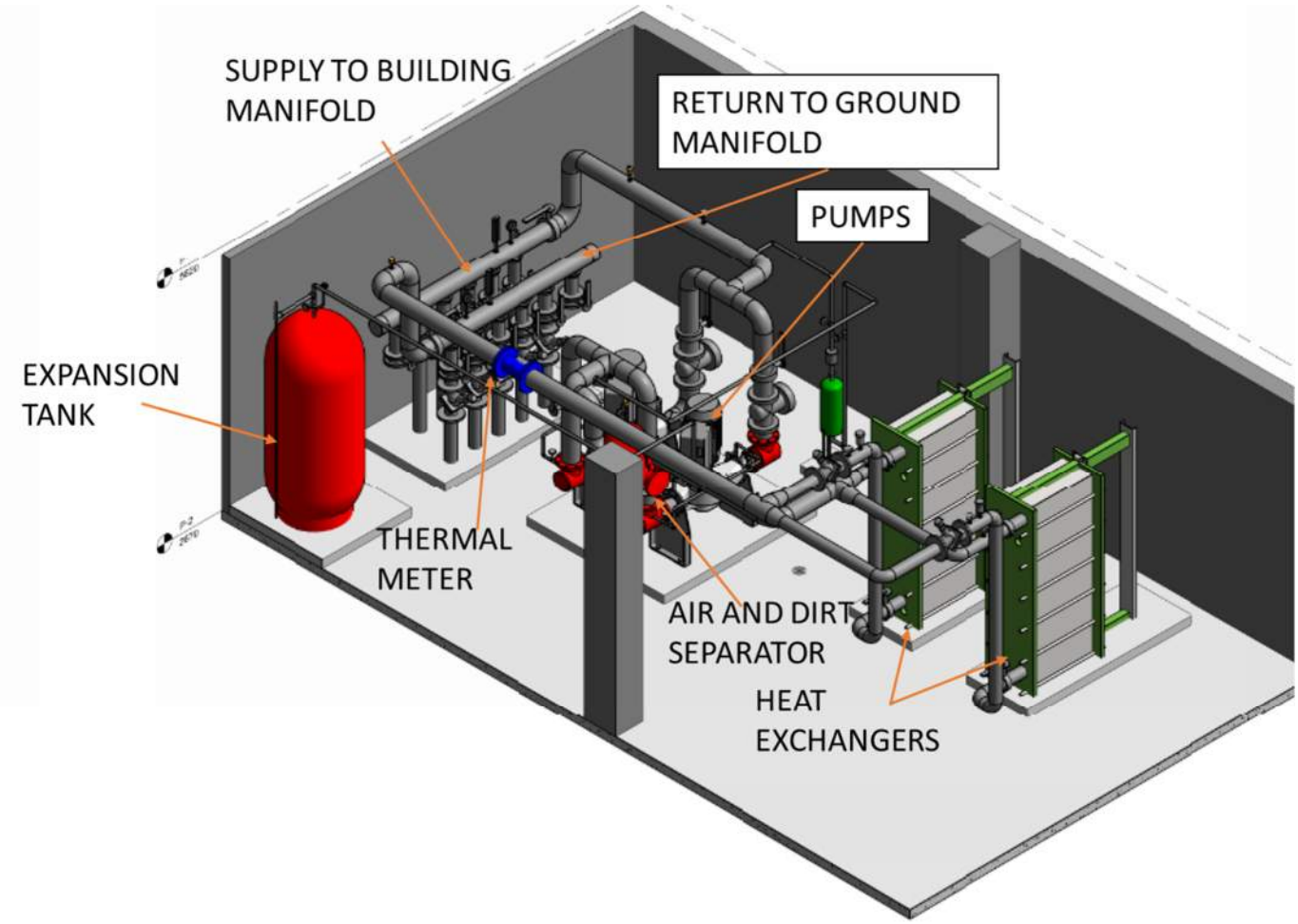

Figure 16: Typical Geo-Mechanical Room

4 SEWER ENERGY EXCHANGE POTENTIAL

4.1 Sewer Energy Exchange Description

Sewer energy exchange uses sewage flow as the heat source or heat sink (heat storage) in combination with a heat pump system to provide heating and cooling. Infrastructure is installed in sewer lines to direct sewage flow through a heat exchanger. In heating mode, the solids are temporarily separated allowing the 'clean water to flow through a wastewater holding tank where the heat is drawn into the heating system through the heat exchanger. In cooling mode, heat is rejected from the cooling system to the sewage through the heat exchanger. Heat pumps are then used to heat or cool the system to the appropriate temperatures. There is no net flow of sewage into the building or district energy distribution network.

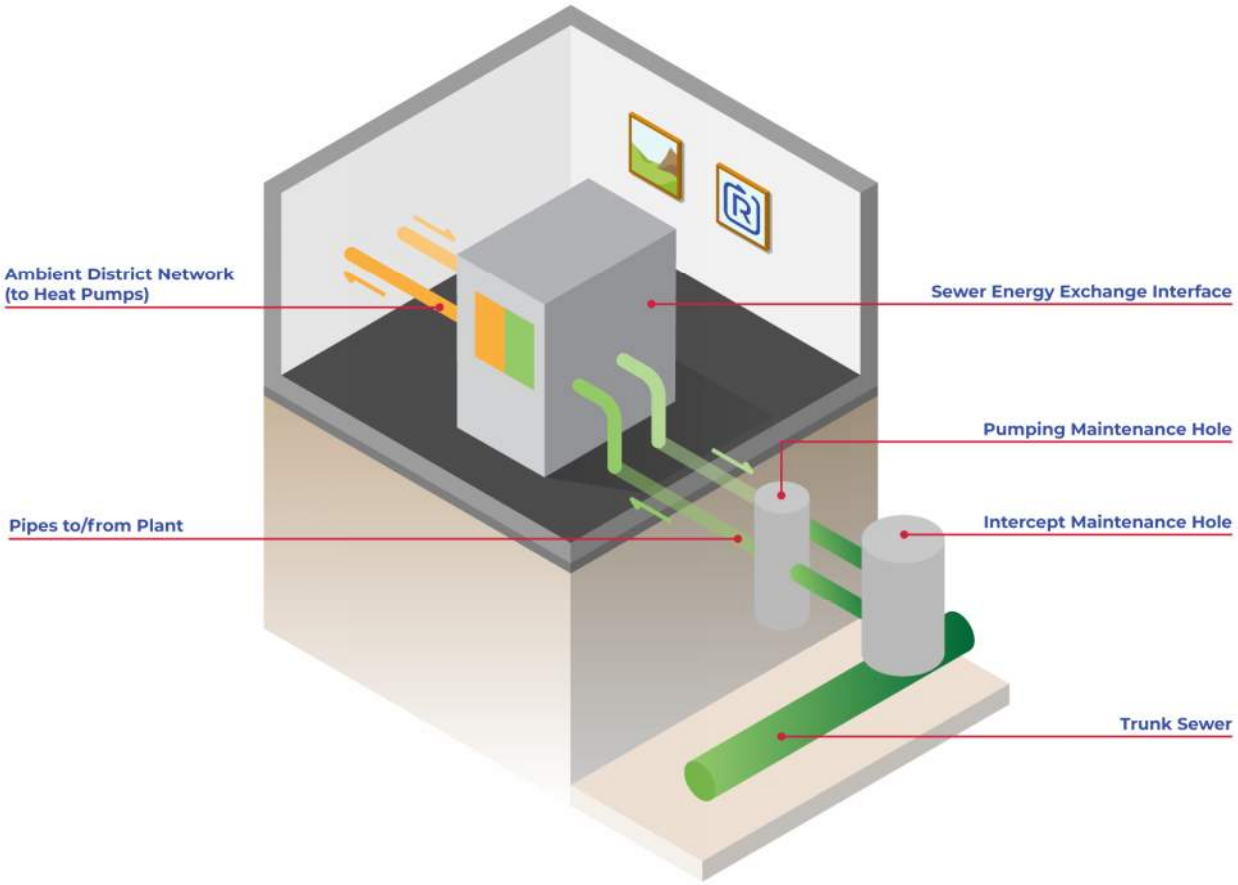

Figure 17: Sewer Energy Exchange Infographic

4.2 Sewer Energy Exchange Potential at the Hospital District

Rathco has engaged with the Region of Halton to gather site-specific information for the sewer energy capacity at the Hospital District site.

The Region has provided flow and temperature data for 3 monitoring sites upstream and 3 sites downstream of the proposed Hospital District connection point.

The information for these sites was provided on an hourly basis for the 2019 – 2023 period.

Figure 18 below shows the hourly flow-weighted average temperature at the proposed connection site.

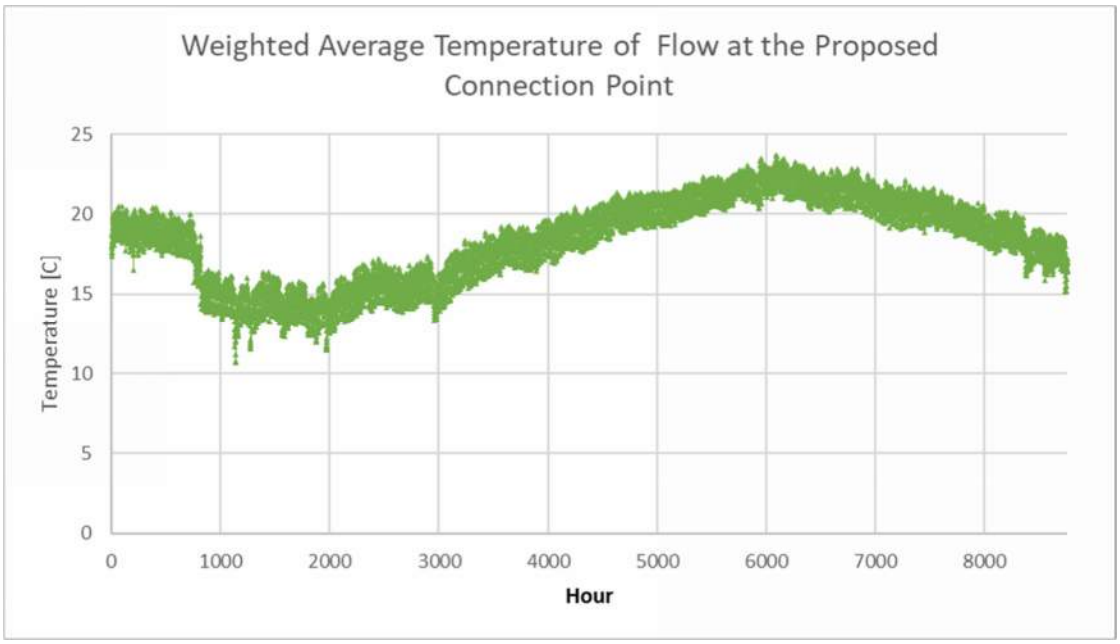

Figure 18: Weighted Average 2022 Temperature Upstream of Proposed Connection Point

The Combined 3 sites in Milton account for the total flow seen at the site of the proposed connection. Figure 19 below shows the weighted average flow at the proposed Hospital District connection point.

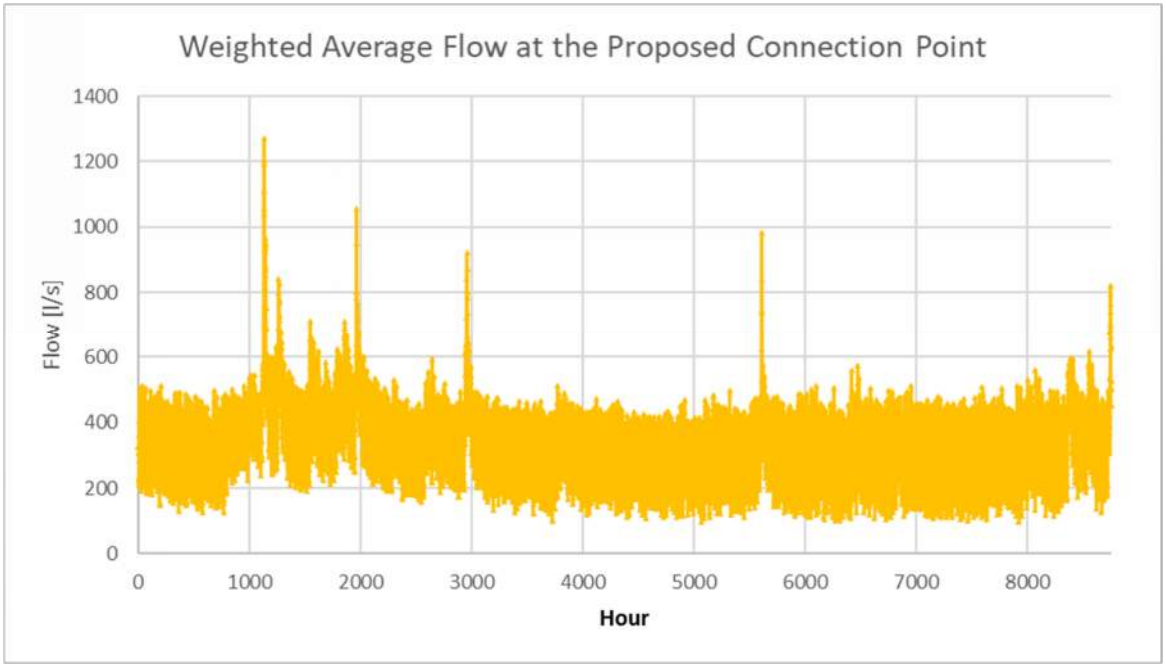

Figure 19: Weighted Average Flow at the Proposed Connection Point

A series of analyses were completed to determine the hourly heat rejection (cooling) and extraction (heating) possible from the sewer. The results for the analysis were conducted at an assumed heating temperature differential (the difference in temperature in the sewer before heat exchange vs after heat exchange) of 8 C and cooling differential of 10 C. This analysis was also conducted at a series of other temperature differentials (dT) to determine the potential operational range of the sewer.

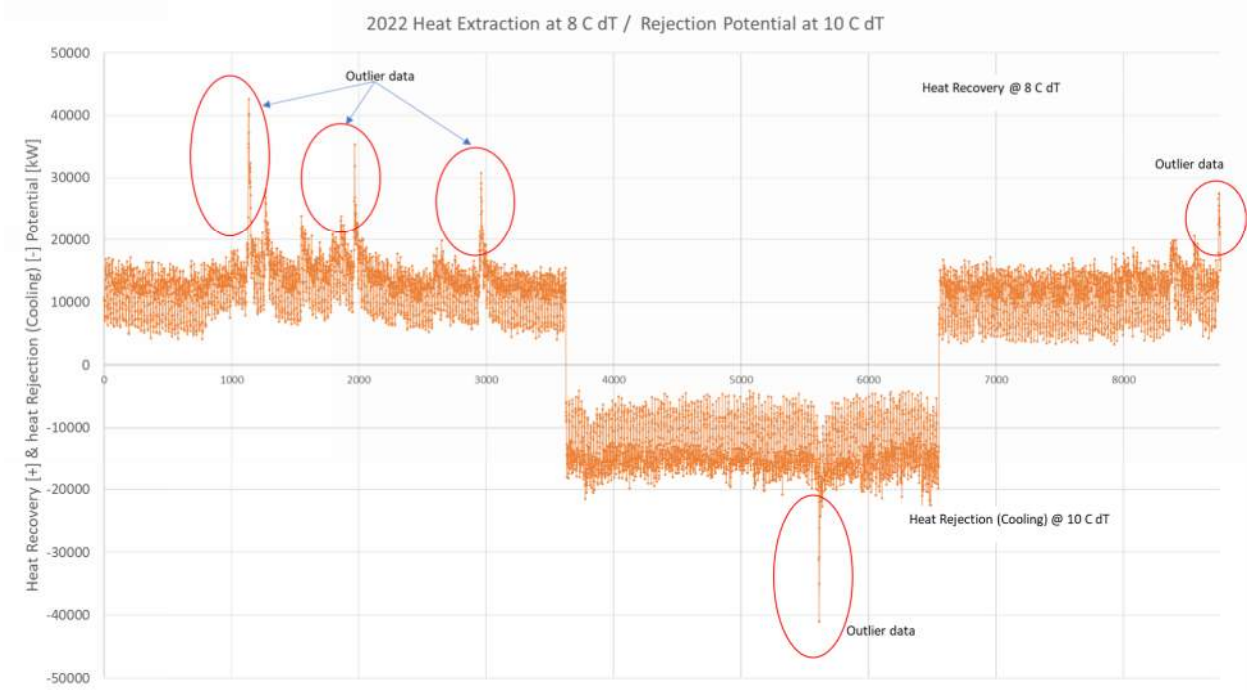

Figure 20: Assessed Heat Extraction / Rejection Capacity on an Hourly Basis

	Capacity [MW]					
	Cooling DT [C]			Heating DT [C]		
	5	7	10	5	8	10
All year – min	2.1	2.9	4.1	2.1	3.3	4.1
All year – average	7.5	10.4	14.9	7.6	12.1	15.1
All year – max	34.3	48.0	68.6	29.6	47.3	68.6
Summer/ Winter – min	2.1	2.9	4.1	2.1	3.3	4.1
Summer/Winter – average	7.5	10.4	14.9	7.6	12.1	15.2
Summer/ Winter – max	34.3	48.0	68.6	29.6	47.3	59.2

Figure 21: Heating and Cooling Analysis at Varying dTs

The average capacity available from the sewer in heating mode is 12.1 MW_{th}. The average capacity available from the sewer in cooling (heat rejection) mode is 14.9 $MW_{th.}$

The minimum capacity available from the sewer in heating mode is 3.3 MW_{th}. The minimum capacity available from the sewer in cooling (heat rejection) mode is 4.1 $MW_{th.}$

The numbers will vary somewhat once the annual energy demands of the site are applied to them.

When comparing this analysis to the original prefeasibility study the capacity assumed for the sewer energy exchange equipment was 4.4 $MW_{th.}$

This confirms that the assumptions in the original assessment were appropriate and in line with the lower end of the potential capacity for the site.

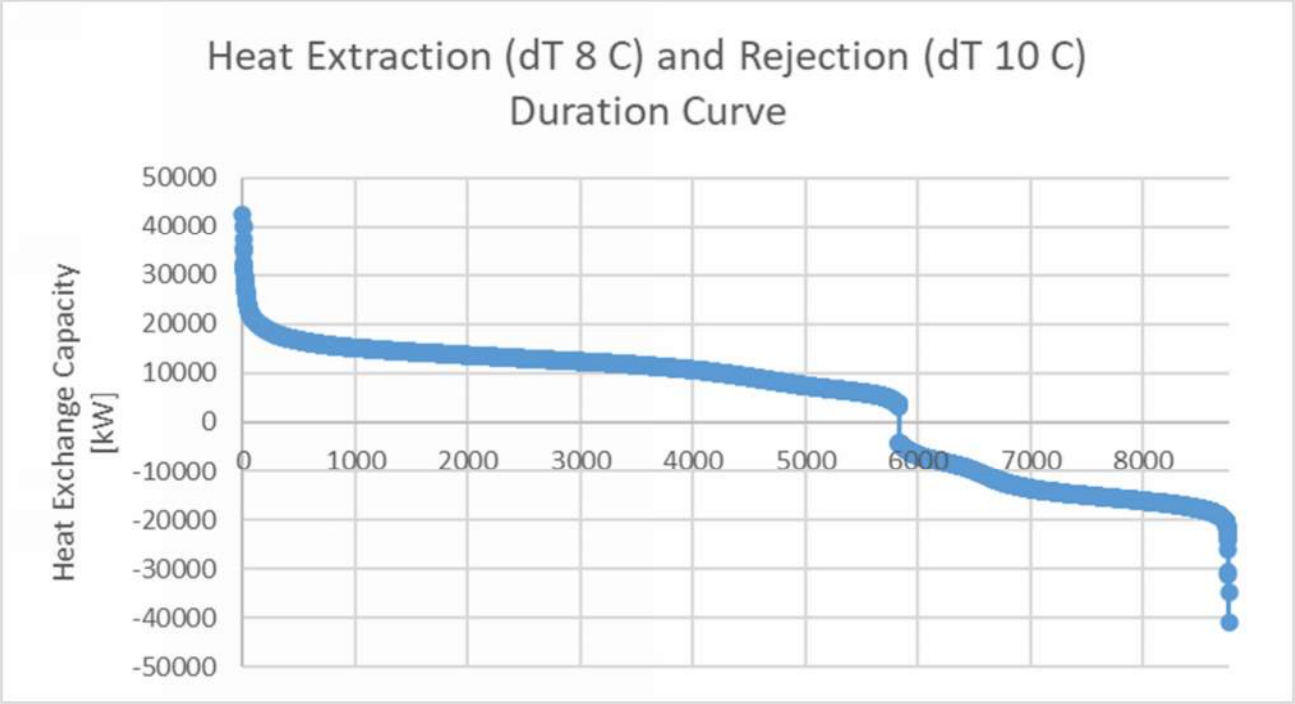

Figure 22: Hourly Duration Curve for Heat Exchange

The annual heating demand is approximately 69,000 MWh with peak cooling of 27,825 MWh. Based on Figure 22 above, the sewer energy exchange alone could contribute over 50% of the annual heating and cooling demands of the site.

As part of the next phase of the project, the 3 downstream sites will be assessed in a similar way once the ambient loop operation is modelled to evaluate the potential impact on temperatures to the mid-Halton wastewater treatment plant.

Based on other similar projects completed by the team, the impact to the treatment plant downstream is expected to be tempered by the additional flows to the wastewater treatment plant coming from the Oakville area which should help to ease any operational concerns for the plant.

4.3 Technical Description of Solution

The schematic below outlines a potential approach to the interconnection of the sewer system and the energy exchange with the Hospital District. An item of note here is that only energy is exchanged via heat exchangers with the site, there is no net change in sewer flow downstream of the connection point resulting from the interconnection. This piece of work is also separate from the site's sanitary sewer connection.

Wastewater from the Region's sewer will flow via a gravity main to the pumping chamber. From here the wastewater will be pumped via a forcemain through a fully hydronically separated heat exchanger. After this point, the wastewater will continue through the forcemain circuit back to a secondary manhole located within the property line of the Energy utility. From here the wastewater will return to the existing sewer. The sewer line will experience no net change in flow downstream of this manhole compared to upstream of the manhole.

Additional information has been requested from the region to inform the development of this concept.

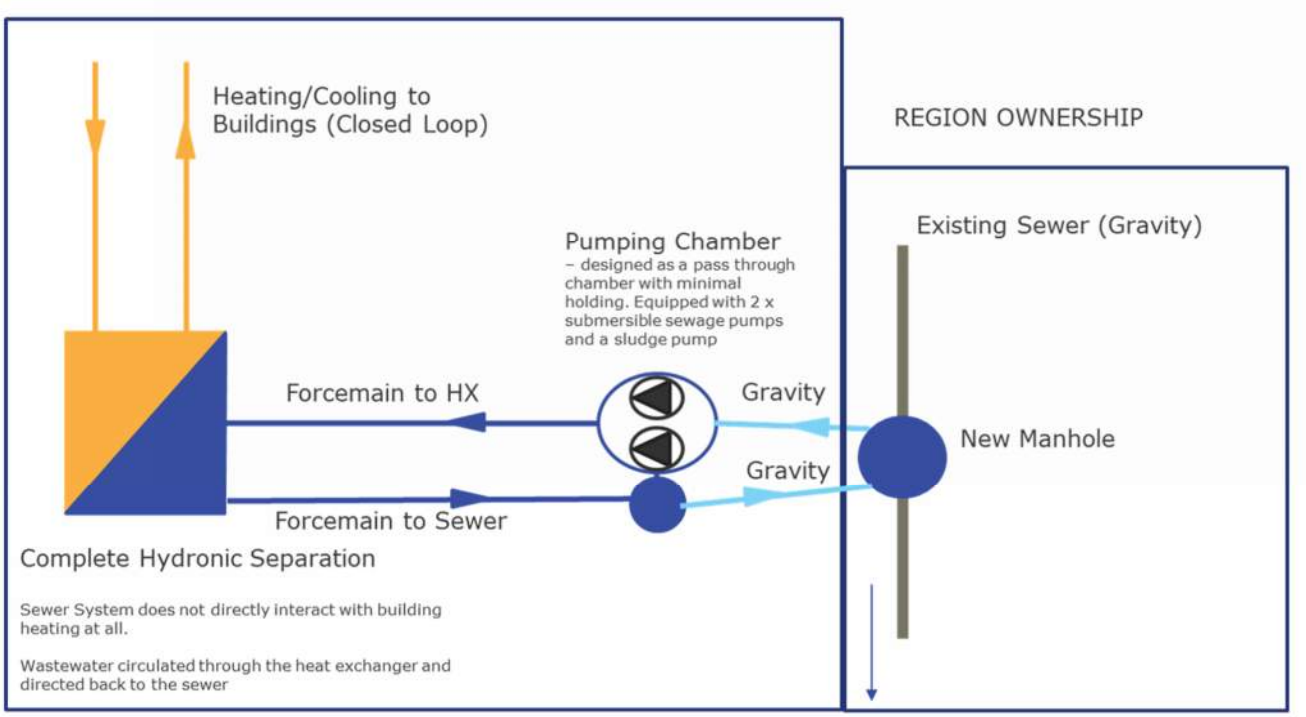

Figure 23: Sewer Connection Interface

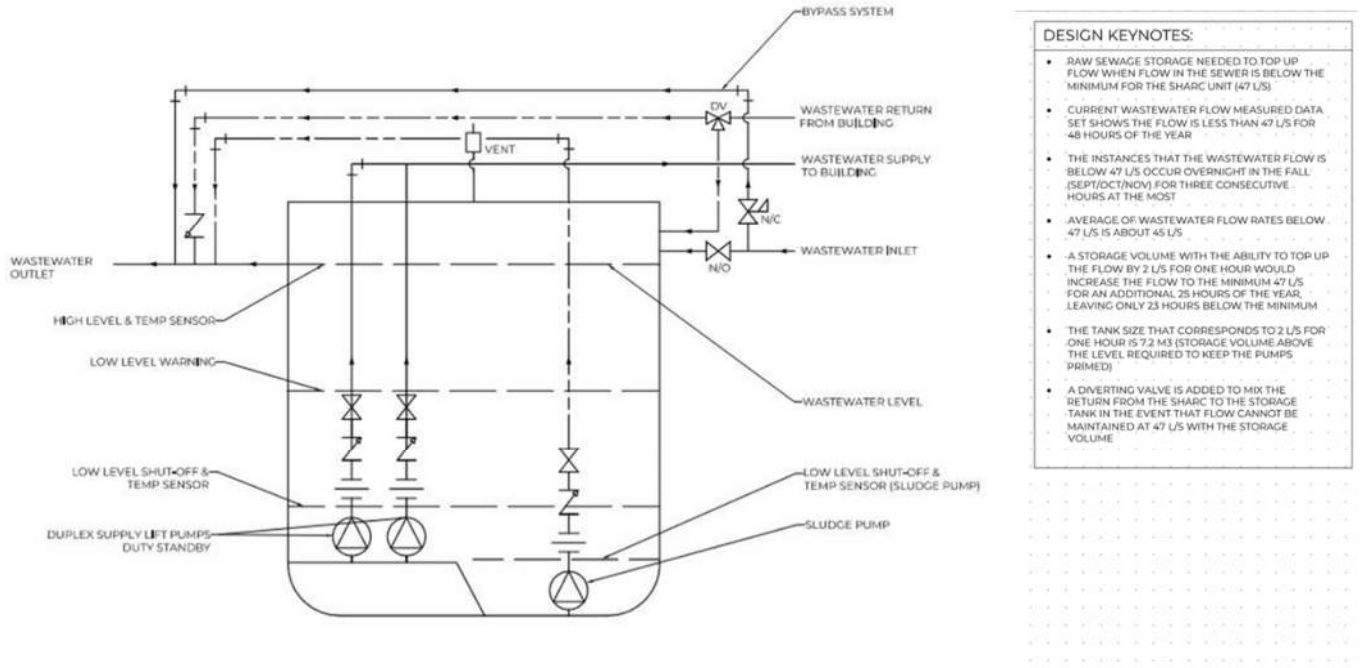

Figure 24: Pumping Tank Schematic

The pumping tank schematic above outlines the proposed pumping manhole arrangement which will be part of the Energy Utility System. There will be an integrated sludge pump in the system for maintenance reasons.

5 PROJECT DESCRIPTION

The recommended concept at the hospital site from the Pre-Feasibility Study was the **hybrid geothermal** and **sewer energy exchange ambient district energy system**. In the pre-feasibility findings, the geo-exchange only system had comparable outcomes to the recommended concept (sewer energy + geo-exchange). In addition, a domestic hot water (DHW) district energy system should be implemented to reduce the space and operating requirements for customers. The DHW system used natural gas boilers for heating and had the potential to use the waste heat in the summer months to pre-heat the incoming cold water at each building.

This hybrid concept offered an IRR of about 14% under 2021 carbon tax assumptions). It was not highly sensitive to carbon policy as it predominantly relied upon renewable resources. This concept would also allow the future Hospital District to reduce Greenhouse Gas (GHG) emissions by about 62% over the baseline business-as-usual scenario. These economic results changed between the Pre-Feasibility Study and this Detailed Feasibility Study. Consideration was given to the impact of the Investment Tax Credit on the project economics.

The hybrid combination of geothermal and sewer energy exchange was the most promising concept as the two technologies provide a resilient low carbon energy source (heating) and sink (cooling). The technologies are well suited for each other as the sewer can be used to balance the geothermal borefields instead of running external equipment like boilers or fluid coolers. The hybrid concept offers the added benefit of resiliency and borefield balancing with the addition of the sewer energy exchange component.

The hybrid geothermal and sewer energy exchange concept is shown in Figure 25. Fluid coolers are shown for reference in the event that cooling peaking equipment is required but have not been included in the analysis.

Like buildings and homes utilizing natural gas, the DES will be developed with N+1 redundancy. This system will follow the same energy and fuel standards as seen in individual building natural gas connections. No additional NG connection to buildings is required.

The building on the left represents a customer building that houses a distributed central plant, geothermal borefield, and energy transfer station. The energy transfer stations are indicated by heat exchangers (HX) in the diagram and are the point at which the energy from the district energy system is exchanged with the individual buildings. The central plant equipment, geothermal equipment, and energy transfer station are likely located below grade, with the potential for rooftop space also being required in the event that cooling peaking equipment is needed. The remainder of the building is customer space.

The building on the right represents a customer building that only houses a geothermal borefield and energy transfer station. This equipment would be located on the lower levels, with the remainder of the building remaining as customer space.

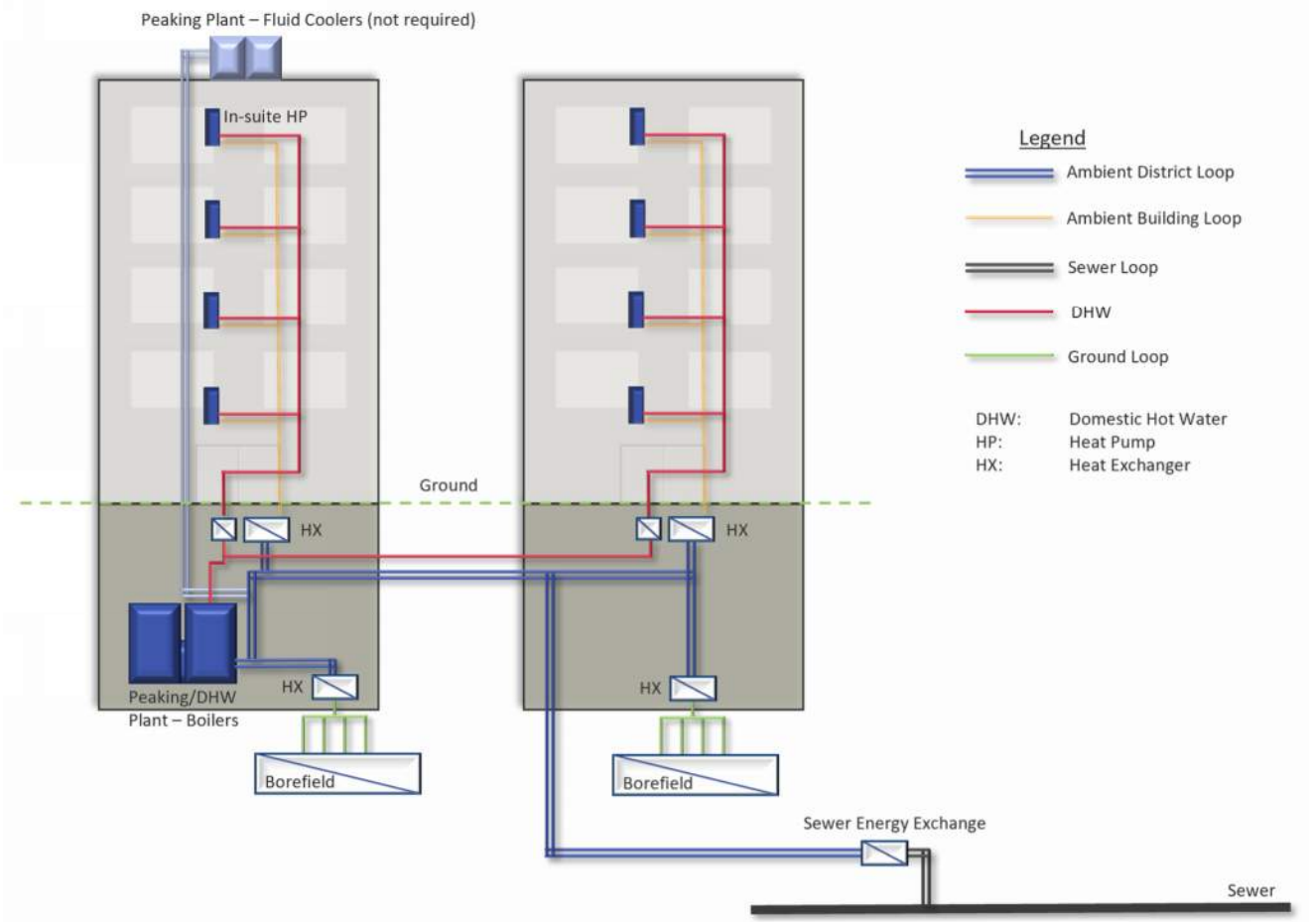

Figure 25: Hospital site hybrid geothermal and sewer energy exchange concept diagram.

The original concept considered the addition of a domestic hot water district energy system for the site. The basis of this was that a central heating plant would increase the overall capital, technical and environmental performance of domestic hot water provision by achieving high efficiencies. **In this feasibility study, the potential to decouple the DHW from natural gas boilers was assessed.**

This concept involved a number of different distributed plants across the site and was based on a high-level understanding of development plans based on the ASP. **In this study engagement with developers to determine phasing and demand information is being pursued to provide greater detail as to the technical feasibility of this approach.**

While this concept is still the basis of design for this detailed feasibility assessment, the optimizations highlighted above such as removing the DHW loop to further reduce emissions are being pursued.

5.1 Ambient Loop Technical Details

5.1.1 Fluid Type and Chemical Composition

The fluid distributed through the closed-loop piping system is water at varying temperatures. As this is a closed-loop system the water circulating through the pipe loop never leaves the closed system, i.e., is not distributed to end-use customers. The water is strictly used as a heat transfer medium.

5.1.2 Pipe Information

The ambient loop pipes will be a standard fused HDPE product commonly used in potable water applications. These pipes will be HDPE 4710 DR17 DN400 (16") diameter. These pipes will not be insulated and will be buried below the frost line.

For the DHW system either a pre-insulated steel (EN253) or pre-insulated Raised Temperature Polyethylene (PE-RT) HDPE pipe will be used.

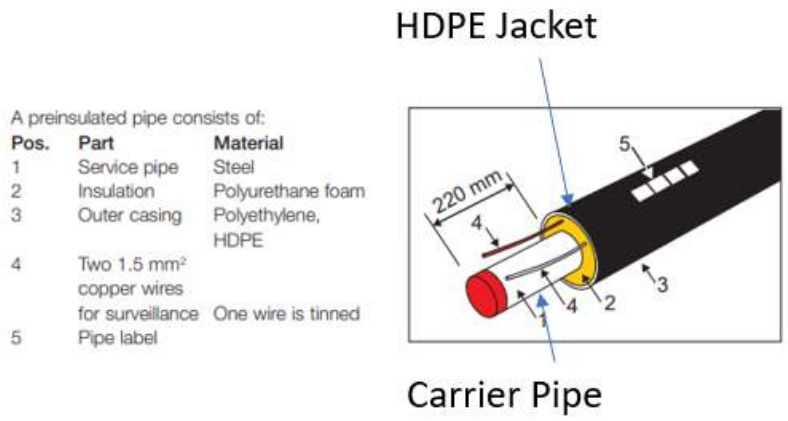

Figure 26: EN253 Piping Infographic (Courtesy of Logstor)

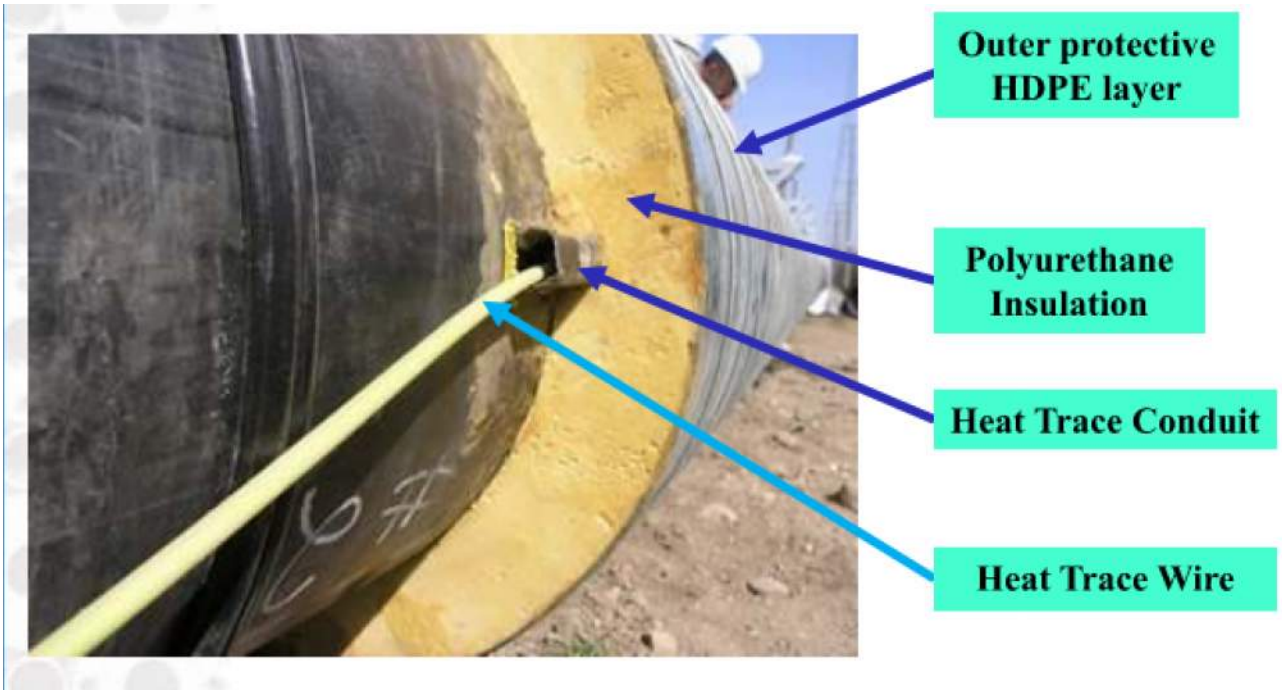

Figure 27: Pre-insulated PE-RT Infographic (courtesy of EMCO)

6 SUMMARY

6.1 Low Carbon Supply Assessment

The initial assumptions regarding low carbon supply opportunities in the pre-feasibility study were confirmed as accurate as part of this initial baseline assessment.

The timeline for development of the site was much clearer and though some developments have already progressed, the majority of the site is moving at a timeline suitable for the development of a district energy system.

MILESTONE 3

MODELLING AND DESIGN

1 INTRODUCTION

This Section outlines the work completed in Milestone 3 of the project to set the detailed technical analysis prior to the economic analysis in Milestone 4.Concept Overview

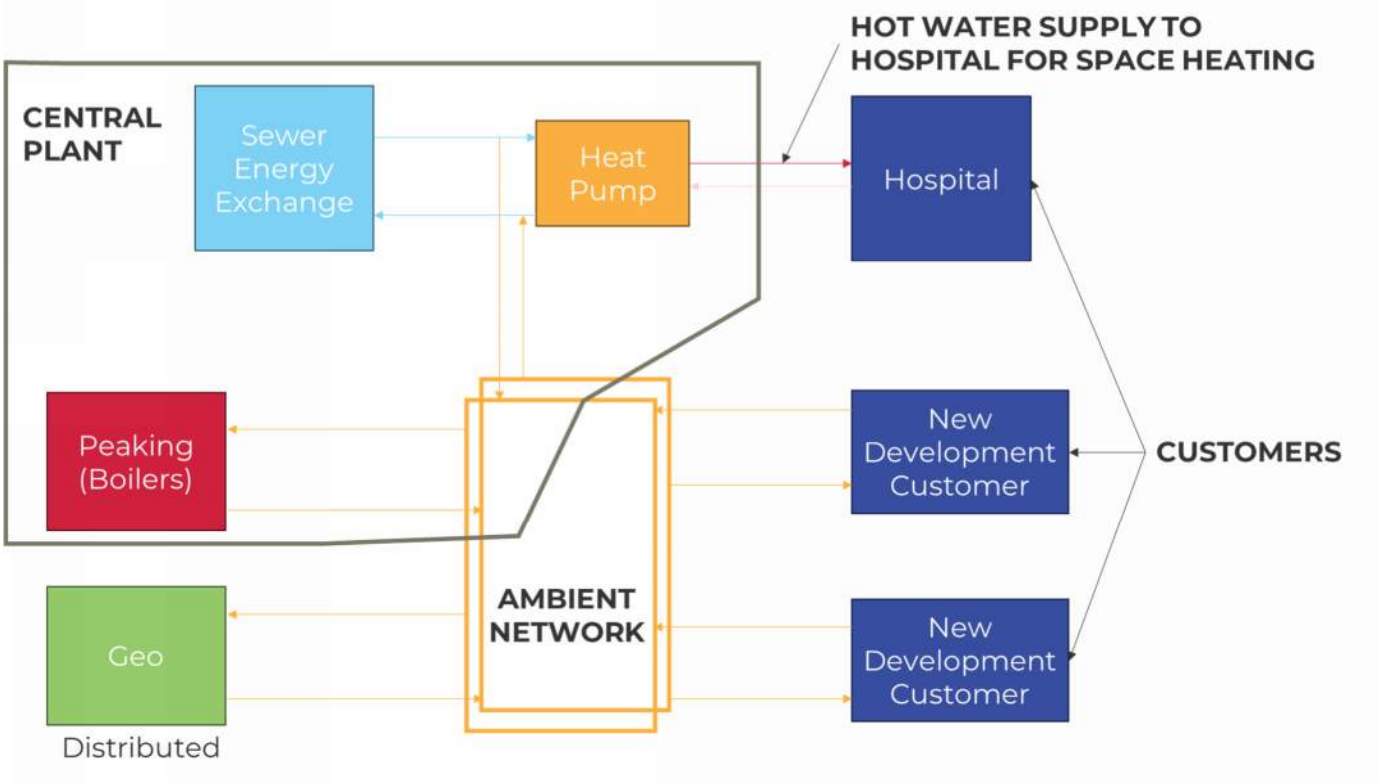

Figure 28: Conceptual Overview of the Proposed System at Full Build-Out

Based on the findings of the Baseline Memo the Rathco team has developed the system concept outlined above.

1.1 Phase 1

Phase 1 consists of a heat pump connected to the sewer energy exchange system supplying heating to the hospital building. The intent of this system is not to provide peak load to the hospital, but rather to offset the current utilization of baseload natural gas for heating and domestic hot water.

This Phase 1 project could also be considered a discrete opportunity in itself with the potential to act as the wedge project (a successful first project from which the broader opportunity could be realized) for district energy in this area.

Alternative supply points and sewer tapping locations could be considered.

Supply of cooling load to the hospital is not included as based on the available data, it is estimated that the efficiency of cooling supply from the sewer energy system could not improve upon existing infrastructure.

1.2 Phase 2 Onwards

Following the first project at the hospital, the next phase would be an ambient loop connection from the central plant to new development customers. At first, these connections will leverage excess capacity in the sewer energy exchange system for heating and cooling. As this capacity is spoken for, vertical borehole geo-exchange systems will be developed.

As the overall system is intended to be heating-dominant (more heating is needed annually than cooling) additional peak heating capacity will be added at the central plant.

For sites where development takes place in advance of the district energy system, there are opportunities for those developments to safeguard for future connection to the system. This could be either as offtake customers to replace fossil fuel-based peaking plants with low carbon energy from the ambient system or as energy sharing approaches where connections could also supply into the network. Options for the DES provider to purchase existing systems could also be considered. (for example, by the time of DES system development, Schlegel Phase 1 and the Mattamy site will likely already be built and operating).

As new geo-exchange systems are built out, the DES developer will need to engage with developments on a case-by-case basis to determine the design and location of distributed borefields.

The assumption in this feasibility study is that the borefields would be located beneath new buildings and integrated into the overall system design. Manifold rooms would be located at these buildings which would account for 30 – 50 m^2 of required space. No other space for generation equipment on site would be required other than the energy transfer station equipment estimated to require another 40m^2 (see Milestone 3, Section 5 for details).

1.3 Changes from the Pre-Feasibility Concept

This concept builds on the work from the pre-feasibility study by augmenting the previous concept. The following are the primary changes to the concept:

- A connection to the existing hospital building.
- The dedicated hot water loop is removed and instead the ambient network will provide domestic hot water to buildings via a water-to-water heat pump. This was flagged as a potential augmentation in the technical baseline memo and has been deemed the more cost-effective course of action here.

2 PHASING

The phasing proposed for the project is based on the findings of the stakeholder engagement undertaken described in Milestone 2 Section 1.2.

The phasing below shows Schlegel Phase 1 and 41C and 41D included in the system – this is shown this way to demonstrate that these connections are safeguarded for in the future despite the timing mismatch for the potential DES project.

Figure 29: Phasing Map

Table 16 below shows the Block Peak and Annual demands for the site phased over time. Only base loads for hospital space heating are carried. In addition, as described previously Schlegel Phase 1 and the 41 C and 41D buildings are not assumed connected to the network, but costs have been included in the system infrastructure planning to enable their future connection. Costs are not estimated for retrofit works for connection or for purchasing future site-based systems as it is not possible to estimate this at this time. The table below shows block loads and energy demands for the different phases, this does not include in-building equipment efficiencies or other considerations.

Table 16: Block Peak and Annual Demands

	Cumulative Peaks [MW]			Cumulative Totals [MWh]		
Phase	**DHW**	**Heating**	**Cooling**	**DHW**	**Heating**	**Cooling**
1		3.2			24,836	
2	0.7	7.6	2.0	2,517	7,766	3,177
3	1.0	8.4	2.7	3,507	8,785	4,662
4	1.7	17.2	5.2	6,353	16,756	9,202
5	2.2	22.5	6.6	7,796	20,715	11,287
6	3.0	28.5	8.8	10,621	29,442	15,338
7	4.0	41.5	10.8	13,714	40,107	19,737
8	4.4	47.4	11.6	15,037	44,671	21,620
9	5.1	57.4	13.2	17,247	52,290	24,763
10	5.6	62.5	14.2	18,511	56,649	26,561

2.1 Total Connected Floor Areas

The total connected floor areas are shown in Table 17 below. Note the Hospital (Phase 1) floor area is not shown as DES-connected as this building is not considered connected to the broader ambient loop DES network, though the energy transfer infrastructure is part of the DES system. Floor areas account for the sites deemed excluded above.

Table 17: Total Connected Floor Areas

Phase	GFA m2	Total GFA – DES m2
1	148,644	0
2	97,633	97,633
3	51,000	148,633
4	98,399	247,032
5	82,077	329,109
6	136,682	465,791
7	133,309	599,100
8	57,048	656,148
9	95,242	751,390
10	47,481	798,871

3 ENERGY SUPPLY

3.1 Energy Demand

An additional 10% has been carried out in this model to account for energy loss through the heating water distribution system to the Hospital, this is expressed in the documentation as a reduction in the energy sales to the Hospital. Note heat losses are close to negligible in the ambient system due to lower operating temperatures, particularly in winter.

3.2 Technical Description of Sewer Energy Exchange

To make this system work a gravity feed from the main sewer line to the energy transfer equipment is required. In general, this design case (of flow from a trunk sewer to energy exchange equipment) is not accounted for in Regional Design Guidelines, confirmed in our review of the Region of Halton design Guide Documents.

A pipe connection below the pipe spring line (at 5 o'clock in Figure 30) is recommended in order to maximize thermal offtake. A connection at the spring line could not access the thermal energy required for this project.

Further engagement with the Region is required in order to agree the design of the connection. In the development of this Technical Memo, the more cost-conservative method of including a manhole has been assumed.

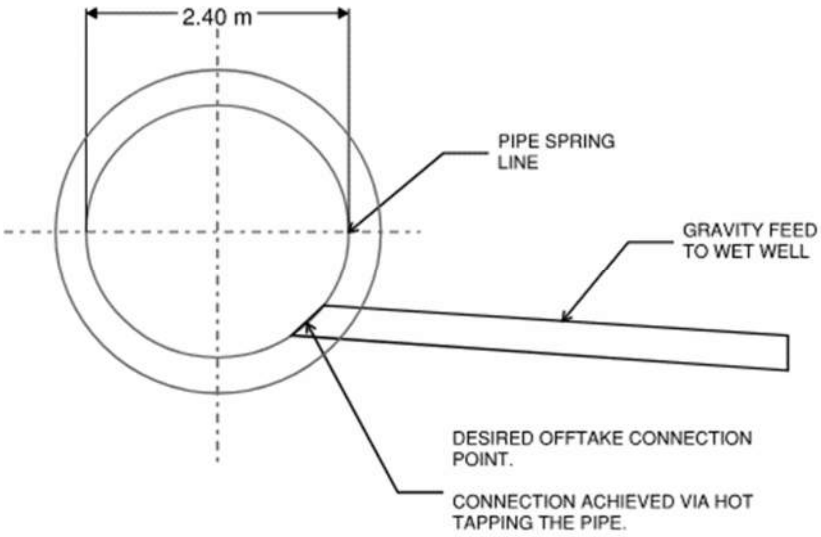

Figure 30: Sewer Offtake

This can either be achieved via a hot tap directly in the mainline of the pipe or could required the inclusion of a manhole depending on the Region's preference.

The gravity sewer average depths in this area are in the range of 8 – 10 m from grade to top of pipe. While this is deep, this system is accessible for energy exchange. The new Toronto Western Hospital system for example connects to a larger (3 m diameter in Toronto vs 2.4 m in Oakville), deeper (50 m deep in Toronto vs 10 m in

Oakville) sewer main than that proposed here and is already under construction. The proposed system at Oakville has approximately half the thermal capacity of the Toronto site and is in an area with less construction restrictions such as those experienced in Toronto with less traffic, public transit utilities etc.

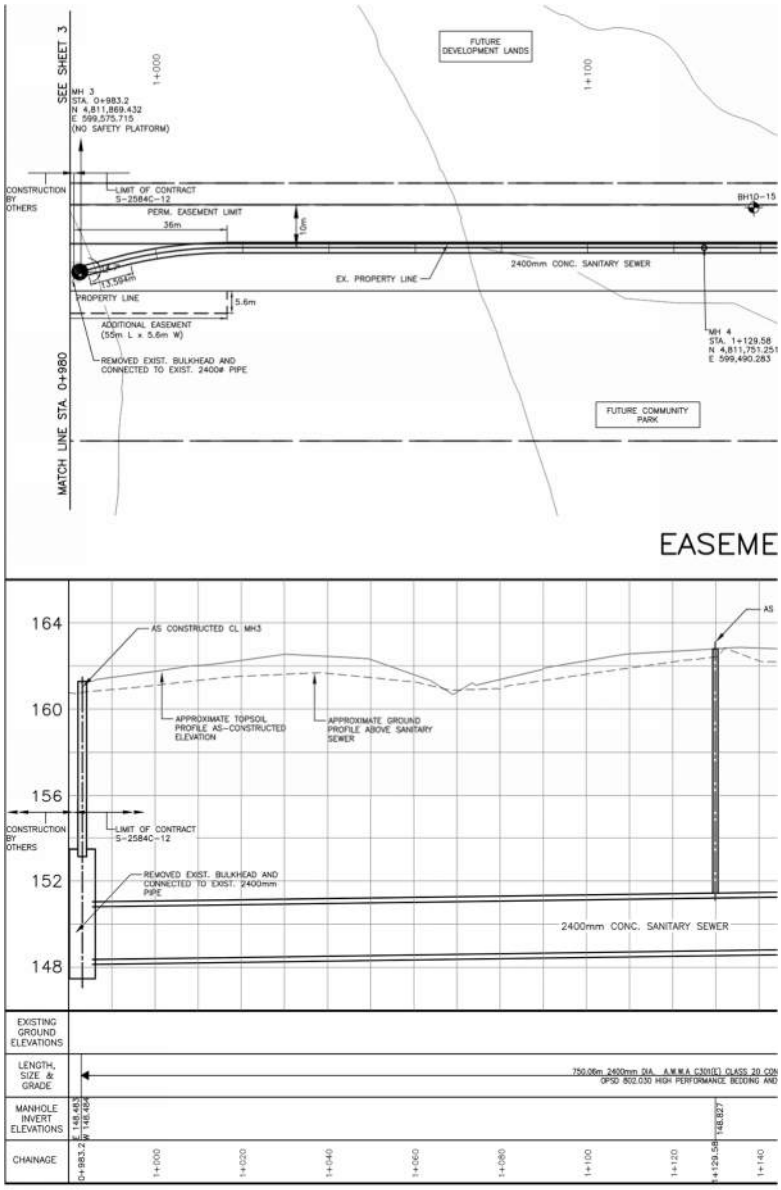

Figure 31: Sewer Depth

The schematic below outlines a potential approach to the interconnection of the sewer system and the energy exchange with the Hospital District. An item of note here is that only energy is exchanged via heat exchangers with the site, there is no net change in sewer flow downstream of the connection point resulting from the interconnection. This piece of work is also separate from the site's sanitary sewer connection.

Wastewater from the Region's sewer will flow via a gravity main to the pumping chamber / wet well. From here the wastewater will be pumped via a forcemain through a fully hydronically separated heat exchanger. After this point, the wastewater will continue through the forcemain circuit back to a secondary manhole located within the property line of the District Energy utility. From here the wastewater will return to the existing sewer. The sewer line will experience no net change in flow downstream of this manhole compared to upstream of the manhole.

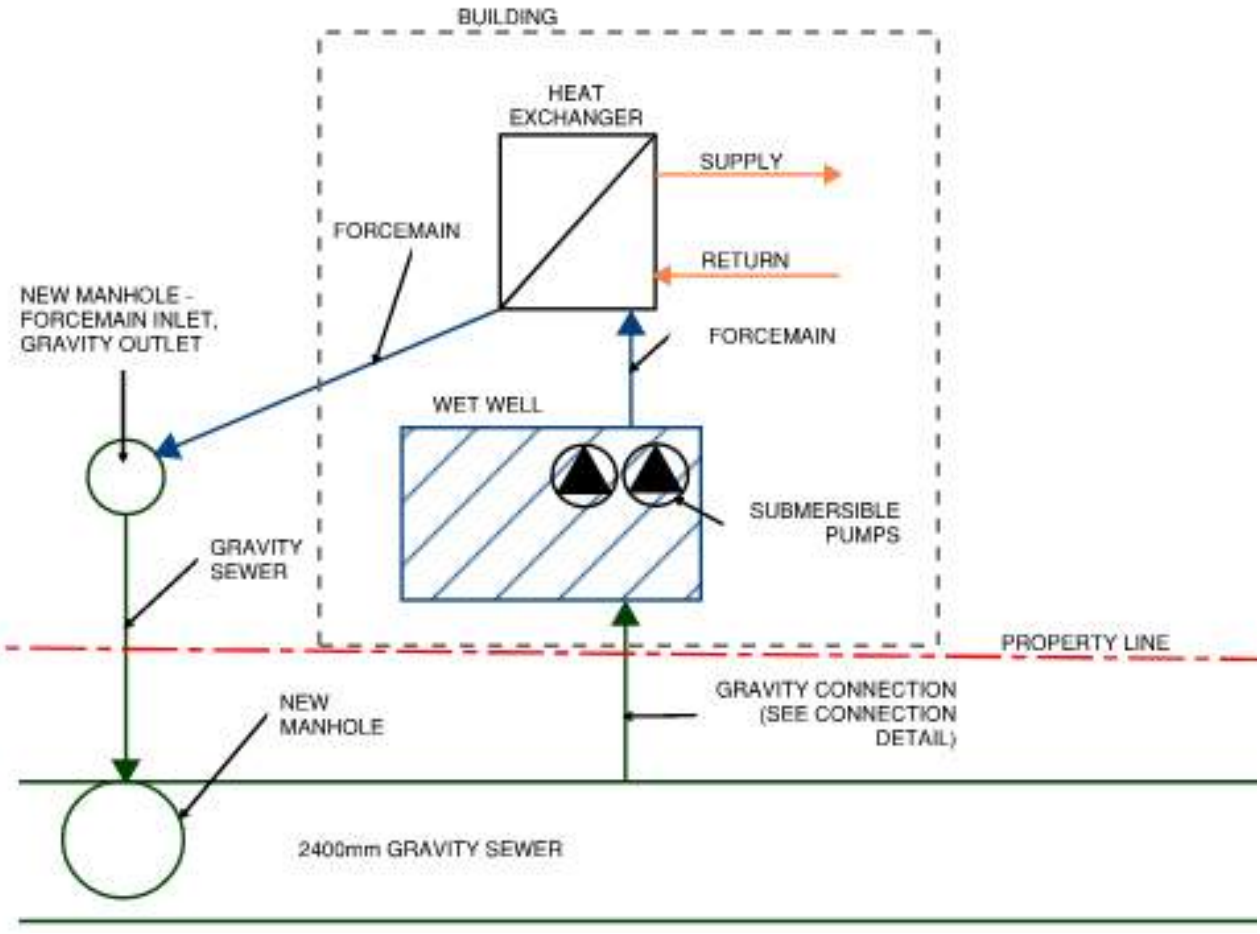

Figure 32: Sewer Connection Interface

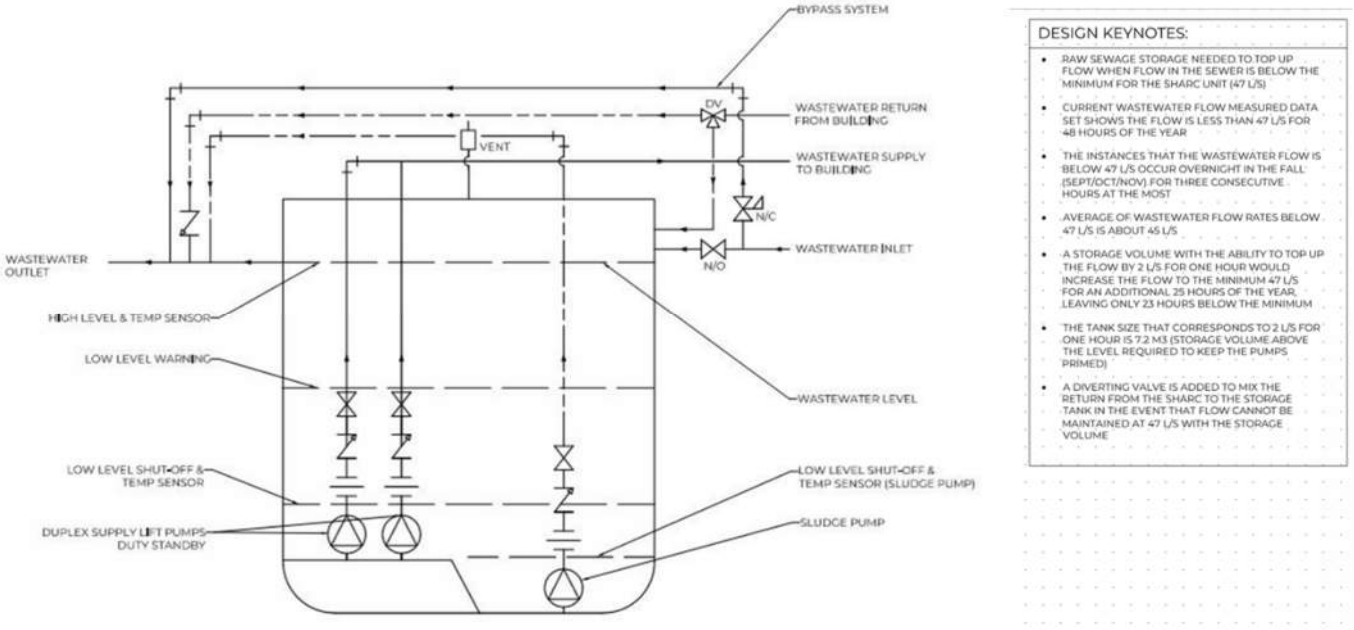

Figure 33: Pumping Tank Schematic

The pumping tank schematic above outlines the proposed pumping manhole arrangement which will be part of the Energy Utility System. There will be an integrated sludge pump in the system for maintenance reasons.

Two sewer energy exchange units are expected in Phase 1 of the project for a total capacity of 3.2 MW. An additional unit is anticipated in Phase 2 of the project adding another 1.6 MW for a total sewer energy exchange capacity of 4.8 MW.

3.3 Geo-Exchange Potential at the Hospital District Site

The values below are based on a nearby test hole drilled to 640 ft. A borehole depth of 850 ft is also common in Ontario and is likely an option at the Hospital District Site. The greater depth allows for fewer boreholes and greater efficiency in drilling equipment mobilization. The thermal properties presented above for the site can be considered applicable for the 850 ft boreholes as well. It is recommended that prior to the first project commencing at the site, a site-specific test hole be drilled to 850 ft in order to confirm assumptions and uncover potential underground construction challenges. It is recommended that this borehole be used both as a test hole and a production hole (i.e., an operational part of the borefield).

The parameters below are favourable for a geo-exchange system at the site, the low overburden will reduce overall capital costs and improve efficiency for the site. There are many other sites in the GTHA moving forward with less favourable thermal properties.

Additionally, the North Oak project in Oakville (close to the hospital site) demonstrates the technical, environmental, and economic feasibility of site-level geo-exchange approaches.

An overview of the site and the proposed density indicates that there is ample room for geo-exchange boreholes to supply the majority of the heating and cooling for the site.

Table 18: Geo-exchange Borefield Assumptions.

Property	Assumption
Undisturbed Ground Temperature	10.2 – 12.1 °C
System Fluid	Basis of design will be 25 % Propylene Glycol. Alternative approaches such as 20 % ethanol also acceptable.
Ground Thermal Conductivity	2.55 W/mK
Ground Thermal Diffusivity	0.084 m2/day
Grout Thermal Conductivity	2.08 W/mK *
Borehole Thermal Resistance	0.106 mK/W

For the purposes of this detailed feasibility assessment, the following assumptions will be made when modelling the borefield:

- 4” borehole diameter
- 1.5” circuit piping diameter
- Pipe material will be HDPE 4710 DR11 for all circuit piping with DR 13 used for lateral runouts.
- A minimum borehole spacing of 6 m will be maintained.
- Approximately 20 m of overburden is assumed at the site (based on drilling records).
- An operational temperature range of 0 °C – 30 °C entering water temperature to heat pumps.

Using all of the inputs outlined here and the indicative building energy profile, the geo-exchange system was modelled using the Ground Loop Design (GLD) software. The borefields were sized to maintain system temperatures within the range outlined above.

Table 19: Phase Borefield Implementation

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8	Phase 9	Phase 10
Year	2028	2030	2031	2032	2033	2034	2040	2043	2045	2049
# Boreholes	0	45	62	411	521	695	854	918	1043	1122

3.4 Central Plant Design

The Process Flow Diagram (PFD) below is intended to show in greater detail than Figure 28 the intended operation of the system.

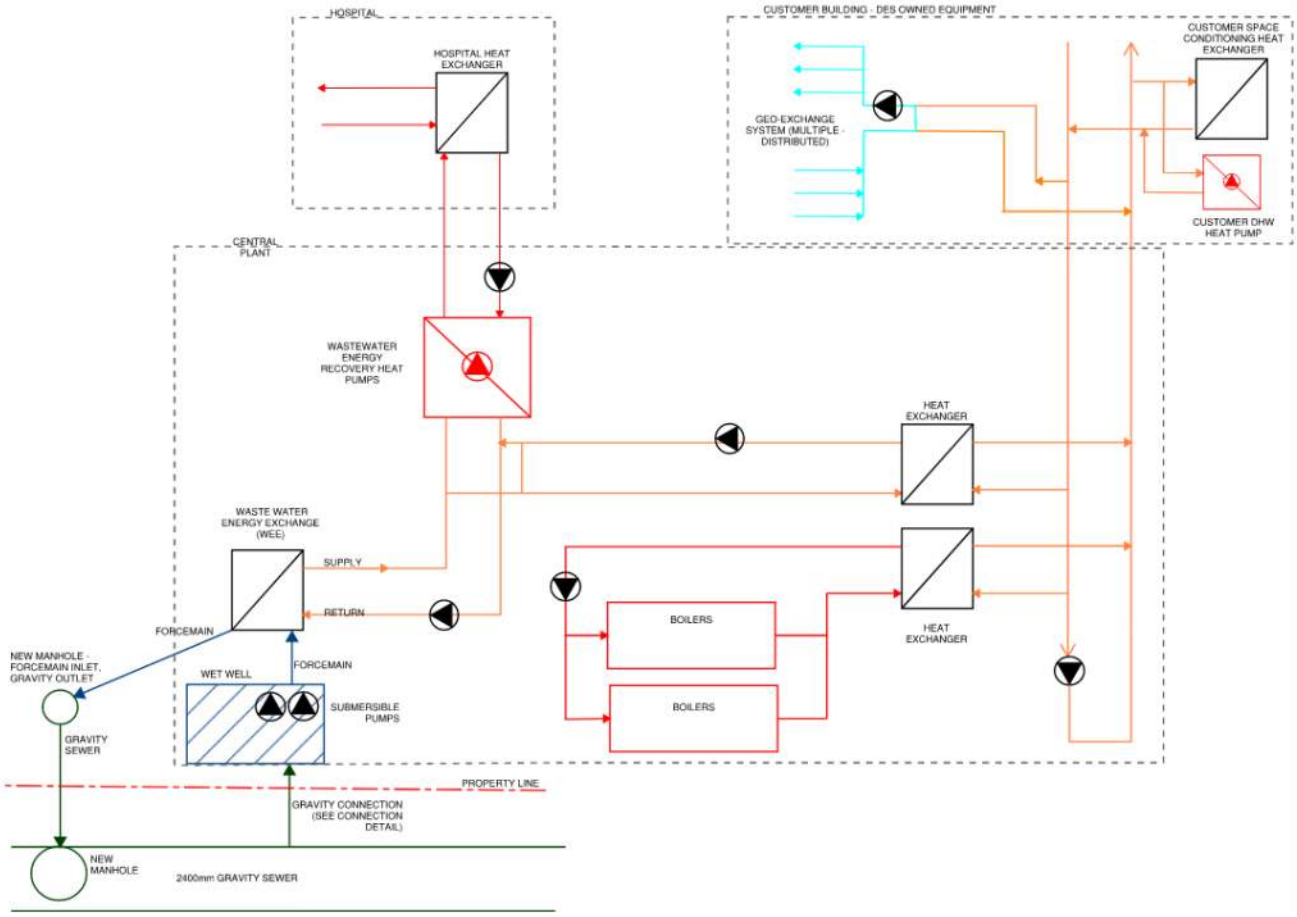

Figure 34: Process Flow Diagram for DES Concept

Figure 35 shows an indicative size and layout of the Central Plant designed for Phases 1 – 6 inclusive. Given the uncertainty of achieving the fully built out condition for the site, the central plant as currently shown is only intended to supply up to and including Phase 6.

It is likely that a second plant or an extension to the original would be required should the full site build out. Costs have been carried to include for a second future peaking plant. The required size for the secondary plant would be half that of the initial plant. The second plant would not require the heat pump and sewer energy recovery equipment and would instead predominantly house peaking boilers.

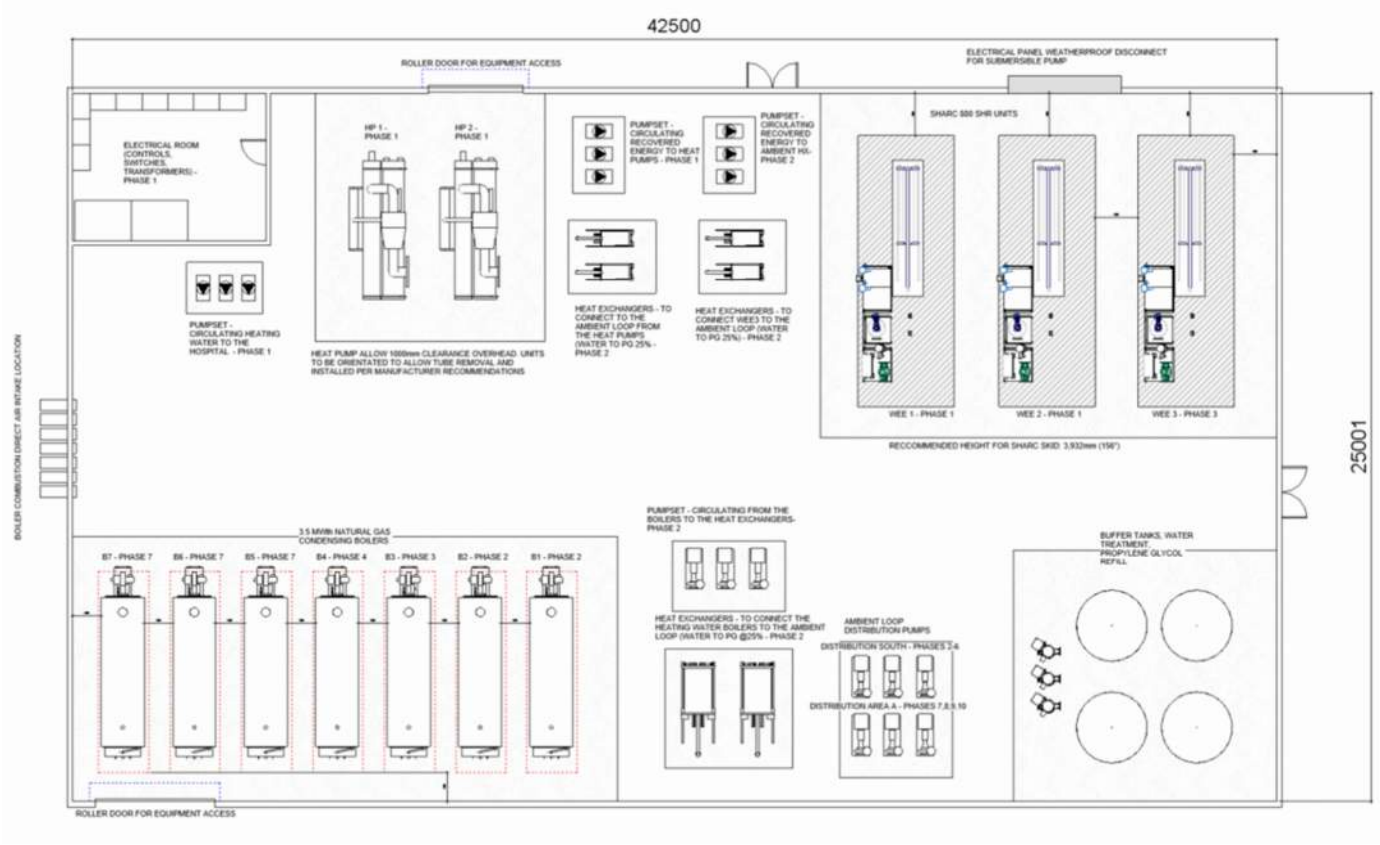

Figure 35: Central Plant 1

Geo-manifolds will be required in most development blocks from Phase 2 onwards an example of a geo-manifold room is shown in Figure 36.

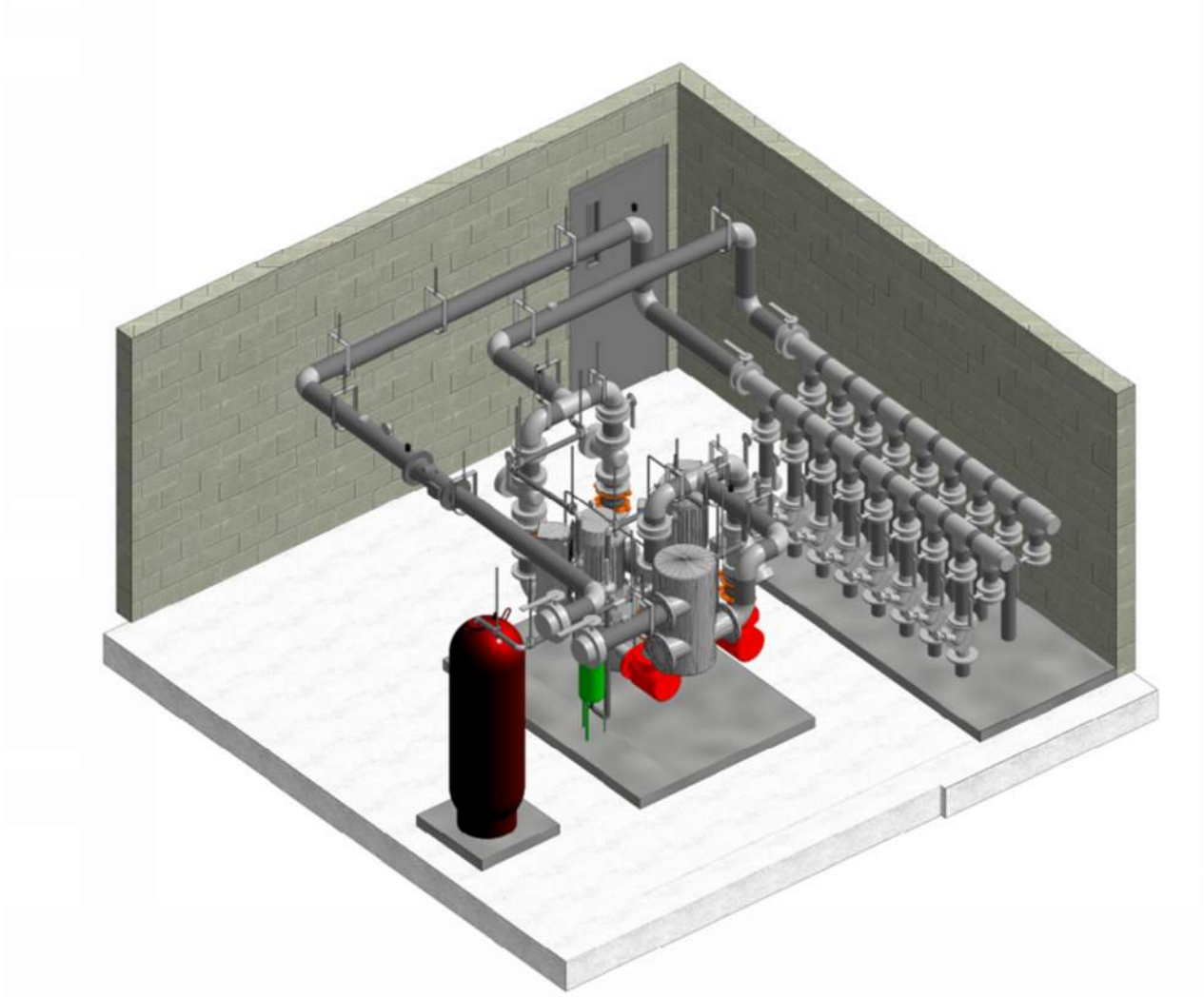

Figure 36: Example of Geo-Manifold Room

3.5 Cost Assessment

The capital cost assessment for the central plant is outlined in Table 20 (Phases 1 – 5) and Table 21 (Phases 6 – 10).

Table 20: Central Plant Capital Assessment (Phases 1 – 5)

Phase	1 $	2 $	3 $	4 $	5 $
Central Energy Recovery					
Sewer Heat Pump	4,480,000	-	-	-	-
Boilers	-	748,316	160,343	814,482	571,054
Buffer Tanks	150,000				
Pressurization	150,000				
Pumps	390,000	585,000	-	-	-
Water and Chemical Treatment	50,000				
Flue		50,000		25,000	25,000
Plumbing and Drainage	25,000				
Heat Exchangers	-	2,637,000	-	-	-
Piping and instrumentation	75,000	60,000	12,500	12,500	12,500
Hookups	40,000	60,000	15,000	12,500	12,500
Combustion Air		60,000			
Controls	150,000	-	45,000	15,000	25,000
Commissioning	75,000	25,000	25,000	15,000	20,000
Electrical and Wiring	120,000	70,000	10,000	10,000	10,000
Eye wash station etc. c/w integrated shower heat unit	10,000				
Installation Costs	1,715,000	1,289,000	80,000	271,000	203,000
Subtotal	7,430,000	5,584,316	347,843	1,175,482	879,054
Design Planning and Permitting	445,800	335,059	20,871	70,529	52,743
Contractor OH&P	891,600	670,118	41,741	141,058	105,486
Building Cost	5,350,000				
Land Purchase	856,000				
Total	14,973,400	6,589,492	410,454	1,387,069	1,037,284

Table 21: Central Plant Capital Assessment (Phases 6 – 10)

Phase	6 $	7 $	8 $	9 $	10 $
Central Energy Recovery					
Sewer Heat Pump					
Boilers	686,371	1,435,061	664,263	1,101,958	718,153
Buffer Tanks					
Pressurization					
Pumps	-	390,000	-	-	-
Water and Chemical Treatment					
Flue		50,000			
Plumbing and Drainage		20,000			
Heat Exchangers	-	1,319,000	-	-	-
Piping and instrumentation	12,500	55,000	12,500	12,500	13,000
Hookups	12,500	60,000	12,500	12,500	12,500
Combustion Air	50,000				
Controls	15,000	55,000	15,000	15,000	15,000
Commissioning	15,000	45,000	15,000	15,000	15,000
Electrical and Wiring	10,000	10,000	10,000	10,000	10,000
Eye wash station etc. c/w integrated shower heat unit		10,000			
Installation Costs	240,000	1,035,000	219,000	350,000	235,000
Subtotal	1,041,371	4,484,061	948,263	1,516,958	1,018,653
Design Planning and Permitting	62,482	269,044	56,896	91,017	61,119
Contractor OH&P	124,964	538,087	113,792	182,035	122,238
Building Cost		2,675,000			
Land Purchase		428,000			
Total	1,228,817	8,394,192	1,118,950	1,790,010	1,202,011

The capital cost assessment for the sewer energy interchange is outlined in Table 22 below.

Table 22: Sewer Interface Assessment

Phase	1	2
	$	$
Sewer Interface		
Sewer Diversion	200,000.00	
Wet Well	3,450,000	
Forcemain to Heat Exchangers (open cut construction)	24,000	
Heat Exchanger	1,546,000	773,000
Forcemain Return to manhole A	24,000	
Manhole A	150,000	
New Manhole	150,000	
Installation Costs		
Civil Costs		
Subtotal	5,544,000	773,000
Design Planning and Permitting	332,640	46,380
Contractor OH&P	665,280	92,760
Total	6,541,920	912,140

The capital cost assessment for the geo-manifold rooms are outlined in Table 23 (Phases 1 – 5) and Table 24 (Phases 6 – 10).

Table 23: Geo-Manifold Room Capital Assessment (Phases 1 - 5)

Phase	1	2	3	4	5
	$	$	$	$	$
Geo-Exchange Manifold Rooms					
Boreholes	-	1,338,750	505,750	10,382,750	3,272,500
Expansion Tanks		32,000	16,000	24,000	32,000
Pumps		160,000	80,000	120,000	160,000
Air and Dirt Separators		20,000	10,000	15,000	20,000
Valves + Instrumentation + Piping		80,000	40,000	60,000	80,000
Controls		60,000	30,000	45,000	60,000
Installation		106,000	53,000	79,000	106,000
Subtotal		1,796,750	734,750	10,725,750	3,730,500
Design Planning and Permitting		26,951	11,021	160,886	55,958
Contractor OH&P		54,960	27,480	41,160	54,960
Total		1,878,661	773,251	10,927,796	3,841,418

Table 24: Geo-Manifold Room Capital Assessment (Phases 6 – 10)

Phase	6	7	8	9	10
	$	$	$	$	$
Geo-Exchange Manifold Rooms					
Boreholes	5,176,500	4,730,250	1,904,000	3,718,750	2,350,250
Expansion Tanks	32,000	88,000	64,000	80,000	24,000
Pumps	160,000	440,000	320,000	400,000	120,000
Air and Dirt Separators	20,000	55,000	40,000	50,000	15,000
Valves + Instrumentation + Piping	80,000	220,000	160,000	200,000	60,000
Controls	60,000	165,000	120,000	150,000	45,000
Installation	106,000	290,000	211,000	264,000	79,000
Subtotal	5,634,500	5,988,250	2,819,000	4,862,750	2,693,250
Design Planning and Permitting	84,518	89,824	42,285	72,941	40,399
Contractor OH&P	54,960	150,960	109,800	137,280	41,160
Total	5,773,978	6,229,034	2,971,085	5,072,971	2,774,809

4 NETWORK OVERVIEW

The proposed District Energy Network for the Hospital District is shown in Figure 37. As can be seen there are two types of networks proposed, a dedicated heating water network to the Hospital and an ambient temperature network to the rest of the site. Alternate pipe routing from the second option for the central plant location is also shown.

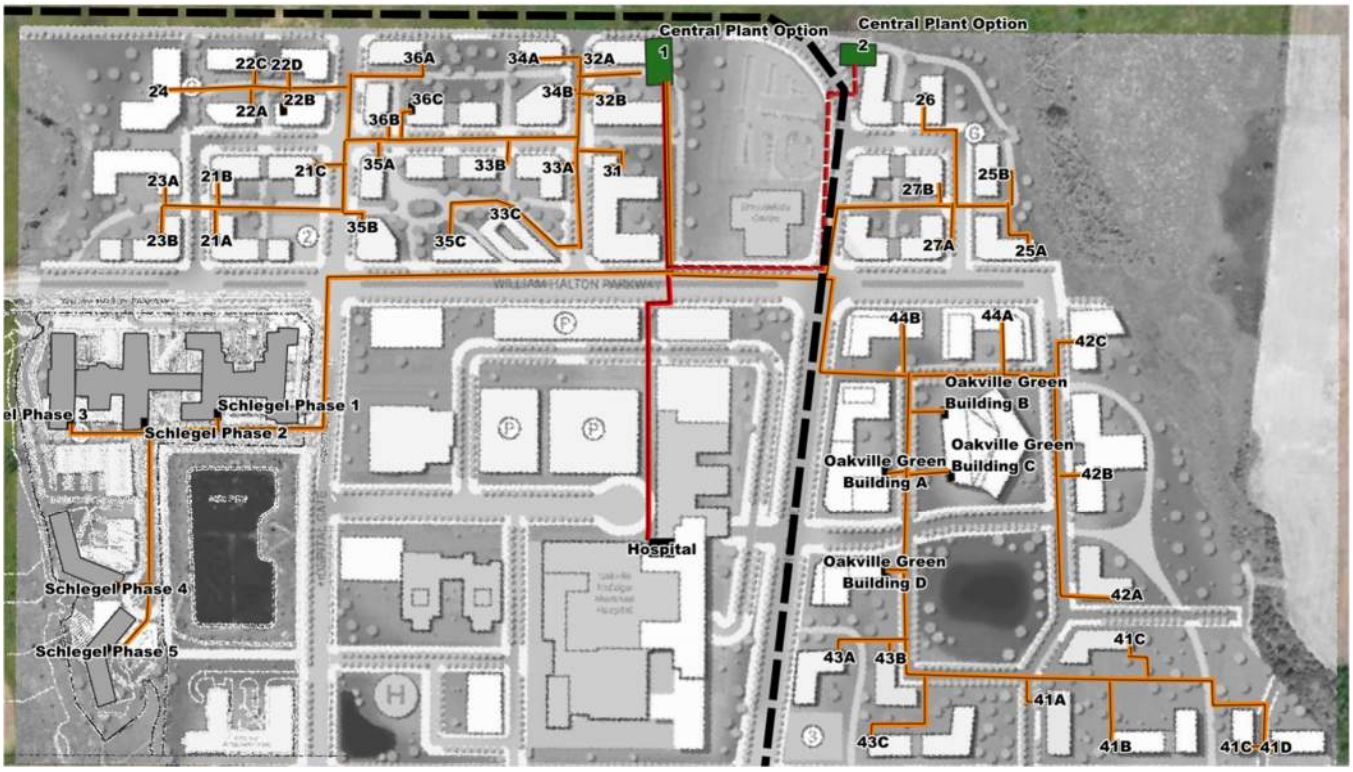

Figure 37: Proposed Energy Network

4.1 Fluid Type and Chemical Composition

The fluid distributed through the closed-loop piping system is water with freeze protection at varying temperatures. As this is a closed-loop system the water circulating through the pipe loop never leaves the closed system, i.e., is not distributed to end-use customers. The water is strictly used as a heat transfer medium.

4.2 Pipe Information

The ambient loop pipes will be a standard fused HDPE product commonly used in potable water applications. These pipes will vary in diameter, the diameters required are outlined in Table 25. These pipes will be HDPE 4710 DR17. These pipes will not be insulated and will be buried below the frost line.

For the hospital connection system, a pre-insulated steel pipe is recommended due to required temperatures. The standard pre-insulated product for district energy is EN253 piping such as the example shown below. These pipes are supplied in 12m (40ft) sections. This is a pre-insulated product comprised of thin-walled steel pipes encased in insulation with a HDPE outer jacket. These pipes have integrated leak detection systems for

added resilience. It is required that the installed pipes be tested, and quality controlled according to ASME B31.1, it is recommended that the additional quality control requirements of EN13941 be incorporated.

Two pipes are required in the trench to supply hot water out to buildings with cooler water then returning via the return pipe to the central plant, completing the closed loop.

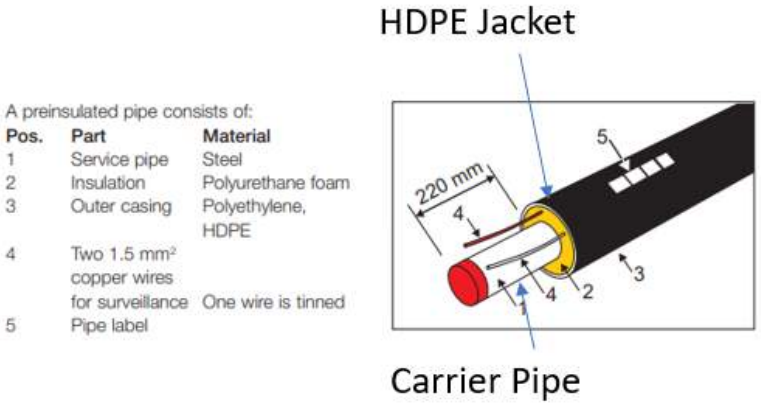

Figure 38: EN253 Piping Infographic (image courtesy of Logstor)

4.3 Network Phasing

The proposed network phasing (in line with the site phasing as outlined in Milestone 3 Section 2) is shown in Figure 39 below. Routing through existing roadways has been avoided where possible, and it is assumed that most networks can be laid in greenfield space during site construction enabling cost efficiencies to be found with site servicing requirements. Cost efficiencies have been assumed in these areas. Alternate pipe routing from the second option for the central plant location is also shown.

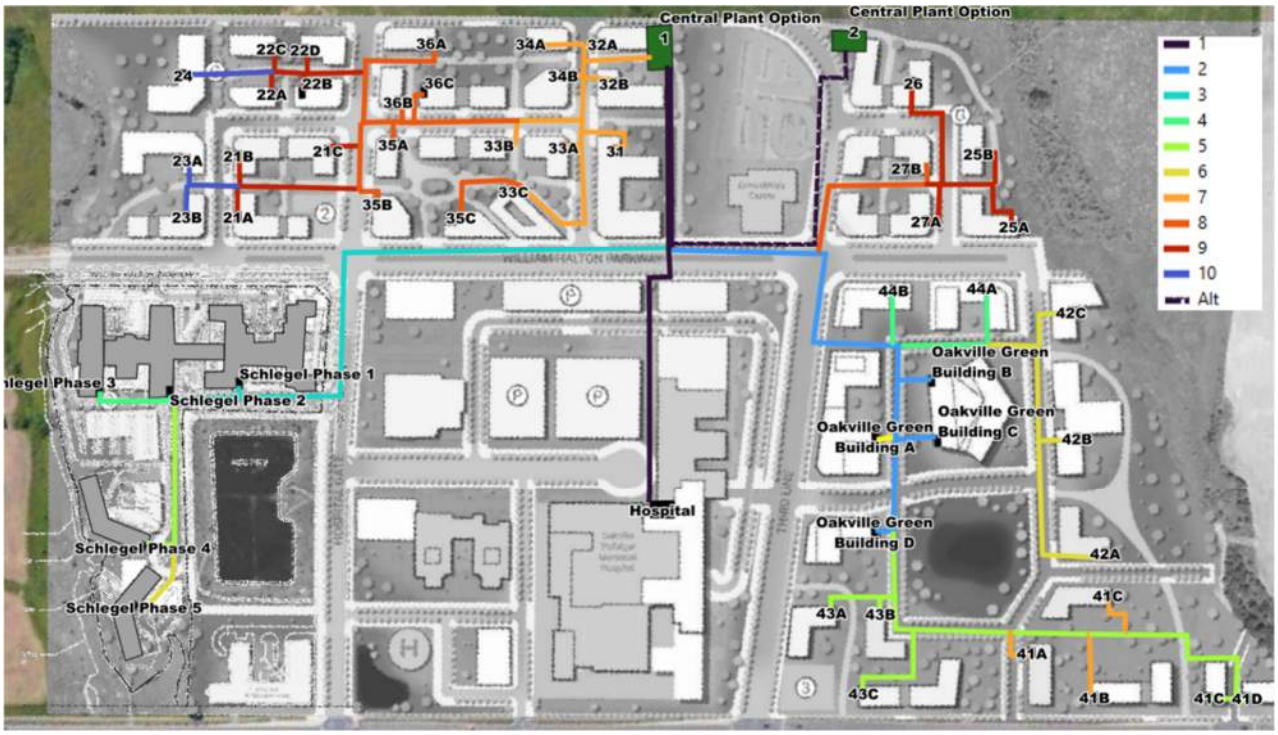

Figure 39: Network by Phase

4.4 Network Sizing

Network sizing is based on the following parameters:

- Maximum pressure drop in network: 300 Pa/m
- Minimum supply / return temperature differential in ambient network: 5 °C
- Minimum supply / return temperature differential in heating water network: 15 °C
- Sizing is based on the demands as outlined in Table 27.

Alternate pipe routing from the second option for the central plant location is also shown.

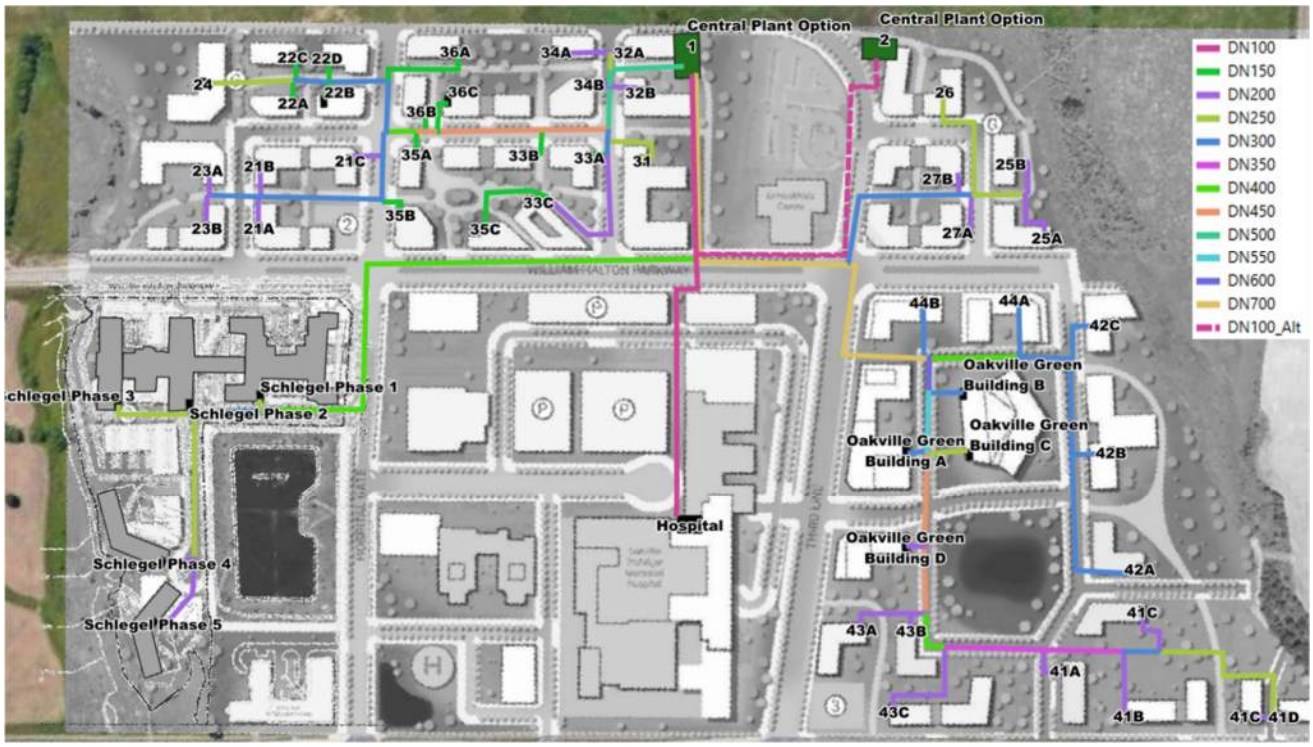

Figure 40: Network by Diameter

The following table outlines the total metres of trench required per pipe size. To calculate the total metres of pipe these values are to be multiplied by two.

Table 25: Network Schedule

Phase	1	2	3	4	5	6	7	8	9	10	Total (by Diameter)
Nominal Diameter	**Trench Length expressed in metres [m]**										
DN100	450										450
DN150							59	289	78		426
DN200		18			259	84	427	67	188	51	1,094
DN250		37	17	80	321		86	130	52	88	810
DN300		50	68	98	33	416	24	295	225	50	1,259
DN350					174						174
DN400			567	86	47			32			731
DN450		94			65		62	122			343
DN500							119				119
DN550		59									59
DN600		34									34
DN700	281	463									744
Total (by Phase)	731	754	651	263	898	501	777	936	542	188	6,242

4.5 Network Construction

Typical Network construction for ambient and heating water systems are shown in Figure 41, Figure 42 and Figure 43 below.

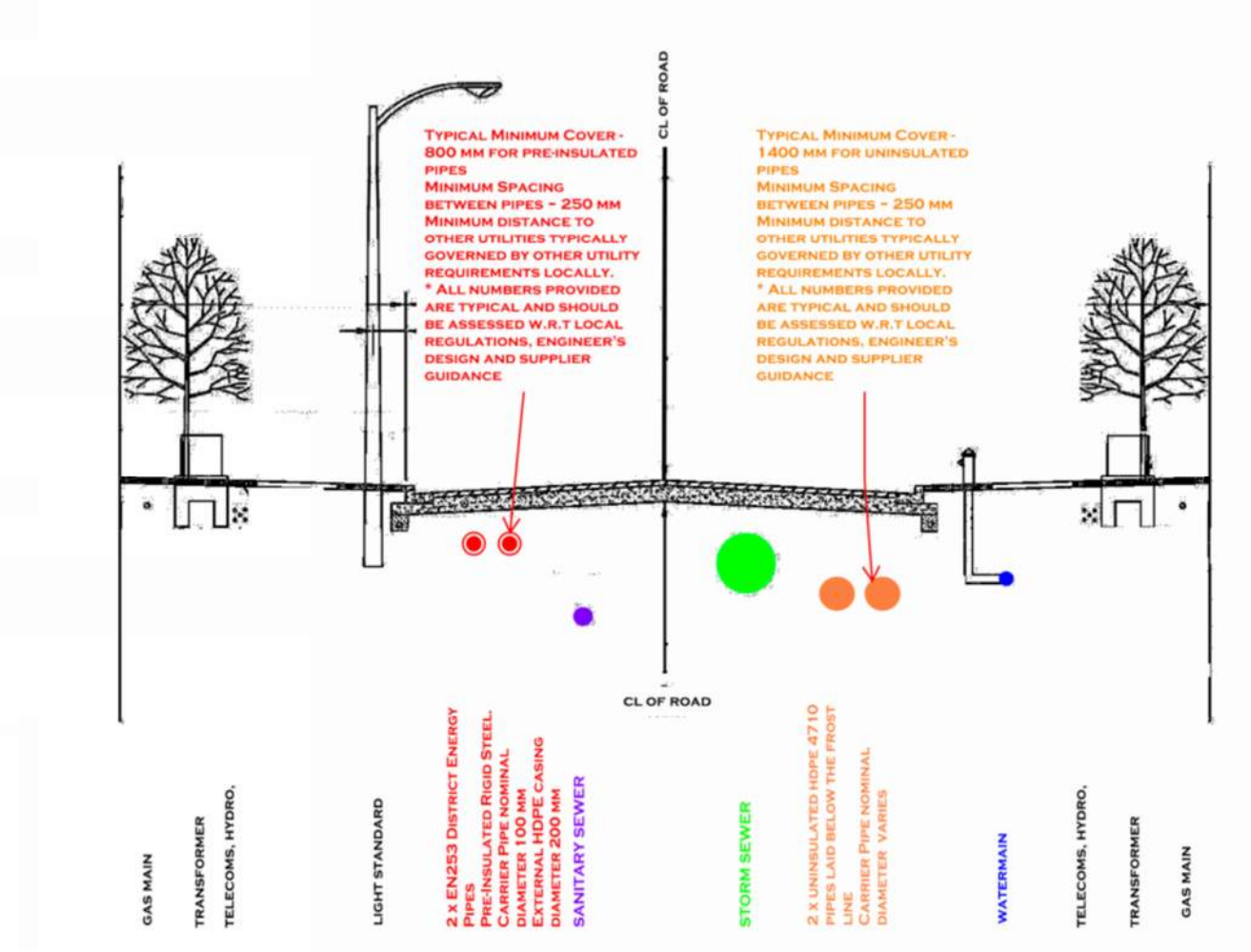

Figure 41: Typical Road Cross Section with Buried Utilities (District Heat Pipe in Red, Ambient Loop in Orange)

Figure 42 below shows a trench cross-section for a pre-insulated pipe pair. These pre-insulated pipes can be laid at shallower depths than uninsulated piping (see Figure 43) as their insulation layer protects the pipe from excessive heat loss. The higher cost of this pipe however makes it unsuitable for ambient temperature applications where larger diameter pipes are required and thermal losses are not as high as for higher temperature systems.

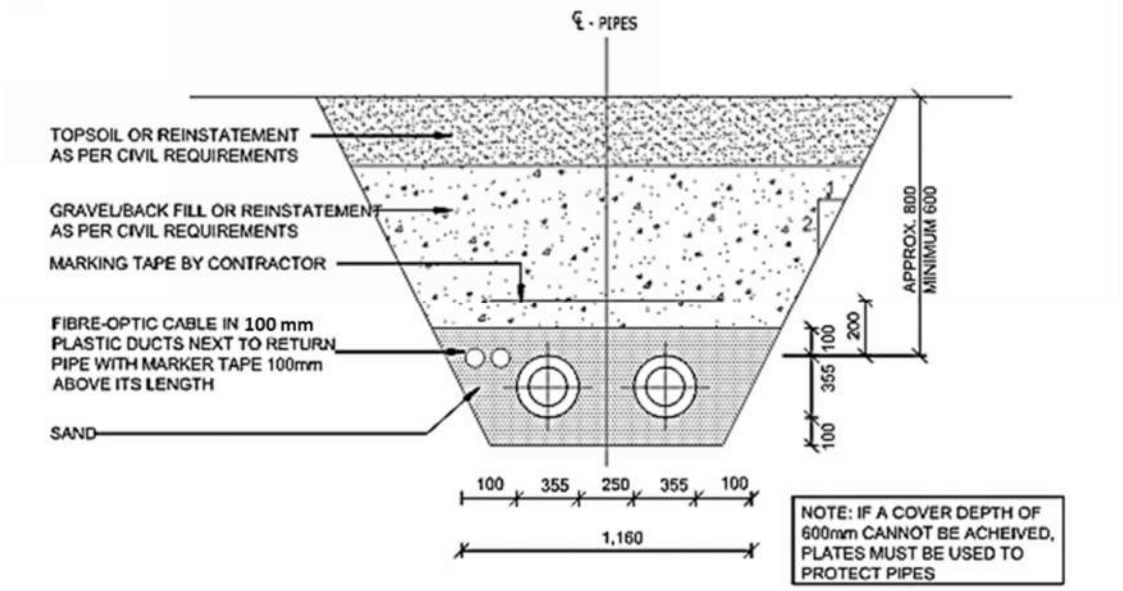

Figure 42: Typical Trench Profile (Pre-Insulated Piping)

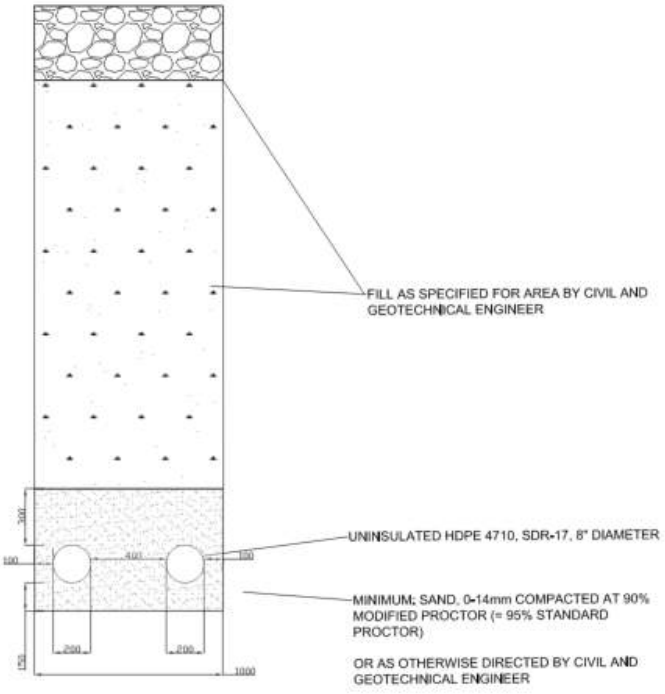

Figure 43: Typical Trench Profile - Uninsulated HDPE Piping

4.6 Network Costs

Phased network costs are shown in Table 26 below.

Table 26: Phased Network Costs

Phase	1	2	3	4	5	6	7	8	9	10	Total
DN100	1,029,686	-	-	-	-	-	-	-	-	-	1,029,686
DN150	-	-	-	-	-	-	57,385	280,342	75,166	-	412,893
DN200	-	21,268	-	-	307,787	100,379	508,290	80,244	223,557	60,236	1,301,762
DN250	-	54,982	24,715	118,106	475,484	-	127,258	192,076	77,078	130,083	1,199,782
DN300	-	88,111	120,069	172,143	57,503	732,872	42,464	519,915	395,949	88,032	2,217,060
DN350	-	-	-	-	343,329	-	-	-	-	-	343,329
DN400	-	-	1,320,766	199,646	108,881	-	-	74,137	-	-	1,703,430
DN450	-	238,656	-	-	165,061	-	157,493	311,335	-	-	872,545
DN500	-	-	-	-	-	-	332,951	-	-	-	332,951
DN550	-	180,469	-	-	-	-	-	-	-	-	180,469
DN600	-	112,507	-	-	-	-	-	-	-	-	112,507
DN700	1,236,025	2,034,650	-	-	-	-	-	-	-	-	3,270,675
											12,977,088

5 CUSTOMER CONNECTION

5.1 Hospital Building

Each building proposed for connection will require a new hot water energy transfer station (ETS, pictured below) to supply heating water and domestic hot water (DHW) to the buildings. ETS units are pre-manufactured skids containing heat exchangers, controls, instrumentation, valving, and piping needed to ensure that the ETS can be installed quickly and efficiently in customer buildings as a "plug and play" solution to minimize on-site construction and disruption. ETS units directly replace heating and hot water boilers.

ETS' are compact units and require substantially less space than the boiler equipment they replace. Building audits have not been conducted to confirm available space – this step is required at the next stage.

Figure 44: ETS on a Skid (image courtesy of Danfoss)

ETS installation works typically include:

- Customer Service Isolation Valves
- Riser
- Piping, Supports, and Insulation
- High Point Vents, Low Point Drains, Cleaning Ports
- ETS Skid
- Domestic Hot Water (DHW) incorporated in skid
- Energy Meter, Controls, Instrumentation, etc.
- Delivery, rigging, Install, and Commissioning
- Mechanical costs for bringing district piping into the building (buried piping etc. are carried under the thermal network costing)
- An allowance has been carried out for the integration of the new ETS with the existing building boilers and heating system.

5.2 Other Connections

Connections other than the hospital will require the following:

5.2.1 Space Heating and Cooling

If the proposed connection has a 4-pipe fan coil system, a dedicated 6-pipe centralized heat pump will be required for space heating and cooling. These units are capable of providing simultaneous heating and cooling supply. If the building's business-as-usual HVAC system is 4-pipe fan coil, the central heat pump would replace the building's boiler, chiller and cooling tower systems with significant savings. The heat pump would also serve as the point of commercial and hydronic demarcation between the building and the DES provider.

If the building opts for central or zonal heat pumps, a heating and a cooling ETS similar to that shown for the Hospital using heat exchangers would be required in order to ensure hydronic separation of the building and network systems.

5.2.2 Domestic Hot Water

For domestic hot water supply, a specialized water to water heat pump will be required. An example of such a heat pump is shown below. This heat pump can meet the temperature requirements of the buildings. This unit would replace the building's central DHW boiler unit. It is assumed that the buffer tanks would be provided by the building side system.

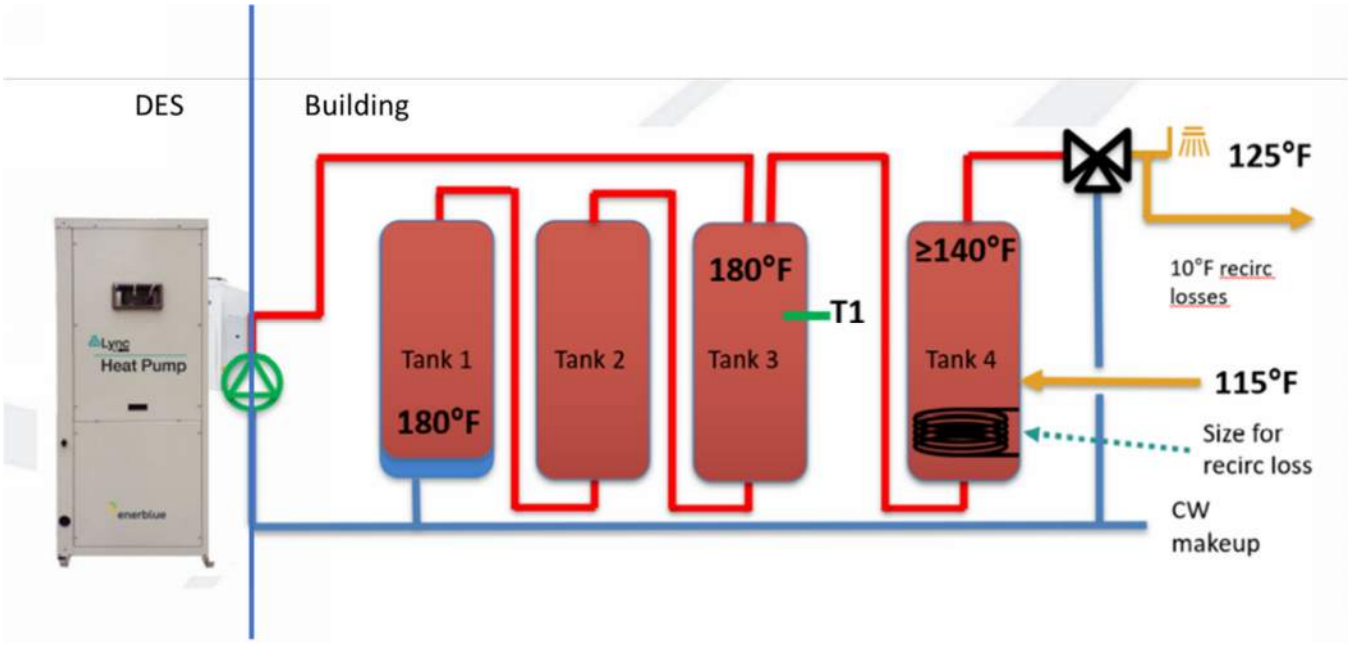

Figure 45: DHW Heat Pump Schematic

The heat pump would also serve as the point of commercial and hydronic demarcation between the building and the DES provider.

5.3 Connection Summary

A summary table of the required energy supply to each building is shown in Table 27 below. Note this table is used to report the peak load that the Heat Pumps and Energy Transfer Stations at each building will be sized for; the peak loads therefore also include the Heat of Compression of downstream heat pumps.

The heat of compression is the heat that is generated by the electrical component operation of the heat pumps (including the compressor and the fan). When the heat pump is in heating mode, the heat of compression (the additional heat) becomes part of the heat delivered to the space, reducing the amount of heat generation required from the system. When the heat pump is in cooling mode, the additional heat is added to the already existing heat rejection load due to cooling the space, increasing the amount of cooling required by the system. Note this sizing was also used to inform the network diameters for this site.

If there is an "N" in the "Sized for DHW and Space Heating" column below, it indicates that the sizing is for a cooling load instead. In ambient systems, the sizing is for the greater of the two loads.

Table 27: Customer Connection Sizing (Heat of Compression Included)

Connection Ref	Equipment Sizing DHW [kW]	Equipment Sizing (Space Conditioning) [kW]	Sized for DHW + Space Heating	Phase
Hospital		3600	Y	1
Oakville Green Building A	320	2480	Y	2
Oakville Green Building B	102	2641	Y	2
Oakville Green Building C	52	1338	Y	2
Oakville Green Building D	127	988	Y	2
Schlegel Phase 2	230	1689	N	3
44A	198	3156	Y	4
44B	198	3156	Y	4
Schlegel Phase 3	265	1944	N	4
43A	79	1089	Y	5
43B	79	1089	Y	5
43C	79	1089	Y	5
Schlegel Phase 4	98	716	N	5
42B	172	2186	Y	6
42C	172	2186	Y	6
Schlegel Phase 5	98	716	N	6
31	122	1363	Y	7

Connection Ref	Equipment Sizing DHW [kW]	Equipment Sizing (Space Conditioning) [kW]	Sized for DHW + Space Heating	Phase
32A	56	776	Y	7
32B	56	776	Y	7
33A	35	395	Y	7
33B	35	395	Y	7
33C	35	395	Y	7
34A	41	564	Y	7
34B	41	564	Y	7
41A	59	813	Y	7
41B	59	813	Y	7
41C	59	813	Y	7
42A	172	2186	Y	6
27A	63	863	Y	8
27B	63	863	Y	8
35A	30	469	Y	8
35B	30	469	Y	8
35C	30	469	Y	8
36A	27	366	Y	8
36B	27	366	Y	8
36C	27	366	Y	8
26	135	1861	Y	9
21A	48	653	Y	9
21B	48	653	Y	9
21C	48	653	Y	9
22A	34	465	Y	9
22B	34	465	Y	9
22C	34	465	Y	9
22D	34	465	Y	9
25A	50	692	Y	9
25B	50	692	Y	9
24	138	1544	Y	10
23A	78	1069	Y	10
23B	78	1069	Y	10

5.4 Cost Estimates

Phased ETS costs are shown Table 28 below.

Table 28: Phased ETS Costs

Phase	DHW Heat Pump Interface Costs	Energy Transfer Station Costs
1		1,350,000
2	1,025,100	1,953,100
3	440,000	473,300
4	1,127,400	2,114,000
5	571,200	1,030,400
6	1,047,300	1,928,000
7	1,019,800	2,050,800
8	506,900	1,109,000
9	878,600	1,839,400
10	501,400	962,600
Grand Total	7,117,700	14,810,600

Costs for a Schlegel Phase 1 Connection and 41 C and 41D Connections are not carried based on the outline discussion in Milestone 2 Section 1.2 but have been estimated as follows:

Table 29: Estimated Costs for Schlegel Phase 1 and 41 C & 41 D Connections

Phase	DHW Heat Pump Interface Costs	Energy Transfer Station Costs
Schlegel Phase 2	392,300	422,300
41 C	100,600	211,800
41 D	100,600	211,800

6 ENERGY AND COST RESULTS

The total delivered demand for all phases is outlined below:

6.1 Energy Modelling

Energy sales to buildings from the DES utility are outlined in Table 30 below.

Table 30: Energy Modelling Results

Phase	1	2	3	4	5	6	7	8	9	10
Total Delivered Heating (MWh)	26,388	34,153	35,172	39,154	42,170	48,819	56,945	60,422	66,227	69,540
Total Delivered DHW (MWh)	0	2,517	3,507	6,353	7,796	10,621	13,714	15,037	17,247	18,510
Total Delivered Cooling (MWh)	0	3,706	5,439	10,736	13,168	17,894	23,027	25,223	28,890	30,988

6.2 Capital Costing

A summary of the capital costing presented in Milestone 3 Sections 3.5, 4.6 and 5.4 is shown in the tables below.

Table 31: Capital Cost Summary 1 of 2, Total for Site and Phases 1-5

Phase		1	2	3	4	5
	Total – 2024 Dollars	$	$	$	$	$
Central Energy Recovery	**38,131,680**	14,973,400	6,589,492	410,454	1,387,069	1,037,284
Sewer Interface	**7,454,060**	6,541,920	912,140	-	-	-
Geo-Exchange Manifold Rooms	**40,243,003**		1,878,661	773,251	10,927,796	3,841,418
Network	**13,366,402**	2,333,682	2,812,562	1,509,517	504,592	1,501,786
Customer Connections	**21,928,300**	1,350,000	2,978,200	913,300	3,241,400	1,601,600
Total System Capital Costs	**121,123,444**	25,199,002	15,171,056	3,606,522	16,060,857	7,982,088
Contingency	**18,168,517**	3,779,850	2,275,658	540,978	2,409,129	1,197,313
Total Incl. Contingency	**139,291,961**	28,978,853	17,446,714	4,147,500	18,469,986	9,179,401

Table 32: Capital Cost Summary 2 of 2, Phases 6-10

	6	7	8	9	10
	$	$	$	$	$
Central Energy Recovery	1,228,817	8,394,192	1,118,950	1,790,010	1,202,011
Sewer Interface	-	-	-	-	-
Geo-Exchange Manifold Rooms	5,773,978	6,229,034	2,971,085	5,072,971	2,774,809
Network	858,249	1,262,616	1,501,790	794,903	286,705
Customer Connections	2,975,300	3,070,600	1,615,900	2,718,000	1,464,000
Total System Capital Costs	10,836,343	18,956,442	7,207,726	10,375,884	5,727,524
Contingency	1,625,452	2,843,466	1,081,159	1,556,383	859,129
Total Incl. Contingency	12,461,795	21,799,908	8,288,885	11,932,267	6,586,653

6.3 Operational Costs

A summary of the system's operational costs are shown in Table 33 (Phases 1 – 5) and Table 34 (Phases 6 – 10) below.

Table 33: Operational Cost Assessment 1 of 2, Phases 1-5

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Water and Chemical Treatment	$16,779	$25,351	$27,765	$37,826	$42,689
Insurance (Cumulative)	$144,894	$232,128	$252,865	$345,215	$391,112
Equipment Maintenance	$122,115	$243,218	$261,700	$326,011	$363,168
Network Maintenance (Cumulative)	$33,986	$74,945	$96,929	$104,277	$126,148
Sewer Infrastructure Costs	$39,980	$39,980	$39,980	$39,980	$39,980
Admin Costs	$127,008	$205,096	$223,814	$306,549	$347,661
O&M Staffing	$150,000	$150,000	$150,000	$150,000	$150,000

Table 34: Operational Cost Assessment 2 of 2, Phases 6-10

	Phase 6	Phase 7	Phase 8	Phase 9	Phase 10
Water and Chemical Treatment	$52,743	$64,353	$69,321	$77,616	$82,355
Insurance (Cumulative)	$453,421	$562,421	$603,865	$663,527	$696,460
Equipment Maintenance	$422,660	$528,750	$571,900	$640,337	$676,550
Network Maintenance (Cumulative)	$138,646	$157,034	$178,905	$190,481	$194,656
Sewer Infrastructure Costs	$39,980	$39,980	$39,980	$39,980	$39,980
Admin Costs	$404,074	$501,159	$538,410	$592,328	$622,063
O&M Staffing	$150,000	$200,000	$200,000	$200,000	$200,000

6.4 Fuel Consumption

Fuel consumption for all phases is outlined in Table 35 below. This included electricity used for pumping and for DHW production in the DHW heat pumps at customer buildings but excludes in-suite or zonal heat pump electricity consumption as it is assumed it is paid for by building occupants. This is also in line with the DES sales values where the sales for space heating and cooling are for the supply **before** heat pumps and for DHW the supply **after** the heat pumps.

Table 35: Fuel Consumption

Phase	1	2	3	4	5	6	7	8	9	10
Electricity (DES Utility) [MWh]	6,209	9,566	10,400	14,625	16,612	20,713	25,330	27,279	31,875	32,508
Natural Gas [MWh]	0	2,085	2,934	1,932	2,535	4,588	8,544	10,798	14,598	16,795

6.5 Reinvestment Costs

Reinvestment costs for major equipment for all phases are outlined in Table 36 (Phases 1 – 5) and Table 37 (Phases 6 – 10) below.

Table 36: Reinvestment Cost Assessment 1 of 2, Phases 1-5

Repair and Replacement Costs	Year (added to Phase Investment Year)	% of Initial Capital	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Heat Pump	20	50%	3,136,000	717,570	308,000	789,180	399,840
Pumps	20	50%	273,000	521,500	56,000	84,000	112,000
Ancillary Equipment	20	20%	4,249,280	163,800	1,041,688	100,896	298,055
Piping	30	15%	21,000.0	29,400.0	11,025.0	15,225.0	19,425.0
ETS in buildings	15	50%	675,000	976,550	236,650	1,057,000	515,200
District Energy Network Costs	40	10%	226,571	273,064	146,555	48,990	145,805
Sewer Infrastructure	25	10%	554,400	77,300	-	-	-

Table 37: Reinvestment Cost Assessment 2 of 2, Phases 6-10

Repair and Replacement Costs	Year (added to Phase Investment Year)	% of Initial Capital	Phase 6	Phase 7	Phase 8	Phase 9	Phase 10
Heat Pump	20	50%	733,110	713,860	354,830	615,020	350,980
Pumps	20	50%	112,000	581,000	224,000	280,000	84,000
Ancillary Equipment	20	20%	252,295	273,384	1,016,137	339,994	498,948
Piping	30	15%	19,425.0	61,950.0	36,225.0	44,625.0	15,330.0
ETS in buildings	15	50%	964,000	1,025,400	554,500	919,700	481,300
District Energy Network Costs	40	10%	83,325	122,584	145,805	77,175	27,835
Sewer Infrastructure	25	10%	-	-	-	-	-

6.6 GHG Emissions

GHG emissions from the DES system are outlined in Table 38 below.

Table 38: GHG Emission Assessment

Phase	1	2	3	4	5	6	7	8	9	10
Emissions (Electricity) [tonnes CO2e/yr]	310	478	520	731	831	1,036	1,267	1,364	1,594	1,625
Emissions (Natural Gas) [tonnes CO2e/yr]	0	373	525	346	454	821	1,529	1,933	2,613	3,006
Total Emissions [tonnes CO2e/yr]	310	852	1,045	1,077	1,284	1,857	2,796	3,297	4,207	4,632

7 SUMMARY

7.1 Next Steps

The next step for this project is the Economic and Financial Analysis Milestone 4.

This stage incorporates:

- Steering Group Meetings
- Coordination Meetings
- Fuel Cost Study
- Funding Sources Scan
- Meeting: Town Input for Financial Model
- Rate Assessment
- Develop Techno-Economic Model
- Sensitivity Analysis
- Business Case Report

MILESTONE 4

ECONOMIC AND FINANCIAL ANALYSIS

This Section outlines the work completed in Milestone 4 of the project to set the economic analysis prior to the implementation strategy in Milestone 5.

1. PURPOSE AND MILESTONE GOALS

The purpose of Milestone 4 is to analyze the conceptual design identified in Milestone 3 from a business perspective. Techno-economic modelling for the selected scenario was advanced in order to establish expected internal rates of return (IRR), net present values (NPV) and emissions savings.

We expanded the modelling by conducting sensitivity and profitability analyses on the Business Case. Specifically, we evaluated the impact of key inputs such as load variation, cost fluctuations, development delays, market volatility, carbon tax, and policy measures on the Project. We have also identified and summarized key potential risks for the project. and their associated mitigation strategies based on our analysis and assigned high-level qualifiers to their likelihood of occurrence, financial impact and schedule impact as observed at this point in time.

1.1 Outcome

The key outcomes for this Milestone are:

- A high-level discussion to present the economic viability assessment of the preferred scenario.
- A financial analysis to identify key risks/opportunities and inform the ownership options.
- A business case to demonstrate the economic argument for progressing the development of the preferred scenario further
- A decision on moving forward with the implementation planning and the next steps in the project development process

2. BUSINESS CASE APPROACH

Our approach for this business case is as follows:

- **Global Benefit Approach:** We have defined the preferred financial solution from a global benefit, life-cycle cost perspective. The DES is informed by balancing the impact on the vertical developers, end users (residents/tenants), DES operators, and sewer energy suppliers. The allocation of cost/benefit by party has been determined based on comparable market estimates and acceptable levels of returns.
    - Note that DES systems can present the opportunity to reduce electricity and gas peak requirements through energy sharing, ultimately reducing the size and cost of utility infrastructure. This benefit has not been qualified as part of this early-stage model, and it's recommended that potential grid-scale benefits be further explored in future, more detailed stages of this project.
- **Revenue Assumptions:** The business model factors in an estimate for DES revenue equivalent to market rates for thermal energy based on our database of past DES and Energy as a Service (EaaS) projects (see Appendix B: Fuel Cost Study for more details). A connection charge was also applied on the basis of an avoided capital cost concept which is estimated to be the capital cost savings on account of not having to install a heat injection or rejection plant at the building level.
    - For the hospital, the connection charges are based on the costs associated with connecting to the system's central plant as the hospital is expected to retain its existing heat injection plant for redundancy and backup purposes
    - The sewer waste heat supplier revenues were also benchmarked to rates seen in sewer and effluent based waste heat recovery projects
- **Finance Assumptions:** The business model also evaluates the project with and without financing to check the impacts of financing on a pre-tax basis. The current business case has been without the benefit of funding. Financing has been included in the latter stages.
- **Value of Information:** At this stage, the conceptual design for the preferred scenario has been developed and the cost estimates are at the Class C level. We have completed the analysis using these estimates and also using assumptions from previous related project experience. The business modeling is of the required level of detail to review core assumptions, study the impact of project financing, evaluate ownership options and confirm the results.

Note that DES systems can present the opportunity to reduce electricity and gas peak energy requirements through energy sharing, ultimately reducing the size and cost of utility infrastructure. This benefit has not been considered at this stage, and it's recommended that potential grid-scale benefits be further explored in future, more detailed stages of this project.

2.1 Business Case Components

The key components of the commercial model and core assumptions are presented in the figure below.

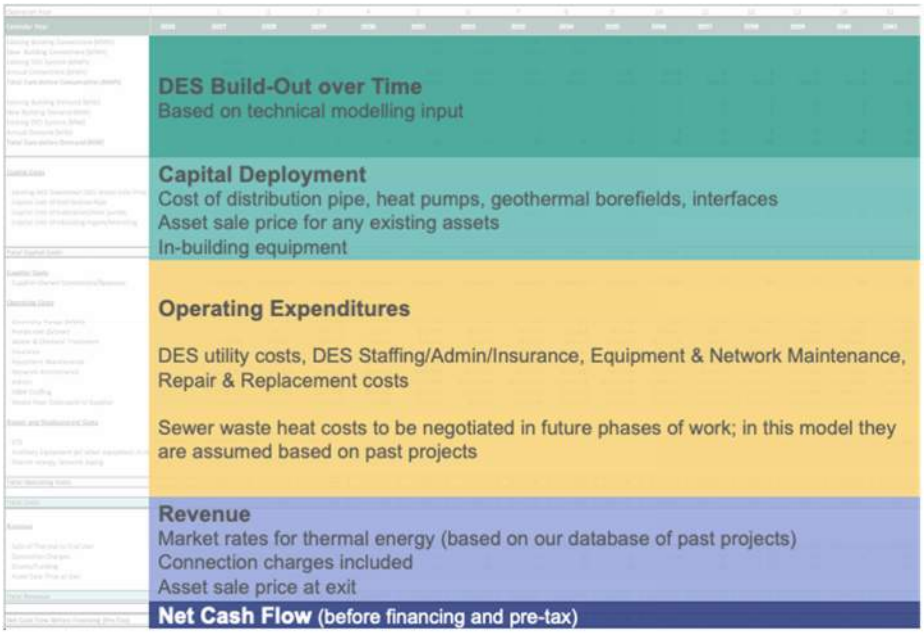

Figure 46: Economic Viability Model Components

2.2 Business Case Assumptions

Detailed business model inputs and assumptions are presented in Milestone 4 Section 3. Many core assumptions were reviewed and confirmed with Rathco ENG including our previous project experience. Initial inputs to the economic viability model were reviewed with the project team in March 2024 and then reviewed with the wider steering group in April 2024. Some of the updated inputs and assumptions were reviewed with the project teams again in May 2024. The assumptions addressed in this phase of modelling are:

Operating expenditures assumptions:

- Costs for sewer energy are typically negotiated depending on project specifics, including risk, equipment ownership, project boundaries, bilateral energy uptake and supply commitments and environmental benefits. In the business model, the costs for sewer energy have been estimated based on rates seen in the market. Sewer interface costs have been assumed to be carried by the District energy system. Environmental benefits and any related reduction in waste heat costs would need to be negotiated at later stages.

- Cost of electricity. An average value for Class B utility costs is used for electricity. A direct switch from Class B to Class A does not guarantee a reduction in utility costs. Customers need to optimize their systems to reduce energy demand during the five peak times for the electricity grid in Ontario (peak shaving). We are suggesting a targeted rate of $0.135 per kwh for heat pumps as this is a conservative estimate. Lower electricity costs may be achievable with proper peak management, which can be investigated further in future phases of diligence. Refer to Appendix B for further explanation.

Revenue Assumptions:

- Market rate for thermal energy was established by benchmarking the total cost of delivering thermal energy from our database of past DES and Energy as a Service (EaaS) projects. Refer to Milestone 4 Section 3.7 for further explanation.
- Revenue from connection charges. Similarly, in the business model, the revenue from fixed charges to cover connection costs is assumed to be equal to the avoided capital costs or savings in initial capital costs for in-building mechanical equipment, thus cost-neutral for the vertical developer. This cost is to justify the cost of in-building equipment and connection costs incurred by the DES operator.
- Asset sale price for the DES. The cash flow includes an asset sale price for the DES, also known as an "exit value" or "resale value". This value is used in calculating the Unlevered Internal Rate of Return (UIRR) for the system. The economic model assumes a terminal capitalization rate of 5%.
    - We have also tested scenarios without the asset sale price to check the impact on UIRR.

Financing Assumptions:

- Start date: 2028
- Term length – 30 years from start date
- Discount rates: 11% for DES; 9% for Sewer-heat supplier (WHS)
- No grants or funding have been assumed here in this case as the project shows a healthy return as it stands. This would only improve the business case substantially if applied for and sanctioned for use towards the project.
- Refer to Appendix C for a review of available funding for the project. Funding has the potential to improve the UIRR substantially.
- The addition of financing and funding has been added in the more detailed financial modelling for implementation planning in Milestone 5.
- We have assumed project financing with a loan term length of 20 years and an amortized repayment over the next 10 years

The intent of the business model is to determine economic merits along with identifying any funding gaps and estimating the financing requirements for the project including potential debt capacities.

3. BUSINESS CASE INPUTS AND RESULTS

The inputs to the business model follow the phasing plans, demand and energy estimates, capital operating and rehabilitation costs developed during Milestone 3 – Modelling and Design by Rathco and are summarized in this section.

3.1 Phasing

It was assumed that the system was phased according to the schedule established by Rathco in Milestone 3. Phasing is summarized in Table 39.

Table 39: System Phasing Summary

	Phase									
	1	2	3	4	5	6	7	8	9	10
Investment Year	2027	2027	2028	2030	2031	2032	2038	2041	2043	2047
Operational Year	2028	2030	2031	2032	2033	2034	2040	2043	2045	2049

3.2 Demand and Energy

The annual and peak energy values delivered were established by Rathco during the Modeling and Design phase. Both the incremental and cumulative system delivered annual energy values used as part of this assessment are summarized in Table 40.

Table 40: System Delivered Annual Energy Summary

	System Delivered Heating (MWh_{th})		System Delivered DHW (MWh_{th})		System Delivered Cooling (MWh_{th})	
	Incremental	Cumulative	Incremental	Cumulative	Incremental	Cumulative
Phase 1	26,388	26,388	-	0.0	-	0.0
Phase 2	7,764	34,153	2,517	2517	3,177	3177
Phase 3	1,019	35,172	990	3507	1,485	4662
Phase 4	3,982	39,154	2,846	6,353	6,074	10,736
Phase 5	3,016	42,170	1,443	7,796	2,432	13,168
Phase 6	6,649	48,819	2,825	10,621	4,727	17,894
Phase 7	8,125	56,945	3,093	13,714	5,132	23,027
Phase 8	3,477	60,422	1,323	15,037	2,196	25,223
Phase 9	5,805	66,227	2,210	17,247	3,667	28,890
Phase 10	3,313	69,540	1,263	18,510	2,098	30,988

Both the diversified and undiversified cumulative system delivered peak energy values used as part of this assessment are summarized in Table 41.

Table 41: Cumulative System Peak Demand Summary

	System Delivered Peak Heating (MW_{th})		System Delivered Peak DHW (MW_{th})		System Delivered Peak Cooling (MW_{th})	
	Diversified	Undiversified	Diversified	Diversified	Undiversified	Diversified
Phase 1	3.6	3.6	-	-	-	
Phase 2	9	11.1	0.7	0.9	2.3	2.9
Phase 3	10	13.1	1.0	1.6	3.2	4.4
Phase 4	17	20.5	1.7	2.6	6.1	8.3
Phase 5	21	28.3	2.2	3.4	7.7	11.3
Phase 6	25	35.2	3.0	4.2	10.3	14.7
Phase 7	35	40.5	4.0	4.9	12.6	16.6
Phase 8	40	44.7	4.4	5.3	13.6	18.0
Phase 9	47	51.8	5.1	6	15.4	20.3
Phase 10	51	55.5	5.6	6.4	16.6	21.6

3.3 Capital Costs

The capital cost estimates were established by Rathco in the Technical Assessment phase of the project and refined along with the modelling. These are summarized by phase in Table 42.

Table 42: Capital Cost Estimates

Capital Cost Estimates	CAPEX	Contingency	Total
Phase 1	$25,199,002	$3,779,850	**$28,978,853**
Phase 2	$15,171,056	$2,275,658	**$17,446,714**
Phase 3	$3,606,522	$540,978	**$4,147,500**
Phase 4	$16,060,857	$2,409,129	**$8,469,986**
Phase 5	$7,892,088	$1,197,313	**$9,179,401**
Phase 6	$10,836,343	$1,625,452	**$12,461,795**
Phase 7	$18,956,442	$2,843,466	**$21,799,908**
Phase 8	$7,207,726	$1,081,159	**$8,288,885**
Phase 9	$10,375,884	$1,556,383	**$11,932,267**
Phase 10	$5,727,524	$859,129	**$6,586,653**
TOTAL	**$121,123,444**	**$18,168,517**	**$139,291,961**

3.4 Operating Costs

The operating cost assumptions were established after further evaluations and iterations with Rathco using the estimates from Milestone 3. The fixed costs are summarized in Table 43. These costs were escalated in the model year, according to the corresponding escalators in Table 51.

Table 43: Cumulative Fixed Operating Cost Estimates

Phase	Water and Chemical Treatment	Insurance	Equipment Maintenance	Network Maintenance	Sewer Infrastructure Costs	Admin Costs	O&M Staffing
1	$19,808	$144,894	$122,115	$33,986	$39,980	$125,995	$150,000
2	$29,910	$232,128	$243,218	$74,945	$39,980	$201,850	$150,000
3	$32,533	$252,865	$261,700	$96,929	$39,980	$219,883	$150,000
4	$42,218	$345,215	$326,011	$104,277	$39,980	$300,187	$150,000
5	$47,390	$391,112	$363,168	$126,148	$39,980	$340,098	$150,000
6	$58,050	$453,421	$422,660	$138,646	$39,980	$394,279	$150,000
7	$70,324	$562,421	$528,750	$157,034	$39,980	$489,062	$200,000
8	$75,576	$603,865	$571,900	$178,905	$39,980	$525,100	$200,000
9	$84,345	$663,527	$640,337	$190,481	$39,980	$576,980	$200,000
10	$89,355	$696,460	$676,550	$194,656	$39,980	$605,617	$200,000

In addition to the fixed costs, the DES will be responsible for electricity, natural gas and sewer heat energy costs to operate the system. The estimated cumulative electricity, natural gas and sewer heat consumption values were provided by Rathco in Milestone 3, and are summarized in Table 44 and Table 45. The electricity values include pumping energy and heat pump energy for domestic hot water and Phase 1 but exclude energy for in-suite heat pumps.

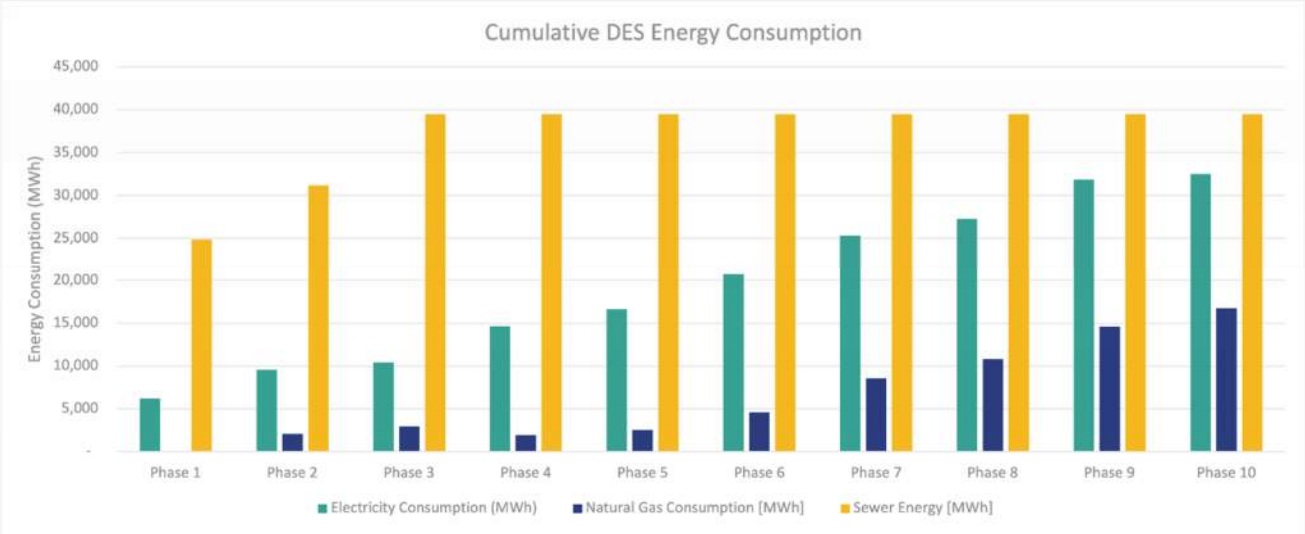

Figure 47: Cumulative DES Commodity Energy Consumption

Table 44: Cumulative DES Electricity and Natural Gas Consumption

Phase	Cumulative Electricity Consumption (MWh)	Cumulative Natural Gas Consumption (MWh)	Cumulative Sewer Energy (MWh)
1	6,209	-	24,836
2	9,566	2,085	31,193
3	10,400	2,934	39,465
4	14,625	1,932	39,465
5	16,612	2,535	39,465
6	20,713	4,588	39,465
7	25,330	8,544	39,465
8	27,279	10,798	39,465
9	31,875	14,598	39,465
10	32,508	16,759	39,465

The electricity, gas and sewer heat consumption values were then multiplied by the assumed fuel costs, provided in Table 45 and then escalated according to the corresponding annual escalators in Table 51. The fuel costs were informed by the Fuel Cost Study carried out by UE (Appendix B).

While the DES may be able to operate as a Class A customer and leverage cheaper costs of electricity, further analysis will be needed to confirm this including detailing out the understanding of the plant location and

associated utility connections and infrastructure that may be present or planned. Therefore, to remain conservative for the purpose of this analysis, it was assumed that the DES was a Class B electricity customer.

Table 45: DES Fuel Costs

Commodity	Value
Electricity Price, Class B ($/kWh delivered)	$0.135/kWh
Natural Gas Price, incl. Carbon Tax ($/kWh delivered)	$0.33/kWh
Waste Heat ($/MWh) – paid by DES to sewer energy provider	$3.00/MWh

3.5 Repairs and Replacement Costs

The repair and replacement cost estimates were established by Rathco in the Technical Assessment memo. These are summarized in Table 46.

Table 46: Repair and Replacement Costs

Repair and Replacement Costs	Heat Pump	Pumps	Ancillary Equipment	Piping	ETS in buildings	DES Network Costs	Sewer Infrastructure
Year (After Investment Year)	20	20	20	30	15	40	25
% of Initial Capital	50%	50%	20%	15%	50%	10%	10%
Phase 1	$3,136,000	$273,000	$4,249,280	$21,000	$675,000	$226,571	$554,400
Phase 2	$717,570	$521,500	$163,800	$29,400	$976,550	$273,064	$77,300
Phase 3	$308,000	$56,000	$1,041,688	$11,025	$236,650	$146,555	-
Phase 4	$789,180	$84,000	$100,896	$15,225	$1,057,000	$48,990	-
Phase 5	$399,840	$112,000	$298,055	$19,425	$515,200	$145,805	-
Phase 6	$733,110	$112,000	$252,295	$19,425	$964,000	$83,325	-
Phase 7	$713,860	$581,000	$273,384	$61,950	$1,025,400	$122,584	-
Phase 8	$354,830	$224,000	$1,016,137	$36,225	$554,500	$145,805	-
Phase 9	$615,020	$280,000	$339,994	$44,625	$919,700	$77,175	-
Phase 10	$350,980	$84,000	$498,948	$15,330	$481,300	$27,835	-

3.6 Business-as-usual (BAU) – Market rate assessment

The analysis used an established business-as-usual case, which was identified in Milestone 3 - Technical Assessment phase and reviewed with the project team. The economics for the pre-feasibility were also based on a BAU building HVAC system which comprised of the following:

- **Heating:** Natural gas boilers connected to building condenser loop with in-suite heat pumps
- **Cooling:** Rooftop Fluid Coolers connected to building condenser loop and in-suite heat pumps

Domestic Hot Water: Natural Gas Boilers.

Three options for the business-as-usual (BAU) case were evaluated as shown in Table 47.

Table 47: Business as Usual Scenarios

	Option 1	Option 2	Option 3
System Type	Natural Gas Boiler for heating and DHW. Chiller and cooling tower for cooling	Hybrid heat pump & Natural Gas Boiler for heating and DHW. Chiller and cooling tower for cooling	Full electric heat pump without gas backup. Chiller and cooling tower for cooling
Rationale	Conventional and most widely used fossil-fuel-based heating system	Aligns with electrification requirements of ZCB-Design v3. May be more reflective of market conditions when system is operational	Current best practice
Relative cost premiums		10-20% premium	15-30% premium

Option 1 was priced as the business-as-usual comparator and used for carrying out the economic assessment. The BAU costs are essentially the costs that are avoided by connecting to the DES. Typically, heat injection plants cost about $600-$1,200 per kW in the GTA. The midpoint was $900 per kW. For cooling plants, the range is $1,600 - $2,100 per kW in the GTA. The midpoint was $1,850 per kW.

For ongoing thermal energy rates charged to customers, the business-as-usual cost of thermal energy was used for Phases 2-10, as they will leverage heating, cooling and DHW from the DES. For Phase 1 (the hospital) UE leveraged established rates from our past project database for a heating-only DES. The rates are shown in the table below:

Table 48: Business as Usual Rate Estimates

Item	Assumption
Heat injection plant per MW	$900,000
Cooling plant per MW	$1,850,000
Market rate for Thermal Energy (DE) per MWh	$164
Rate Estimate for Heating Energy Only (DE) per MWh	$106

To be conservative, the business-as-usual costs were decreased by a discount factor of 20% to arrive at the rates for the new base case. The 20% discount allows for some negotiation room and flexibility based on how the discussions progress with the developers. Additionally, this provides some flexibility to account for the changes that cannot be anticipated in the market by the time the system is fully designed and operational. It is important to note that green development standards in the Greater Toronto Area are all trending towards low-carbon hybrid systems and could thus influence the business-as-usual cost comparison. The discounted business-as-usual rates are summarized in Table 49 below.

Table 49: Business as Usual Rate Estimates (Discounted)

Item	Assumption
Discounted Heat injection plant per MW	$720,000
Discounted Cooling plant per MW	$1,480,000
Discounted Hospital Connection Costs per MW	$305,500
Discounted Market rate for Thermal (heating and cooling) Energy (DE) per MWh	$132
Discounted Rate for Heating-only Energy (DE) per MWh	$85

The connection charges for the hospital are based on the costs associated with connecting to the system's central plant as the hospital is expected to retain its existing heat injection plant for redundancy and backup purposes. Therefore, the connection fees for Phase 1 of the DES were assumed to be equal to the costs of the energy transfer station (ETS), and then discounted at 20%, similar to the rest of the revenues. Therefore, the assumed connection fees for the hospital were about $305,500 per MW of heating capacity.

3.7 District Energy Rates

The district energy rates are the charges that customers who connect to the district energy system would pay and are determined by comparing them with the BAU estimates mentioned above. The key components of district energy rates typically follow the classic utility model, and they are:

- Connection / Upfront Charge
- Capacity Charge (annual)
- Energy Consumption Charge (based on actuals)
- Operating and Maintenance / Distribution Fee

3.8 Market Rates for Thermal Energy

Using our database of past DES and Energy as a Service (EaaS) projects, we have benchmarked the total cost of delivering thermal energy.

The cost to deliver thermal energy offsets several fixed and variable operating expenditures for end-user buildings, including:

- Electricity
- Natural Gas with carbon charges
- Water
- Chemicals
- Reserve Fund – for repairs and replacements
- Operations & Maintenance
- Administrative expenses
- Insurance for the heat injection and cooling plant

The rate charged for thermal energy is assumed to be equal to these costs, plus a 20% discount so that end users are charged a cost-competitive market rate. As shown in Figure 48 below, the equivalent market rate for thermal energy falls within the current market rates for electricity and natural gas.

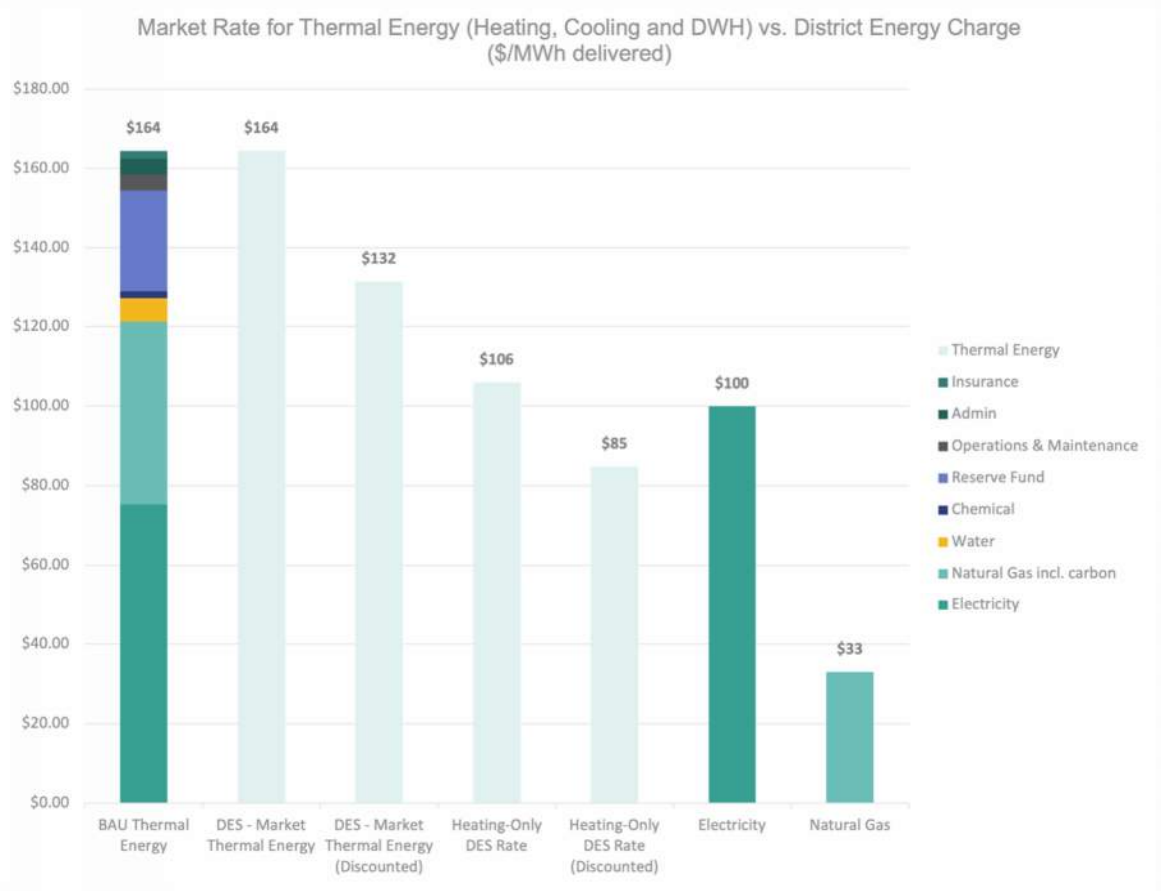

Figure 48: Expected Business as Usual Market Rates ($/MWh Delivered

The first bar in the chart above was generated by totalling all costs to operate the heating, cooling and DHW plants for the BAU scenario, and dividing by the total amount of thermal energy provided. This resulted in an indicative baseline cost per MWh in a business-as-usual scenario – this is what future DES customers would be paying to operate their buildings without a DES connection. Therefore, a DES system with the same rates would be cost-competitive over the course of any given year, meaning that $164/MWh (or $0.164/kWh) would be a competitive market rate for thermal energy. To layer in additional conservatism, a 20% discount was applied to this rate, and $132/MWh (or $0.132/kWh) was selected for the base rate for thermal energy.

As the hospital (Phase 1) will only be leveraging the DES for heating (compared to the rest of the customers, who will be using the DES for heating, cooling and DHW), a unique rate was assigned for the hospital's connection. This rate ($106/MWh) was established using our database of past heating-only DES and Energy as a Service (EaaS) projects. To remain consistently conservative across the assessment, this rate was further discounted by 20%, resulting in a base case thermal energy rate of $85/MWh (or $0.085/kWh) for Phase 1 of the DES.

Note that the costs shown for electricity and natural gas in the figure above (i.e. the sixth and seventh bars in the chart) are **fuel costs only** and are present only to show that the assumed BAU commodity rates are within a reasonable range.

Note that for the business model, fixed charges to cover connection costs are assumed to be equivalent to savings in initial capital costs for in-building mechanical equipment (heat injection or cooling plant).

3.8.1 Sewer Waste Heat Rates

The third rate that is important to establish is the price paid to suppliers for sewer waste heat or energy. Typically, this rate is negotiated between the DES and the sewer heat suppliers. It can depend on several factors:

1. Who owns the equipment (i.e., heat pumps) that extract the sewer heat and supply it to the DES?
2. What level of capital investment is required by the sewer energy suppliers, if any?
3. Who gets credit for any related carbon reductions, for example, no cost for the waste heat if the waste heat suppliers are getting some of the carbon reductions?
4. DES owns and pays for all heat recovery plants, and suppliers are to provide only piping connections and bypasses (i.e. equipment on their property).
5. Sensitivity analyses have also been run for the waste heat rates.

3.8.2 Base Case Rates

As stated before, Option 1 of the 3 options shown in Table 47 was priced as the BAU case. The rates arrived at for the base case are shown in Table 50 and were set equivalent to the discounted BAU rate estimates. This was done to provide some flexibility in the analysis, as market conditions may change significantly between now and the time the system becomes operational. The connection charge which is levied during the year of connection or start of service was set to the equivalent avoided central plant capacity that customers would avoid.

Table 50: Base Case Rates for DES and Sewer Energy

Item	Assumption
Connection Charge Heating and DHW (Upfront) per MW (Phases 2-10)	$720,000
Connection Charge Cooling (Upfront) per MW (Phases 2-10)	$1,480,000
Connection Charge – Hospital Only (Total $)	$1,081,593
Market rate for Thermal (Heating and cooling) Energy (DE) per MWh (charged to Phases 2-10)	$132
Rate for Heating Energy (DE) per MWh (charged to Phase 1)	$85
Waste Heat ($/MWh) – paid by DES to sewer energy provider	$3.00

3.9 Escalation Rates

Table 51: Escalation Rates shows the escalation rates assumed for the business model. Refer to the footnotes as well.

Table 51: Escalation Rates

Value	Escalation Rate	Value	Escalation Rate
CPI[6]	3.5%	Thermal Energy[7]	4%
Capital Expense	3.5%	Gas	3.5%
Electricity	3.5%	Maintenance	3.5%
Water	3.5%	Carbon Tax	5% (after 2030)[8]

[6] Conservative value assumed

[7] Half percent higher than CPI to account for revenue growth

[8] Escalates to government shadow price of $300 per tonne by early 2040s.

4. RESULTS & PROJECT VIABILITY

4.1 DES Results - With Terminal Value

The following table and figures present the business model results for all 10 phases of the DES, considering a terminal value of the asset, given the assumptions and estimates presented in the previous sections up to the date of issue.

Table 52: District Energy System Results with Terminal Value Considered

District Energy System Results with Terminal Value Considered – 30 Year Term		
Capital Costs	$201	M
Operating Costs	$404	M
TOTAL COSTS	**$605**	**M**
Thermal Energy Sales	$586	M
Connection Charges	$117	M
Terminal Value	$470	M
TOTAL REVENUE	**$1,173**	**M**
TOTAL PROFIT (FV)	**$706**	**M**
TOTAL PROFIT (PV)	**$13.8**	**M**
UIRR (pre-tax, excluding funding/financing)	**13.3**	**%**

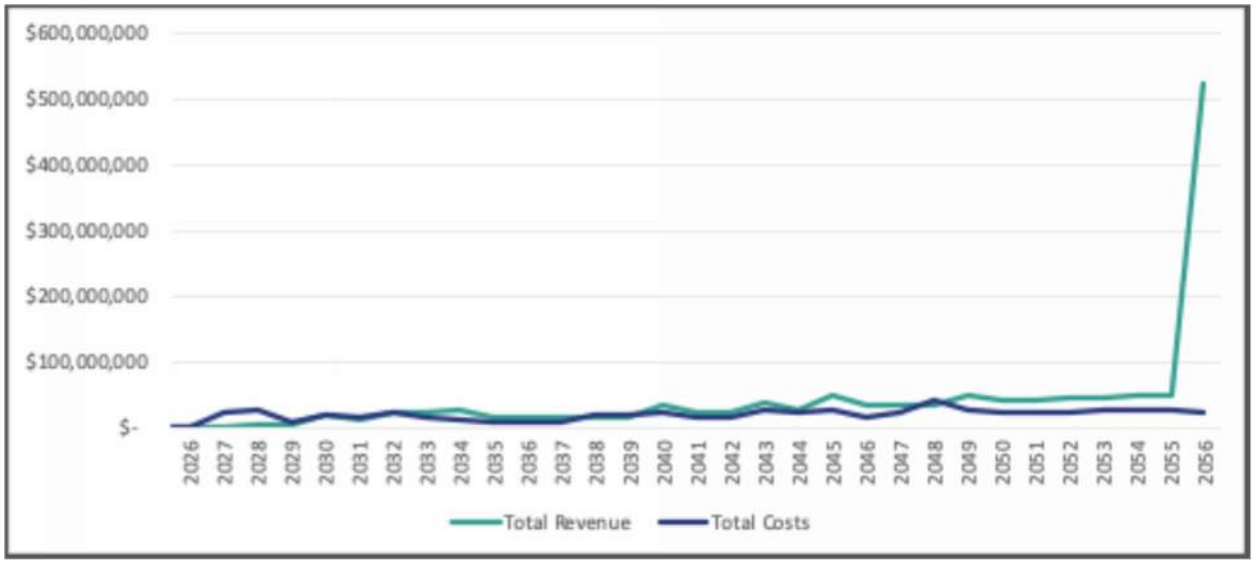

Figure 49: Revenue vs Cost for the DES Business Case (With Terminal Value)

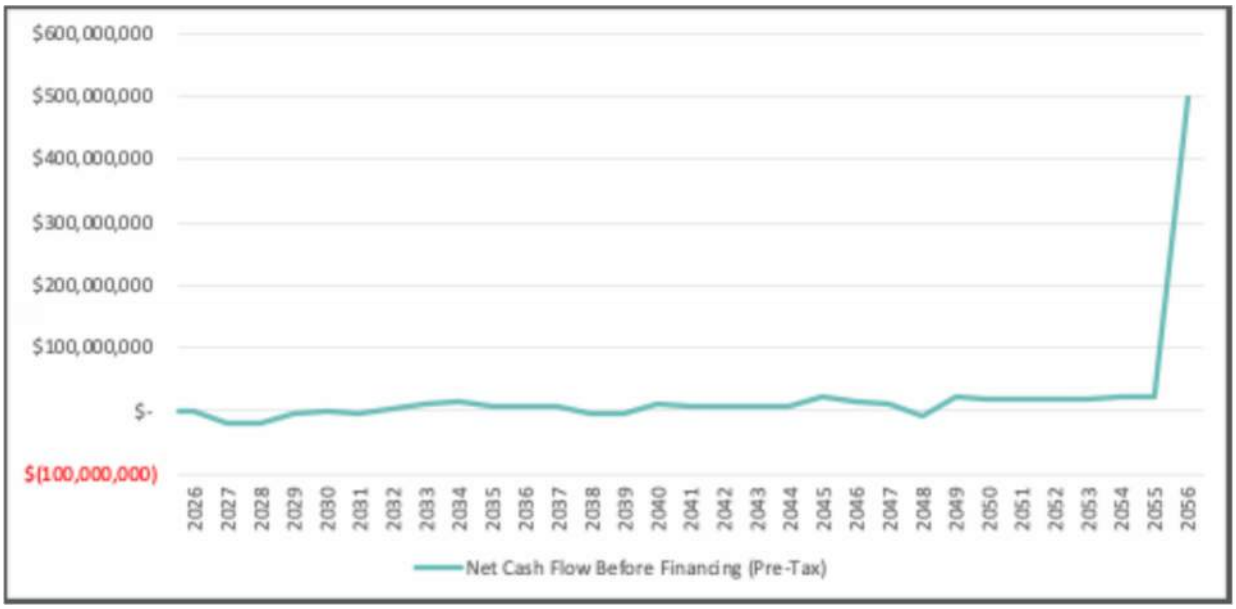

Figure 50: Net Cash Flow for the DES Business Case (With Terminal Value)

4.2 DES Results - Without Terminal Value

The following table and figures present the business model results for all 10 phases of the DES, without a terminal value, given the assumptions and estimates presented in the previous sections up to the date of issue.

Table 53: District Energy System Results Without Terminal Value Considered

District Energy System	30 Year Term	
Capital Costs	$201	M
Operating Costs	$404	M
TOTAL COSTS	**$605**	**M**
Thermal Energy Sales	$586	M
Connection Charges	$117	M
Terminal Value	$0	M
TOTAL REVENUE	**$703**	**M**
TOTAL PROFIT (FV)	**$236**	**M**
TOTAL PROFIT (PV)	**($1.2)**	**M**
UIRR (pre-tax, excluding funding/financing)	**10.7**	**%**

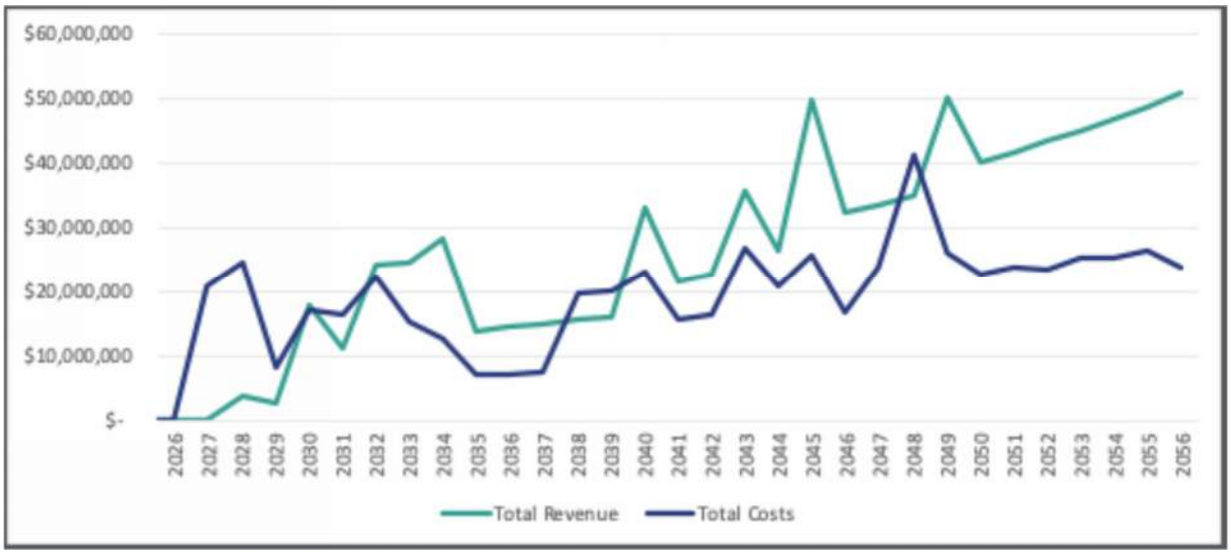

Figure 51: Revenue vs Cost for the DES Business Case (Without Terminal Value)

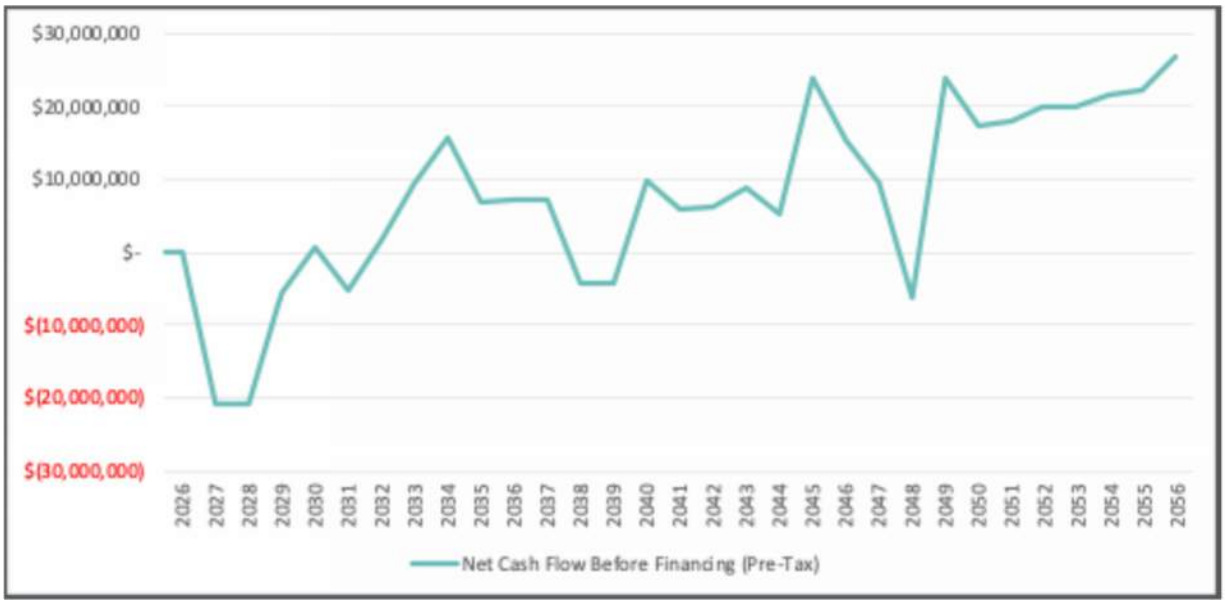

Figure 52: Net Cash Flow for the DES Business Case (Without Terminal Value)

4.3 Wastewater Heat Supplier Results

Table 54 provides a summary of the business case results for the wastewater heat supplier (WHS). Given that it was assumed that the DES scope includes the costs of all supplier connections, it is expected that the WHS will experience no capital or operating costs as a result of the DES connection. Rather, the WHS will experience only financial upside through thermal energy sales (as per the rates summarized in Table 50), resulting in a positive NPV of $1.4M.

Table 54: Wastewater Heat Supplier Business Case Results

Wastewater Heat Supplier	30 Year Term	
Capital Costs	$0	M
Operating Costs	$0	M
TOTAL COSTS	**$0**	**M**
Thermal Energy Sales	$7.2	M
TOTAL REVENUE	**$7.2**	**M**
TOTAL PROFIT (FV)	**$7.2**	**M**
TOTAL PROFIT (PV)	**$1.4**	**M**
UIRR (pre-tax, excluding funding/financing)	**-**	**%**

A graph depicting net cashflow for the wastewater heat supplier has been provided Figure 53. It can be seen that the WHS sees only positive cashflow, indicating a strong business case.

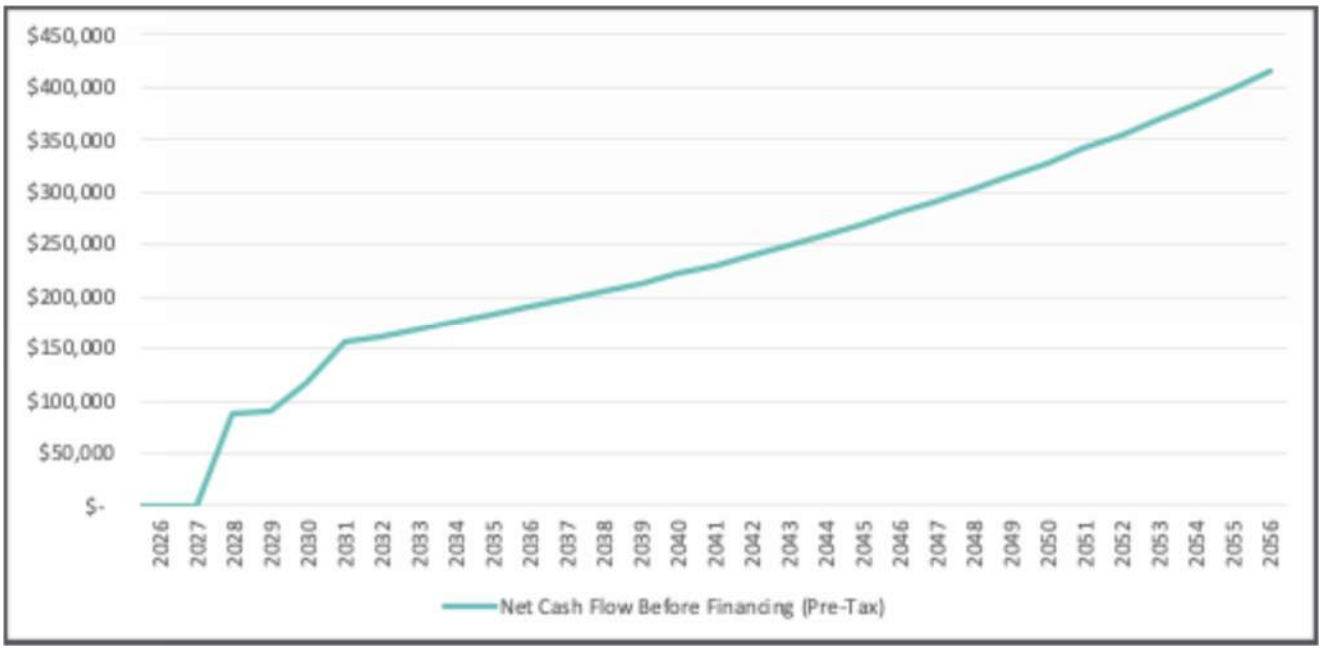

Figure 53: Net Cashflow for Wastewater Heat Supplier

4.4 Emissions Comparison

Figure 54 shows how the incremental carbon emissions for the DES compare to that of the baseline scenario. Overall, each phase shows a reduction in emissions for the DES, when compared to the BAU scenario.

Furthermore, it can be seen that Phase 1 shows drastic savings in emissions, given that the hospital connection is solely providing heating, which is using only natural gas in the baseline scenario. A notable savings in emissions can also be seen in Phase 4, as it's expected that this phase brings more heat pump capacity online, allowing for some natural gas boiler use to be reduced. Ultimately, this reduces the emissions intensity for this phase when compared to the previous phase.

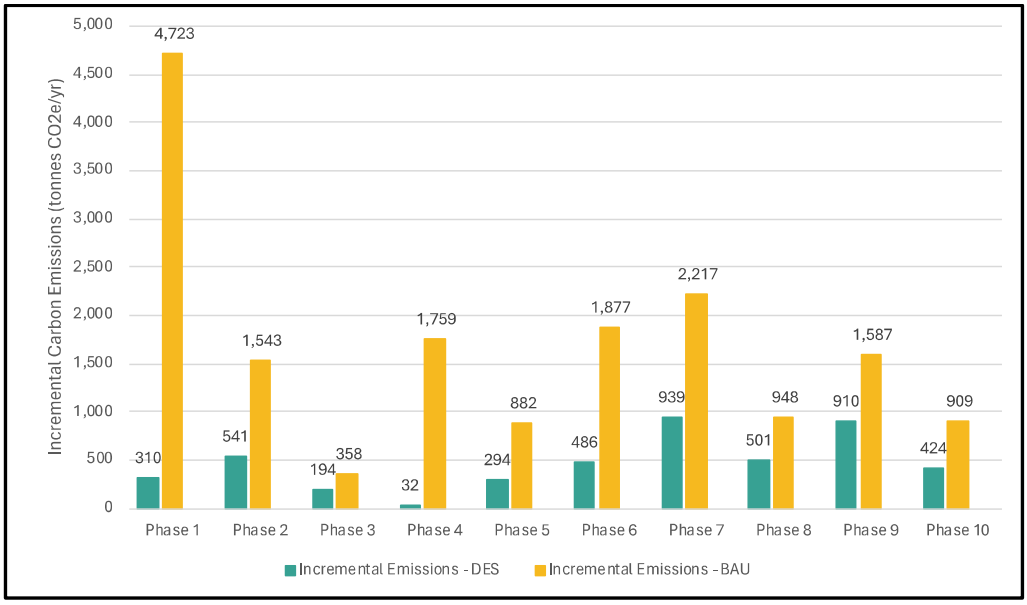

Figure 54: Emissions Comparison (Incremental)

Figure 55 shows the cumulative emissions comparison between the DES and the BAU scenarios. By full buildout, the DES is saving ~12,300 tonnes of CO2e per year.

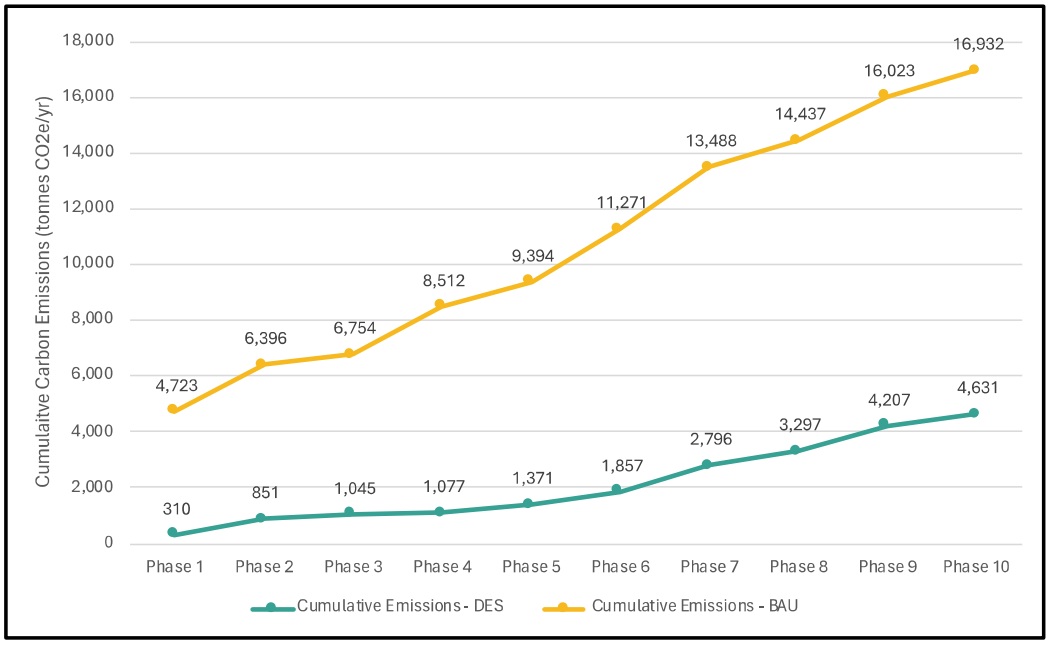

Figure 55: Emissions Comparison (Cumulative)

5. SENSITIVITY ANALYSIS

A sensitivity analysis was performed to evaluate how changes to the assumptions or market conditions would impact the financial results. The analysis evaluated upside cases and downside cases for the district energy supplier's (DES) unlevered rate of return (UIRR), net present value (NPV), and the waste heat supplier's (WHS) net present value of savings relative to the target or assumed values for the following key variables as shown in following tables below:

- Thermal Energy Rates Discount (applied to all sensitivity analyses)
- Thermal Demand
- Revenue / Market Utility Rates
- Discount Rates (Supplier and Developer)
- Project phasing risks
- Capital expenditures
- Operational expenditures
- Repairs and rehabilitation expenditures
- Financial Escalators
- Contingency levels
- Carbon tax

This analysis was performed for the following reasons:

- To appropriately size the capacity of the project to withstand major financial and economic headwinds
- To establish a realistic and robust investment-grade baseline for the project

This analysis was carried out without considering a terminal asset value in addition to the other conservative assumptions made in the base case.

An indicative range for the sensitivities has also been shown based on what is possible and probable in projects like this. A more detailed sensitivity analysis using more data points is recommended over the development of the project to develop a finer understanding of the associated risks, impacts and required commercial structures. Table 55 provides a summary of the base-case scenario as a reference for the subsequent sensitivity analyses. It is important to note that while the base-case NPV is negative, this is due to the conservative 11% discount rate assumption made for the DES owner. Typical minimum unlevered rates of return in the DES market range between 8 and 12%, and therefore it's expected that any unlevered rate of return greater than 8% remains promising for this project.

Table 55: Sensitivity - Base Case Summary

Supplier	Unlevered Internal Rate of Return (%UIRR)	Net Present Value (NPV) ($2024)
District Energy Supplier (DES)	10.7%	($1.2M)
Waste Heat Supplier (WHS)	-	$1.4M

5.1 Sensitivity to Thermal Demand, Revenues and Rates

This sensitivity analysis shows the effect on the business case as thermal demand and revenues increase or decrease. These factors have a material impact on the business case as revenues are substantially impacted as seen in Table 56.

When annual heating energy loads increase by about 29% or 20,000 MWh from the currently estimated 69,545 MWh, returns for the DES increase to 14.0%. Conversely, if heating energy demand decreases by about 29% or 20,000 MWh, the returns drop to 6.5%. This indicates that the DES profitability is highly sensitive to heating demand. Similarly, both the DHW and cooling energy values were sensitized by +/- 28% and 29%, respectively. While they did impact the financial outcomes, they were far less severe than the heating demand change, given the large heating energy demand across the system. For the purpose of this analysis, the energy delivered, and the rates charged by the WHS were assumed to remain consistent, even as the thermal energy demands on the DES changed, thus leaving the NPV for the WHS system unchanged.

Thermal energy rates also have a material impact as they directly affect revenues for the DES; when rates for the DES are increased 20%, returns go up to 12.4%. However, if rates are lowered by 10%, then return drops to 8.4%.

To sensitize the importance of the hospital to the project's profitability, a scenario without Phase 1 loads and thermal energy demand was assessed. To remain conservative, this analysis did not change the capital costs of the project (i.e. the DES was constructed as currently configured, but they did not connect and add to the DES revenue generation). Without the revenue from the hospital, the DES IRR drops to 7.4%. This indicates that the hospital, as the anchor tenant, is reasonably important to the profitability of the DES. As such, continued stakeholder engagement with the hospital remains critical to project success.

5.1.1 Development Delays

Table 56 also shows the impact of development delays and risks that phases and buildings take longer to connect and come online. For this analysis, Phases 2-10 were delayed by 2 years and 5 years to check the impact on the business case. For both a 2- and 5-year delay, there was a slight reduction the financial performance for both the DES or the WHS, indicating that the project is relatively resilient to both minor and major time delays.

Under a 2-year delay scenario, the DES UIRR decreased to 10.4%, but when the delay was increased to 5 years, the DES UIRR dropped to 9.8%. This occurs because the capital-intensive central plant is being constructed for the first phase but won't be fully utilized until the later phases come online.

At the request of the Town, an additional time-delay sensitivity analysis was conducted: the buildout for Phases 1-3 was doubled to simulate supply-chain delays in construction. This was carried out to assess potential impacts of COVID-19 related supply chain delays impacting the project phasing during the first three phases. The connections for Phases 4-10 were shifted back as a result of the delay, but their build-out schedules were unchanged. This delay resulted in an immaterial decrease in the project UIRR, indicating that is not expected to be a notable project risk.

5.1.2 Discount Rates

Table 57 summarizes the impact on the business case when the discount rates for both the DES and WHS are altered. In the case of the DES, the sensitivity range for the discount rate is 9-13%. At a discount rate of 9%, the

DES sees a positive NPV, as the discount rate is lower than the project IRR. When the discount rate was increased to 13%, the DES NPV became more negative than in the base case. However, given that the 11% discount rate leveraged in the base-case analysis is a conservative assumption, it's expected that a discount rate of 13% is highly unlikely.

In the case of the WHS, who is only seeing positive cashflows for the sale of waste heat, increasing the discount rate does slightly decrease the NPV, but overall, there is still a strong financial outcome for the WHS.

5.2 Sensitivity to Project Costs

This sensitivity analysis shows the effect on the business case as various aspects of the project cost increase or decrease. This includes capital costs, operating costs, repairs and rehabilitation costs, contingency amounts and carbon tax. The results are summarized in Table 58.

If all capital costs for the DES were to decrease by 10%, then returns could increase to 12.6%. Conversely, if all capital costs were to increase by 30%, returns drop substantially to 6.5%. This indicates that changes in capital costs have a material impact on the business case. The contingency levels, however, are not expected to have a material impact on the business case as they form a much smaller part of the project's costs.

Increases or decreases in fixed operating costs do not have a significant impact on the business case. However, changes to the variable commodity costs did show a reduction in DES UIRR to 8.4% under the downside scenario. While the project still meets the typical market minimum rate of return of 8%, commodity costs should be monitored carefully throughout this project due to their impact on the business case.

5.2.1 Carbon tax

A key policy factor and risk to low-carbon projects like these is the role of carbon taxes. While it is difficult to say with certainty whether carbon taxes will stay as they are, increase or be removed completely, these cases need to be tested to ensure the model is resilient to such changes. Table 58 provides a summary of the impact of sensitizing the carbon tax impact.

The current assumption is that carbon tax holds up to 2030, as per the rates defined and is escalated (at 5% after 2030) up to the government shadow price of $300 per tonne by the early 2040s. If carbon taxes are removed, the thermal energy rates for the DES would come down to align with the lower costs of gas, and thus lower returns for the DES to 9.8%. Conversely, if the carbon tax escalates faster at 6.5% after 2030, the impact on the DES business case is relatively minimal.

5.3 Sensitivity to escalation rates

Table 59 shows the sensitivity analysis for the project cost escalation rates. The results of this analysis show that the escalations in thermal energy, capital expenses, and electricity have the most significant impacts on the business case.

While capital expenses and electricity have a notable impact on the returns, under both downside scenarios the IRR for the DES remains above typical market minimums of 8%. If the thermal energy rates escalate at 2.5% per year instead of the assumed 4%, however, the IRR for the DES will drop to 3.3%, indicating that the financial performance of this project is heavily dependent on the thermal energy rate escalator. Given that thermal

energy rates are the only recurring revenue generation that this project has, if they don't escalate enough to overcome the escalation of operational costs and future recapitalization, the project's profitability will be at risk.

Similar to commodity costs, it's recommended that market thermal energy rates are monitored closely as this project progresses, in order to minimize risk.

5.3.1 Escalation Rates – Conservative Scenario

Given that most escalation rates are often closely tied to standard market inflation, it would be expected that changes to annual escalation in one category would also be seen in the others. To model another escalation scenario, the business case model was re-run with a new set of escalation rates for all OPEX and revenue costs.

Table 60 summarizes the assumptions and returns for a scenario where the market escalates at lower rates than initially modelled, including the annual thermal market escalator. While reduced OPEX escalators may be desirable for the project, it would also likely drive market tolerance for higher thermal energy rate escalators down, which would in turn drive down total revenue. Indeed, under a scenario with lower annual escalators, the overall project rate of return dropped to 8.48%. While this IRR is likely to still be attractive to prospective DES owners, market escalation rates should be closely monitored as the project progresses to ensure overall profitability.

Table 56: Sensitivity – Thermal Demand, Revenue, and Project Phasing

Risk / Lever	Scenarios	Target or current	Realistic Upside	DES (% UIRR)	DES NPV ($2024)	WHS NPV ($2024)	Realistic Downside	DES (% UIRR)	DES NPV ($2024)	WHS NPV ($2024)	Proposed Sensitivity Range
Heating Demand	Increase or decrease	69,540 MWh	20,000 (29%)	14.0%	$12.6M	$1.4M	-20,000 (-29%)	6.5%	($15M)	$1.4M	+/- 50%
DHW Demand	Increase or decrease	18,510 MWh	5,000 (28%)	11.5%	$2.1M	$1.4M	-5,000 (-28%)	9.8%	($4.5M)	$1.4M	+/- 50%
Cooling Demand	Increase or decrease	30,988 MWh	9,000 (29%)	12.1%	$4.7M	$1.4M	-9,000 (-29%)	9.0%	(7M)	$1.4M	+/- 50%
Revenues / Thermal Energy Rates	Increase or decrease	Market-based	20%	14.4%	$14.6M	$1.7M	-10%	8.4%	($9.2M)	$1.2M	-10% to 20%
Supply Chain Risks	Delayed completion of early phases	No Delay	-	-	-	-	Phases 1-3 take twice as long to complete	10.0%	($3.2M)	$1.3M	-
Project Phasing Risks	Delay in phases 2-10 coming online	No delay	-	-	-	-	2-year delay	10.3%	($2.6M)	$1.3M	0-5 years
Project Phasing Risks	Delay in phases 2-10 coming online	No delay	-	-	-	-	5-year delay	9.8%	($4M)	$1.2M	0-5 years
Hospital Revenue	Hospital Does Not Connect	Hospital Connected	-	-	-	-	No Hospital Revenues or fuel costs	7.42%	($13.9)	$1.3M	-

Table 57: Sensitivity - Discount Rates

Risk / Lever	Scenarios	Target or current	Realistic Upside	DES (% UIRR)	DES NPV ($2024)	WHS NPV ($2024)	Realistic Downside	DES (% UIRR)	DES NPV ($2024)	WHS NPV ($2024)	Proposed Sensitivity Range
Discount Rate (WHS)	Increase or decrease	9%	7%	10.7%	($1.2M)	$1.9M	11%	10.7%	($1.2M)	$1M	7% to 11%
Discount Rate (DES)	Increase or decrease	11%	9%	10.7%	$8.4M	$1.4M	13%	10.7%	($6.9M)	$1.4M	9% to 13%

Table 58: Sensitivity – Project Costs

Risk / Lever	Scenarios	Target or current	Realistic Upside	DES (% UIRR)	DES NPV ($2024)	WHS NPV ($2024)	Realistic Downside	DES (% UIRR)	DES NPV ($2024)	WHS NPV ($2024)	Proposed Sensitivity Range
Capital Cost	Increase or decrease	0%	-10%	12.6%	$5.6M	$1.4M	30%	6.5%	($21.7M)	$1.4M	-10% to 30%
Contingency	Increase or decrease	15%	10%	10.7%	($1M)	$1.4M	20%	10.6%	($1.4M)	$1.4M	25% to 45%
OPEX - Fixed	Increase or decrease	0%	-20%	11.4%	$1.6M	$1.4M	20%	9.9%	($4M)	$1.4M	-20% to 20%
Commodity Costs	Increase or decrease	0%	-30%	12.7%	$6.9M	$1.4M	30%	8.4%	($9.3M)	$1.4M	-30% to 30%
REPEX – R&R	Increase or decrease	0%	-10%	10.8%	($884K)	$1.4M	30%	10.4%	($2.1M)	$1.4M	-10% to 30%
Carbon tax	Removed	5% (after 2030)	No carbon tax	9.7%	($4.9M)	$1.4M	6.5% after 2030	10.6%	($1.6M)	$1.4M	Rates defined up to 2030. 5% after.

Table 59: Sensitivity - Annual Escalation Rates

Risk / Lever	Scenarios	Target or current	Realistic Upside	DES (% UIRR)	DES NPV ($2024)	WHS NPV ($2024)	Realistic Downside	DES (% UIRR)	DES NPV ($2024)	WHS NPV ($2024)	Proposed Sensitivity Range
Capital Expense	3.5%	Increase or decrease	2%	11.7%	$2.5M	$1.4M	5%	9.5%	($5.7M)	$1.4M	2% to 5%
Electricity	3.5%	Increase or decrease	2%	11.9%	$3.7M	$1.4M	5%	8.7%	($7.7M)	$1.4M	2% to 5%
Water & Chemicals	3.5%	Increase or decrease	2%	10.7%	($1.1M)	$1.4M	5%	10.7%	($1.3M)	$1.4M	2% to 5%
Thermal Energy	4%	Increase or decrease	5.5%	15%	$21.4M	$1.7M	2.5%	3.3%	($18.3M)	$1.1M	2.5% to 5.5%
Gas	3.5%	Increase or decrease	2%	10.8%	($918K)	$1.4M	5%	10.6%	($1.6M)	$1.4M	2% to 5%
Maintenance	3.5%	Increase or decrease	2%	10.9%	($433K)	$1.4M	5%	10.4%	(2.2M)	$1.4M	2% to 5%

Table 60: Conservative Market Escalation Sensitivity Scenario

Escalator	Base Case Value	New Value	DES (% UIRR)	DES NPV ($ 2024)	WHS NPV ($2024)
Capital Cost Escalator	3.5%	2.5%	8.48%	($8M)	$1.2M
Electricity Escalator	4%	3%			
Water and Chemicals	3.5%	2.5%			
Thermal Energy Escalator	4%	3%			
Natural Gas Escalator	3.5%	2.5%			
Maintenance Escalator	3.5%	2.5%			
Carbon Tax Escalator	5% (after 2030)	5% (after 2030)			

5.4 Project Ramp

Figure 56 shows how the project's returns ramp up with each phase coming online. It can be seen that Phase 1 of the project (the hospital) exhibits significantly lower returns compared to the rest of the project. This is because Phase 1 carries a significant amount of the project's capital cost (about 20%), but the hospital's connection fees and ongoing thermal energy rates are lower than the other phases, as they are only using heating energy. Therefore, the cost-to-revenue ratio for the Phase 1 alone is higher than the other phases, explaining the lower rates of return. The project crosses typical market return thresholds of 8% in Phase 4, and the IRR steadies around 10.5% after Phase 7. This trend is very common in DES projects, as they are very capital-intensive in the early phases, but start to generate more revenue as later phases come online and begin generating additional revenue. This ramp illustrates the importance of engaging future customers early in the process to ensure the investments made in Phase 1 are utilized fully as the project progresses.

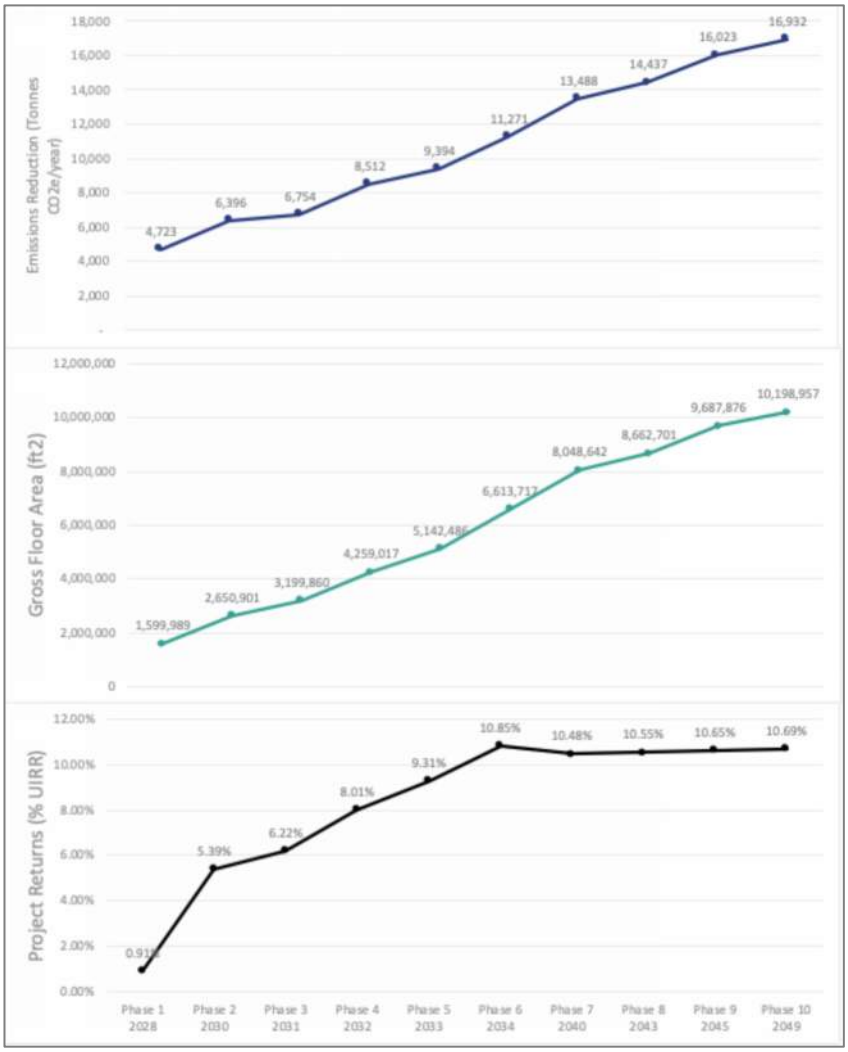

Figure 56: Project Ramp

6. ENVIRONMENTAL, SOCIAL AND GOVERNANCE ATTRIBUTES

The business case defines the investability and opportunities involved for key stakeholders in implementing the DES project for the hospital district. It serves as a Gate 1 checkpoint that determines the level of investment and effort needed for the following phases of Implementation planning, project development and execution. With refined costing and financial inputs, the impacts to key financial parameters have been well understood and presented. A stable and reliable energy infrastructure also supports increased economic activities by attracting new investments in land development and a complementary mix of energy consumers that would improve the performance of the DES. The hospital can expeditiously meet its net-zero and decarbonization ambitions and expect to have a net lowering of energy and operational costs that would improve their cash flows as well.

- **Governance:**
  This stage of the project presented suitable ownership models. The next stage will go into this further to determine the appropriate level of equity and debt participation from the private and public sectors. The business case informs the governance frameworks and required agreements for the planning, design and implementation phases of the project. We will work with the Town to identify a preferred governance framework and operating model for the Town and external stakeholders.

- **Social:**
  The project would serve as a fantastic educational avenue. It can engage students from colleges and universities to delve into certain aspects and expand the learning avenues for decarbonization, climate change mitigation and clean energy strategies. Once fully built up, the project infrastructure facilities can incorporate educational aspects and centers to host students and community members to showcase the project and share the learnings from its development and implementation with a global audience. The project would create additional jobs through the development and execution and would also need to hire 2 full-time operators.

- **Environmental:**
  The project supports massive carbon reduction at scale. Emissions savings at full buildout are estimated to be approximately 12,300 tCOe on an annual basis and over 70% compared to assumed business-as-usual heating and cooling systems. The project uses geo-exchange and sewer energy recovery which will lower overall heating, cooling, and DHW energy-related emissions as well as harness other renewable sources for phasing out additional emissions. The project would also need to establish a position on the ownership and transfer of carbon credits and or energy attribute certificates that is in line with carbon accounting protocols for the sewer energy and the geo-exchange related energy as borefields would be distributed throughout the hospital district and below several of the developments that would potentially connect to the system.

MILESTONE 5

IMPLEMENTATION PLANNING

This Section outlines the work completed in Milestone 5 of the project to the implementation strategy and next steps required for the project.

1. PURPOSE AND MILESTONE GOALS

The purpose of the Implementation Planning Assessment is to assess how the technically and financially optimized DES might be best implemented.

The goal of this milestone is to develop a high-level implementation plan that will offer the team an overview of key project risks and mitigation strategies, key partnership opportunities, implementation considerations and the preferred governance framework.

1.1 Outcome

The key outcome for this milestone is:

- An implementation plan that identifies key risks and mitigation strategies, key partnerships, implementation considerations and the preferred governance framework.

2. MARKET SOUNDING EXERCISE

In order to ensure that a DES is feasible within any given study area, it's critical to obtain a strong understanding of what the business and ESG objectives of each party are, and how they impact the DES financial analysis. This exercise intended to

- establish which developers in the study area were interested in connecting to the system;
- determine whether there was interest amongst known and established key industry stakeholders and district energy providers; and
- glean relevant feedback from local authorities in order to determine if there were any real or perceived regulatory challenges or opportunities posed by the project.

As part of this scope of work, UE met with six (6) developers, five (5) key industry stakeholders and district energy suppliers, and four (4) regulatory bodies. To do this, UE contacted seventeen (17) relevant stakeholders, with the understanding that it may not be possible to meet with all the stakeholders within the allocated timeframe.

Table 61: Market Sounding Stakeholder ListTable 61 below summarizes which stakeholders UE contacted and ultimately met with.

Table 61: Market Sounding Stakeholder List

Stakeholder Group	Stakeholder Name	Status
Local Developers	Halton Healthcare	Contacted, no response
	Oakville Green	Interviewed
	Schlegel Village	Interviewed
	Infrastructure Ontario	Interviewed
	Mattamy Developments	Interviewed
	Zibi	Interviewed
	Local Developer – Anonymized	Interviewed
Key Industry Stakeholders	Enwave	Interviewed
	Creative Energy	Interviewed
	Corix	Interviewed
	OEC	Interviewed
	Noventa Energy	Interviewed
Regulatory Bodies	Enbridge Gas	Interviewed
	Halton Region	Interviewed
	Durham Region	Interviewed
	Ontario Energy Board	Contacted, no response
	Oakville Hydro	Interviewed

Each stakeholder meeting began with UE presenting an introductory slide deck to the stakeholders, which provided them with a holistic overview of the project's technical details. Stakeholders were encouraged to ask

questions throughout and following the presentation. Once the overview was completed, UE began asking the stakeholders focused questions, which had been pre-approved by the Town.

2.1 Results - Local Developers

The purpose of these meetings was to gain insights from property owners within the study area in order to get a better understanding of project feasibility, including, but not limited to:

- interest in connecting to the project; should it be constructed as currently phased;
- preferred contracting methods;
- perceived risks and/or challenges related to project scope, location, regulatory implications, market readiness, etc.;
- financial assumptions used to determine business case;
- example thermal energy rates and connection fees based on past experience; and
- 'lessons learned' or recommendations for the Town, based on past experience.

Overall, UE found that all local developers within the study area would consider connecting to the district energy system, so long as the commercial terms were satisfactory. The primary concerns regarding their decisions to connect included, but were not limited to the following:

- **Cost of Connecting to the System**: all developers expressed that connecting to the DES would have to be cost-neutral or cheaper than their business-as-usual system. When asked, most developers were planning to leverage a conventional gas-fed heating system.
- **Timing of System Phasing**: given that the DES will be constructed in 10 phases over about 20 years, most developers expressed concerns about when the connection will be available for their development. Some developers are planning to construct their building well in advance of a connection being available but are planning to design to a 'DES-ready' standard. This will ensure they can operate their building as normal until the connection is ready.
- **Reliability of the System**: developers who have owned land in the study area for a long time expressed concerns about whether or not the system will be built, and how reliable it will be once commissioned. This was driven by their experience with the Town in the past, and their concerns with the scale and complexity of the project. Many developers were concerned about what would happen to their central plants, if they had to commission their buildings prior to the DES connection becoming available.

2.2 Results – Key Industry Stakeholders

The purpose of these meetings was to gain insights from service providers in the DES market in order to get a better understanding of project feasibility, including, but not limited to:

- interest in bidding on the project in the future, should it progress to RFQ stage;
- preferred contracting and bidding methods;
- perceived risks and/or challenges related to project scope, location, regulatory implications, market readiness, etc.;
- financial assumptions used to determine business case;
- example thermal energy rates and connection fees based on past experience; and
- 'lessons learned' or recommendations for the Town, based on past experience.

Overall, UE found that all DES providers were interested in supporting the project in some way and were eager to learn more about the project. The primary concerns gleaned from the key industry stakeholders included, but was not limited to:

- **Partner Selection:** all of the DES providers that UE interviewed wanted to caution the Town against choosing a DES partner using a quantitative RFP process. It was mentioned that project costs and DES fees cannot be accurately determined at such an early of the project. It was recommended that the Town select a DES partner based on past project experience, financing capabilities, and project development approach.
- **Revenue Certainty:** concerns surrounding revenue certainty were expressed by all DES providers, who confirmed that commercial agreements with each customer would need to be signed prior to any capital expenditure. Given that the Town of Oakville doesn't have a Green Standard that would require developers to connect to a low-carbon DES, the providers were concerned about having to compete with conventional, carbon-intensive HVAC costs. It was suggested that the Town look at the role of a quasi-regulator for setting long-term rates and key terms for all developers and land owners.
- **Stakeholder Coordination:** due to the size of the system, most DES providers also expressed concerns about how the system would be developed, governed and operated from a partnership perspective. Large, multi-phase DES systems can be challenging to move forward, and many of the interviewed providers suggested that having a 'champion' to progress the project would be critical to the project's success.

2.3 Results - Local Authorities

The purpose of the meeting was to gain insights from local authorities about opportunities and challenges perceived for the project from a regulatory perspective.

Given that district energy systems are unregulated in the province of Ontario, it was critical to socialize the project with all relevant local authorities to ensure that there were no regulatory roadblocks or opportunities that could impede the project's success. The primary takeaways gleaned from the local authorities included, but was not limited to:

- **DES Connection Uptake:** given that natural gas is currently the most prominent and cost-effective method for building heating in Ontario, some regulatory agencies expressed concerns that developers would choose to connect to the system.
- **Lack of Information Available:** all the interviewed regulatory bodies highlighted that it was difficult to offer any real feedback at this time, given that relevant detailed information (such as peak electrical loading for the central plant, or sewer connection details for the SHR system) are not available at this time. All the local authorities UE interviewed expressed the need for continued collaboration with the Town, as each regulatory body has its own feasibility exercises and processes to carry out before approvals or connections can be provided.

3. OWNERSHIP OPTIONS MODELLING

3.1 Summary of Ownership Options

There are three typical business models used to deliver district energy projects:

- Private project development companies,
- Public project development companies, and
- Hybrid public/private partnerships

A detailed list and descriptions of the ownership structures are provided in Table 62.

Table 62: Ownership Structure Examples

Ownership Structure	Description
100% Private	• Private sector group owns, maintains and operates DES • DES is financed through private debt or equity • Fewer opportunities for accessing public funding • Commonly pursued where there is a high rate of return for the private body and limited public support is required • Expected ROI is higher than for publicly owned systems
100% Public	• Public sector owns, maintains and operates DES • Public-sector financing and grants are used to fund DES • Generates revenue for municipality • In Canada, the majority of DES business models are publicly owned or involve the public sector in some capacity
Concession	• Public sector is involved in the design and development • Private sector group is engaged to develop, finance and operate DES • Public sector generally has option to buy back DES in future
Joint Venture	• Shared ownership where shares are dictated by equity invested • Public partner: land and access to lower cost debt capital • Private partner: skills/experience, shorter procurement period, and access to external capital
Special Purpose Vehicle	• Special purpose subsidiary created for owning, operating and maintaining DES • Ownership split between private and public entities

Stakeholder Owned Special Purpose Vehicle	• A cooperative model where ownership is shared amongst a variety of stakeholders, such as:
	  • Customers receiving the thermal energy (e.g. major building owners connected to the DES)
	  • The municipality
	  • Members of the community/a cooperative

The ownership structure chosen would have an impact on the project returns as there can be varying interest rates, commercial terms and equity participation. Out of the options presented in Table 62, the Town chose to evaluate the following:

1) **100% Private Ownership:** A project company owned and led by a private developer/investor
2) **100% Public Ownership:** A project company owned and led by publicly held company and the Town

3.2 Ownership Model Overview

To accurately model the outcomes of the different ownership options, UE layered project financing into the business case model developed in Milestone 4. Based on market experience and feedback gleaned from UE's market-sounding exercise, the base case for the ownership options model leveraged the assumptions summarized in Table 63. Note that the discount rate of 11% selected for the public ownership model was an intentionally conservative approach. In UE's experience, public entities are typically more risk averse and are more conservative in their approach. It is likely that a lower discount rate can be leveraged in future analyses, as more information becomes available.

Table 63: Ownership Option Model Inputs

Ownership Model	Description	Inputs
Private Ownership	A project company owned and led by private developer/ investor	• Private: 40% equity contribution; 60% debt • Cost of Debt Capital: 7.95% (prime[9] + 100 bps) • Discount Rate: 9%
Public Ownership	A project company owned and led by public company and the Town of Oakville	• Public: 20% equity; 80% debt* • Cost of Debt Capital: 6.3% (10 yr Canada bond rate[10] + 3%) • Discount Rate: 11%

** The delivery and partnership process selected will inform the financing. For example, if the delivery partners are also required to finance along with design, build, and operate, then to that extent the financing requirements would be impacted. Similarly, based on available lower-cost financing facilities, the DES business case is expected to benefit substantially and can be brought in once the path forward has been selected.*

[9] Prime interest rate published as 6.75% on July 17th, 2024 on the Bank of Canada website.

[10] 10-year bond rate published as 3.3% on July 17th, 2024 on the Bank of Canada website.

3.3 Ownership Model Results

Using the assumptions laid out in Table 63, the levered internal rate of return (LIRR) and net present value (NPV) were calculated for both a private and public DES ownership. The privately owned DES was modelled with terminal asset value included, given that it is commonplace for private entities to factor int the value of assets at any time. Based on previous conversations with the Town, the publicly owned DES was modelled both with and without the terminal asset value considered, given that it is unlikely that the Town would factor in selling the DES following the 30-year term.

The results of the ownership model are summarized in Table 64. For all financing options, a construction loan type of financing facility has been assumed over a 20-year term with an amortized repayment spanning 10 years following the loan maturity date.

Table 64: Ownership Model Results

Ownership Structure	Equity Ratio – Construction Costs	Terminal Asset Value	Discount Rate	Interest Rate	Net Present Value (NPV)	Levered Internal Rate of Return (LIRR)	Peak Equity Invested	Peak Equity Multiple
Private Ownership	40%	Terminal Value Included	9%	7.95%	$4.2M	9.53%	$56.4M	9.76x
	Total Construction costs (Escalated): $201,417,972 Total Construction Loan Proceeds: $120,850,783 Total Construction Equity Proceeds: $80,567,189							
Public Ownership	20%	Terminal Value Included	11%	6.3%	$971K	11.21%	$40.9M	13.11x
	Total Construction costs (Escalated): $201,417,972 Total Construction Loan Proceeds: $161,134,378 Total Construction Equity Proceeds: $40,283,594							
	20%	Terminal Value Excluded	11%	6.3%	($13M)	3.26%	$40.9M	1.61x
	Total Construction costs (Escalated): $201,417,972 Total Construction Loan Proceeds: $161,134,378 Total Construction Equity Proceeds: $40,283,594							

This analysis is showing lower levered rates of return, when compared to the unlevered rates of return shown in Table 52 and Table 53. It was assumed that for the project financing facilities, the DES owner is paying interest

costs on the full debt facility every year (i.e. 60% of the project costs for the private owner, and 80% of the project costs for the public owner). The treatment of interest is unique to each financing facility, and given the preliminary nature of this assessment, a conservative analysis was carried out. The business case should be re-assessed throughout project development, based on discussions with the financing agencies and update the assumptions as they become available.

Even with a conservative treatment of interest costs, both the private and publicly owned DES' show strong LIRR and a positive NPV with the terminal value included in the assessment, indicating that it would be an attractive investment. Without terminal asset value considered, however, the publicly owned utility would be expected to receive a lower LIRR and a negative NPV over the 30-year term. While this may appear to indicate that a publicly owned utility would be a poor investment if not sold after 30 years, we do not believe this to be the case, for the following reasons:

- **Continued Revenue Generation:** if a terminal asset value is not realized by the publicly owned utility (i.e. if the asset is not sold), the asset will continue generating revenue for the owner, which will improve the IRR and NPV. While the DES may not achieve a positive NPV in the first 30 years under the current financial assumptions, it will show a positive financial result over a longer term (such as 40 or 50 years). This is because the majority of the capital costs have already been expended, and the cash flow following the modelled 30-year term would be predominantly profit after accounting for repairs and rehabilitations.
- **Discount Rate Considerations:** This analysis leverages an 11% discount rate for the 100% public ownership scenario, which is considered to be conservative by market standards and given the higher interest rate regime. This indicates that the publicly owned utility (i.e. the Town) would need to achieve an 11% IRR in order for the asset to have a positive NPV. Given that interest rates are expected to return to the previously seen lower levels, and considering the Town will receive other, qualitative social, environmental and community-driven benefits to the development of the DES, it would be expected that the discount rate could be reduced below typical market values.

3.4 Ownership Model Sensitivity Analysis – Private Sector Interest Rates

Given that there has been a significant amount of volatility in the market in recent years, a small sensitivity analysis has been carried out on the interest rates for a private sector DES owner. To illustrate a reasonable range for a levered rate of return, the maximum and minimum prime interest rates over the last 20 years were extracted from the Bank of Canada data archive and were used to re-run the model. The maximum prime interest rate was determined to be 7.2% and the minimum prime interest rate was determined to be 2.25%. The results of this sensitivity analysis are summarized in Table 65. Note that this assessment considered the asset's terminal value.

Table 65: Sensitized Ownership Model Results - Private Ownership

Scenario	Interest Rate (Prime + 100bps)	Net Present Value (NPV)	Levered Internal Rate of Return (IRR)
Lower Prime Interest Rate	3.25%	$43.2M	18.48%
Higher Prime Interest Rate	8.2%	$1.9M	9.23%

It can be seen that the base case interest rate assumptions for the privately owned utility are quite close to the maximum rate seen in the last 20 years; indicating that this assessment is already quite conservative. Therefore, it's possible that prime interest rates will trend back down towards the 20-year average (around 3.8%, according to Bank of Canada archives), making this project even more profitable. Ultimately, market conditions should be closely monitored in order to ensure the business case is as current as possible.

4. PLANNING TEAM SUPPORT

UE conducted market research in other jurisdictions to identify planning by-laws, development policies and incentives that the Town's Planning Team can implement to help overcome barriers to the implementation of DES.

4.1 Barriers to DES Implementation

To provide context for this analysis, UE began by first establishing the most prevalent barriers to DES implementation. The barriers summarized in Table 66 were established through both desktop research and feedback received as part of the market-sounding study summarized in Milestone 5 Section 2.

Table 66: List of Barriers to DES Implementation

Barrier	Description
Cost Competition with Market Rates	• DES suppliers must compete with market rates for conventional systems, which is significantly more challenging in jurisdictions without Green Development Standards or other policies that limit GHG emissions or energy use. • Without any incentive to connect to a more efficient, less carbon-intensive system, customers will often opt to leverage a conventional gas-based heating systems, due to their short-term affordability and comfort with the technology.
High Upfront Costs	• DES centralizes energy production to produce economies of scale, which results in a high upfront capital cost to design and build the central plant, in order to connect to a large number of customers
Extensive Build-Out Schedules	• Due to the scale of the infrastructure, the build-out schedule is often long, creating significant lag times between initial capital expenditure and revenue generation. • This leads to significant financial risk for the DES provider, as they are required to finance the cost of the central plant until revenue can be generated.
Land Use Planning Uncertainty	• Given the extensive build-out schedules and evolving needs of municipalities and the communities they serve, land use planning can change many times over the course of the DES planning cycle. This leads to increased uncertainty and risk for both DES providers and customers.
Revenue Uncertainty	• In the absence of mandated connections, DES providers must negotiate contracts with each customer, creating significant load and revenue uncertainty. Contract negotiations take time, and connections are not guaranteed until an agreement is signed, meaning DES providers face a significant amount of uncertainty and risk, as planning and investments must be made very early in the process to ensure the DES can be developed smoothly.

Barrier	Description
Significant Stakeholder Coordination	• With large-scale DES that require support from the municipality and other relevant local stakeholders, project complexity is increased significantly. This further extends the buildout schedule and can limit DES supplier's ability to offer customers certainty on scheduling, contract terms and fees.

The following analysis will provide the Town's Planning Team with recommendations to overcome the barriers laid out in Table 66.

4.2 Tools Available to Ontario Municipalities

Before any recommendations could be made, UE carried out research to establish the tools the Town can leverage to incentivize the implementation of DES.

Given that each province has a unique regulatory landscape, UE grounded this analysis in various policy vehicles that Ontario municipalities have at their disposal to incentivize the implementation of DES. Table 67 provides an overview of proven policy vehicles available to the Town that are relevant to DES implementation:

Table 67: Municipal Policy Vehicles to Support DES

Tool	Description
Green Development Standards (GDS)	• GDS are typically managed through the Site Plan Approval process and require developments within a certain use-case (often medium to high-density residential, commercial and institutional) to meet minimum energy efficiency and GHG reduction targets. • GDS that require high thermal energy performance and GHG reductions either require or incentivize developers to use higher efficiency heating, cooling and domestic hot water systems in their development. • When developers are required to meet higher building performance, DES systems becomes a more financially attractive option. as they are cost-competitive with other standalone low-carbon energy systems, but with additional benefits (energy reliability, redundancy, space savings in their buildings, etc.). • GDS are the most impactful policy vehicle available to Planning Staff in Ontario currently.
Property Taxation Rebates	• Offering property tax rebates to residents connected to a DES could be used to incentivize connection by driving public interest and market demand.

Tool	Description
Development Charge (DC) Rebates	• Offering developers development charge rebates for connecting to a DES can be a useful tool in incentivizing connections. • DC rebates have been successfully used in jurisdictions like Toronto and Vancouver to incentivize developers to meet more stringent energy efficiency and carbon emissions targets. • DC rebate can be tied to voluntary GDS criteria to administer more efficiently.
Accelerated Approval Timelines	• Approval timelines were identified by local developers as a notable challenge through UE's market sounding exercise. Therefore, if developers connecting to a DES could be offered accelerated development timelines, it could be a highly valuable tool in overcoming barriers to DES implementation. • Specifically, Ontario municipalities may leverage a Community Planning Permit System (CPPS), which combines site plan control, zoning and minor variances to streamline development timelines. • CPPS can be tied to 'District Energy Nodes' within the OP to provide streamlined and preferential approvals to developments that connect to DES systems and provide other community benefits.
Official Plans (OPs)	• OPs can help to align community intensification objectives with energy strategies to supply residential, commercial and institutional buildings. • Energy-related policies can be included in an OP to incorporate integrated community energy solutions into the community's future growth strategy (such as GHG reductions, energy efficiency, requirements for community energy planning)
Zoning By-Laws	• Zoning by-laws and amendments are an indirect way for municipalities to support DES implementation. • Zoning by-laws can be used to incentivize DES through intensification, compact development, mixed-use development, renewable energy infrastructure, and better support for public transportation; all of which can improve the technical and financial feasibility of DES.

4.3 Green Development Standard – DES Best Practices

Based on both desktop research and the market-sounding study carried out by UE, the implementation of a Green Development Standard is anticipated to be the most impactful policy tool that the Town could implement. The following is a summary of DES-specific criteria to consider including in GDS requirements to ensure DES are incentivized appropriately.

4.3.1 Energy and Carbon Requirements

1) When setting requirements for both thermal and non-thermal energy intensity limits at a building level, provide allowances for projects connecting to a district energy system (existing or future), given that connecting to a DES system supplying building heating and cooling reduces strain on the electrical grid and improves resilience during power outages at the individual building location.

2) Allow projects connecting to a DES system to automatically meet any minimum/mandatory GHG emissions targets.
3) Create a separate compliance path for voluntary requirements, which allows projects connecting to a DES using or with defined plans to use renewable energy or waste heat to automatically comply.

4.3.2 Renewable Energy Requirements

1) Allow projects to meet mandatory renewable energy generation targets by utilizing off-site renewables through a DES.
2) When defining renewables, ensure that geothermal and geo-exchange systems, sewage heat recovery or sewage energy exchange, and industrial residual (waste) heat within the definition of 'renewable'
3) Enable geo-exchange bore fields to be placed under the building as well as adjacent parks, greenspaces and rights-of-ways.
4) Require the inclusion of onsite thermal and electrical energy storage to better manage peaks and balance the electrical grid. This requirement would be waived for a DES connection.
5) Treat all low-carbon energy or energy harvested from waste streams as renewable energy for the GDS.
6) Allow renewable energy to be allocated by the DES to a specific user, even if it mixes with other higher-carbon energy streams as part of the delivery network.

4.3.3 District Energy Requirements

1) Define district energy systems (DES) to include both thermal (heating and cooling) and electrical energy/microgrids.
2) Adopt formal DE-ready guidelines. For example, the City of Toronto has adopted formal guidelines and acknowledged the pivotal role of district energy systems in reducing GHG emissions from buildings and driving towards net zero while also reducing demands on the additional energy infrastructure needed.
3) Require GDS applicants to investigate the feasibility of DES for their development at a minimum and encourage voluntary connections to existing DES through incentives (such as DC rebates). If DES systems are not available in time in their area, consider developing guidelines and requirements for developers to design their buildings to be DE-ready. Incentivize GDS applicants to adopt the Town's DE-ready guideline in preparation for future DES connections.
4) Specify that the Investigation of the feasibility of a shared energy solution contains, at a minimum:
    a. Definition of the project's baseline energy consumption and demands, conversion efficiencies, operating temperatures, utility costs, and carbon emissions. This baseline energy assessment is to be established and agreed on with inputs from the developer and the DES operator. This baseline analysis informs the platform against which the energy supply opportunities will be measured and compared.
    b. A lifecycle financial comparison analysis between an on-site energy solution and a DES solution, given that there is a vital need to make sustainability accessible, relevant and affordable for all members of the community.
    c. Shared energy solution/campus energy alternatives in the event that a DES is not commercially available.
    d. Transition alternatives to allow for the period between construction completion and connection to a shared energy solution/campus energy alternative.
    e. An implementation roadmap for taking the building from being district energy ready to actual connection to a DES.
5) Require that the SPA Submission include a letter signed by a local DES operator, signalling that DES feasibility was considered.
6) Allow for transition periods where the new building may not be sufficient to expand or commission a new or existing DE system. Temporary energy centers or systems or plants should be allowed to operate in the interim to achieve the required densities to enable the DE system to be commissioned and replace the temporary systems.

4.4 Town Planning Feedback

The information gleaned as part of this assessment was presented to the Town's Planning Team (Planning) on July 24th, 2024, with the intent of soliciting their feedback and input. Based on the discussion, the following was understood by UE:

- At present, the Town is planning to investigate a Green Development Standard as part of the 2025 budget year. This assessment can be taken and leveraged as part of that assessment.
- Planning has little control over development approval times, as much of that has to do with the province. The Town is investigating the Community Planning Permit System (CPPS) as a means to streamline development applications, but they are unable to provide guaranteed approval timelines as an incentive for DES connections.
- There exists some hesitancy surrounding financial incentives for developers, as development should pay for itself.
- Official Plans and Zoning By-Laws remain the Planning Team's most powerful tools as they relate to incentivizing low-carbon developments and DES connections. Planning will continue to investigate these tools and their applicability to DES.

5. RISK REGISTER AND MITIGATION PLAN

Urban Equation and Rathco have prepared a detailed risk register outlining commercial, technical, economic, and other risks. In addition, we have prepared a mitigation plan that addresses each key risk, assesses their associated mitigation strategies and assigns high-level qualifiers to their likelihood of occurrence, financial impact and schedule impacts.

Table 68 below outlines the key risks and the associated mitigating actions, based on the current understanding of the project. Each risk has been assigned a score out of 10 for both probability and impact of occurrence. The framework for assigning these scores is summarized in Figure 57 and Figure 58, respectively. Those two scores were then multiplied together to calculate a risk severity score out of 100, which indicates how it should be addressed according to Figure 59.

Rating		Interpretation
High	10	
	9	Fact
	8	
	7	High Probability
Medium	6	
	5	Medium-High Probability
	4	
Low	3	Medium Probability
	2	
	1	Low Probability

Figure 57: Risk Probability Scoring Matrix

Rating		Interpretation
High	10	Project Failure
	9	Over Budget or Delay by 40%
	8	Over Budget or Delay by 30-40%
	7	Over Budget or Delay by 20-30%
Medium	6	Over Budget or Delay by 10-20%
	5	Slightly over budget
	4	Large reduction of reserves (time or cost)
Low	3	Medium reduction of reserves (time or cost)
	2	Small reduction of reserves (time or cost)
	1	No Impact

Figure 58: Risk Impact Scoring Matrix

Probability	10	10	20	30	40	50	60	70	80	90	100
	9	9	18	27	36	45	54	63	72	81	90
	8	8	16	24	32	40	48	56	64	72	80
	7	7	14	21	28	35	42	49	56	63	70
	6	6	12	18	24	30	36	42	48	54	60
	5	5	10	15	20	25	30	35	40	45	50
	4	4	8	12	16	20	24	28	32	36	40
	3	3	6	9	12	15	18	21	24	27	30
	2	2	4	6	8	10	12	14	16	18	20
	1	1	2	3	4	5	6	7	8	9	10
		1	2	3	4	5	6	7	8	9	10
		Impact									

Green	Can be Ignored
Yellow	Further Analysis and Investigation
Red	Response or other immediate action

Figure 59: Risk Severity Scoring Matrix

The project development phases should include a detailed risk management program to continuously monitor and evaluate the risks and mitigation strategies that include the development of a risk register and cross-functional risk reviews with project groups and critical stakeholders identified by the project governance team. The risks and their impacts should be quantified and qualified on both a pre-mitigation and post-mitigation process.

For large infrastructure projects like this to be successful, it is not always viable to carry the financial impacts of all risks within contingencies. However, the project's budgets typically do account for risk-related contingencies on a reasonable basis. Further, the understanding of these risks is also important to guide the contractual frameworks and governance processes with the stakeholders.

Table 68: Key Potential Risks

No.	Category	Key Potential Risks	Probability (/10)	Impact (/10)	Severity (/100)	Impacted Project Area	Key Potential Mitigating Actions
1	Commercial	Project development timelines don't align (delayed in comparison) with upcoming new developments	8	8	64	Schedule, Design, Budget, Revenues	• A detailed project schedule needs to be developed at the earliest with key milestone dates, approvals schedules and detailed design and construction schedules. Understanding the dependencies and the required decisions on project structuring, financing mechanisms and project delivery partners is critical to building the implementation plan and decision timelines. • For developments progressing faster than the development of the DE system, temporary energy centers (TECs) can be explored as a stopgap/temporary measure until the DES is commissioned. • For developments that have proceeded with standalone thermal energy solutions, future integration with the DES would have to be mapped out and ongoing coordination with those developers would be required. • Policy drivers would also play a role in accounting for and suggesting how timeline alignment should be dealt with.
2	Commercial	Client-specific business-as-usual cost comparators being accepted by clients, especially in the case of larger institutional clients like the Hospital	9	10	90	Budget, Revenues	• The Town should consider policies and incentives that support the connection to District Energy systems. The Town can look into quasi-regulatory frameworks that enable uniform rate-setting and connection requirements. Covenants on land parcels may also be considered in land use planning policies. • Early engagement is required with key clients that could provide the anchor loads for the system to build on with indicative rates and entering into MOUs that would outline the path to contract signing.
3	Financial	Construction cost escalations - from initial	6	9	54	Budget, Revenues	• Adopt an iterative design and costing approach for both business-as-usual scenarios for key clients and the DES system to accurately account for cost fluctuations.

No.	Category	Key Potential Risks	Probability (/10)	Impact (/10)	Severity (/100)	Impacted Project Area	Key Potential Mitigating Actions
		rate estimates to commissioning of the system					• Policy measures would also have to be considered to inform the rate-setting process through quasi-regulation.
4	Technical	Construction schedule delays that impact commissioning and connection dates	8	8	64	Schedule, Budget, Revenues	• Confirm final location of assets with a clear understanding of the permitting, regulatory, commercial and contractual aspects will help ensure necessary steps are in place to ensure a smooth construction process. It would also be important to continuously monitor and lock down access requirements through rights-of-way, temporary and permanent easements.
5	Commercial	Policy changes related to carbon tax or grid capacity demand charges	9	6	54	Revenues	• Through the sensitivity analysis we have tested the impact of policy changes related to carbon taxes. The impact as a result of carbon tax being removed is a drop in returns by approximately 1.5%, whereas if the carbon tax accelerates faster after 2030 at (6.5% a year vs 5% a year) the impact is an increase in returns by 1 %. Proactively addressing any impacts resulting from policy changes, with robust change management procedures in place is an important practice to adopt as the project proceeds through the next stages. • Grid capacity impacts and demand charges expected for future electrification of buildings, if the buildings were to shift from conventional gas-based systems to fully electric ones, need to be thought through.
6	Commercial	Procurement method misalignment with project implementation plan	5	7	35	Schedule, Design, Budget, Revenues	• Based on the project ownership path selected and the partners onboarded, a strategic evaluation of the procurement model will have to be looked at. This is critical to aligning the goals and timelines of the project while managing risks on several factors discussed here. The commonly used project delivery models for such projects could be design-build, design-build-performance, design-build-transfer with or without financing, a concession structure with transfer of assets and ownership at a future date such as full buildout.
7	Technical	Procurement timelines associated with	8	8	64	Schedule, Budget, Revenues	• Until recently, supply chains were vastly disrupted due to the pandemic with very long and unpredictable lead times. Establishing procurement timelines for critical items would need to be detailed in the next phase of work and

No.	Category	Key Potential Risks	Probability (/10)	Impact (/10)	Severity (/100)	Impacted Project Area	Key Potential Mitigating Actions
		long-lead items and supply chain issues					built into the detailed schedule. Lead times for drilling contractors in particular can be a number of months in the current Ontario market.
8	Technical	Performance benchmarking and guarantees	3	3	9	Revenues	• Tied to the procurement strategy, the performance (efficiencies and operating parameters) and key metrics need to be established and validated with appropriate guarantees in place. System operations and component performance directly impact the economics of the project and those of clients based on how the utility costs are negotiated.
9	Technical	GHG and CO2e emission reduction targets not being achieved	5	5	25	Budget, Revenues	• Allowances may be made to catch up with any shortfalls in GHG and CO2 emission reduction targets with some redundancies built into the electric equipment capacities.
10	Commercial	Development risk - Buildings do not go online as planned and connections are delayed as a result	9	8	72	Revenues	• If buildings and connections are delayed, there is an impact on revenues and returns of the project. It is important to have ongoing engagement with commitments on off-takes and minimum payment terms if delays occur beyond a reasonably determined timeframe. As commonly seen with most regulated utilities, fixed charges commence based on the connection dates and commissioning schedules. Quasi-regulatory policies can also help address this issue.
11	Technical	Energy source fluctuations in quality and quantity	4	6	24	Budget, Revenues	• There is a risk that the sewer waste-heat quantity and quality (temperatures) can fluctuate and thereby impact operating efficiencies, costs, and system performance. A tolerance level should be established to assure a minimum quantity is delivered for a high percentage of time within an acceptable temperature range for the negotiated rates. Rate structures and adjustments would have to be looked at to factor in deviations beyond the established range. This risk has already been largely mitigated through assessing 3 years of historic sewer flows and temperatures, the proposed project is based on average minimum flows over these 3 years only.

No.	Category	Key Potential Risks	Probability (/10)	Impact (/10)	Severity (/100)	Impacted Project Area	Key Potential Mitigating Actions
							• For the geothermal borefields, balancing and monitoring would be important to ensure the geothermal borefields are operating within the designed criteria.
12	Financial	Interest rate fluctuations and changes in cost of capital	9	6	54	Budget, Revenues	• The project is very sensitive to interest rates / cost of capital and thus as part of project development, it would be important to enter into discussions with large funding agencies like the Canada Infrastructure Bank for a financing facility with a locked-in rate structure and flexible repayment structure. Given where we are at with interest rates, the capital stack would need to be planned such that it limits risks around rate fluctuations.
13	Commercial	Permits and approvals management	2	3	6	Schedule, Budget	• Understand and develop detailed permits and approvals management plan that identifies permit requirements and ensure application and approval timelines are synchronized with project schedule. • Similarly, identifying any required easements, and access to the right of ways as per construction schedule is also an important part of the process.
14	Technical	Geotechnical and environmental risks	4	5	20	Schedule, Design, Budget, Revenues	• Assess and effectively manage risks related to geotechnical and environmental factors by conducting relevant preliminary assessments through the next stage of design development and understand contamination related issues and costs associated with site remediation. As geo-exchange is a major part of the energy mix, understanding ground conditions well is important.
15	Technical	Scope gaps and demarcation points in design and construction	4	6	24	Schedule, Design, Budget, Revenues	• Given that multiple consultants, contractors, public and/or private entities are expected to get involved in this project soon in order to progress forward, potential scope gaps would need to be carefully managed. Engaging a prime consultant will address this issue and ensure project continuity efficiently. Similarly, a general contractor may also be brought on board at the right time to ensure pre-construction issues are addressed. Separation of time and space will also have to be maintained to accommodate site constructors' activities effectively.

No.	Category	Key Potential Risks	Probability (/10)	Impact (/10)	Severity (/100)	Impacted Project Area	Key Potential Mitigating Actions
16	Technical	Region of Halton implements new technical specification requirements, that are required for the connection	5	5	25	Design, budget, revenues	• The Region would have to be brought into the project through the governance frameworks and timelines and boundaries for including technical specifications would have to be established.
17	Technical	Gas peaking connections may be expensive for the gas consumption levels identified	6	6	36	Design, budget, revenues	• Peak electrical and gas demand response strategies may need to be looked at closely to support peak shaving strategies by employing electrical and gas storage systems in combination with cogeneration units if the cost differentials can be justified.
18	Commercial	Central plant location's commercial aspects	7	8	56	Schedule, Design, Budget, Revenues	• The central plant location will have to be finalized and requires working through the details with Infrastructure Ontario who currently own the land. Ownership or lease of the land, building and access requirements with the associated terms and conditions would have to be looked into at the earliest.
19	Technical	Site Servicing - grid and natural gas servicing constraints	7	8	56	Schedule, Design, Budget, Revenues	• Lack of grid / natural gas supply capacity impacting the ability to service the site. This needs to be mitigated through ongoing coordination with Enbridge and Oakville Hydro early on in the development of the project.
20	Technical	Climate change impacting energy demands and	8	6	48	Operation, revenues	• Climate change may alter the heating and cooling patterns and preferences of the customers, as well as the availability and quality of the renewable energy sources. For example, warmer winters and hotter summers may increase the cooling demand and decrease the heating demand, while droughts and floods may affect the sewer flow and temperature. These changes may cause an imbalance between the supply and demand of

No.	Category	Key Potential Risks	Probability (/10)	Impact (/10)	Severity (/100)	Impacted Project Area	Key Potential Mitigating Actions
		causing system imbalance					thermal energy in the DES, and lead to system instability, inefficiency, and degradation. To mitigate the impact of climate change on the DES, the system should incorporate adaptive and resilient design and operation features that can adjust to the changing energy demands and conditions. For example, the DES should use dynamic and smart control systems that can monitor and optimize the system performance and energy balance and implement demand response and load-shifting strategies that can reduce or shift the peak demand. Furthermore, the DES should conduct regular and rigorous climate risk assessment and scenario analysis that can inform the system planning and decision making.
21	Commercial	Low Customer Uptake	8	7	56	Design, budget, revenues	• One of the main challenges for a DES is to attract and retain enough customers to ensure its economic viability and optimal performance. Customers may be reluctant to join a DES due to various reasons, such as lack of awareness, trust, or incentives, high connection fees, long-term contracts, or perceived loss of control or flexibility. Low customer uptake may result in insufficient thermal load and revenue for the DES, as well as increased system losses and inefficiencies. To increase customer uptake, the DES should adopt a proactive and comprehensive marketing and engagement strategy that targets potential customers and stakeholders and provides them with clear and accurate information, benefits, and incentives for joining the DES. The DES should also offer flexible and competitive pricing and contract options and provide technical and financial assistance for customers to connect to the system. Moreover, the DES should establish a strong and transparent governance and management structure that ensures customer satisfaction and trust. Support from local government such as a consideration of mandatory connection policies should be explored to determine if this is possible. Ongoing developer engagement will also be critical.
22	Technical	Operator Training	7	9	63	Operation, revenues	• Operators may lack the necessary knowledge, skills, or experience to operate and maintain a DES, which is a complex and novel technology that requires specialized training and expertise. Human operators may also make mistakes, oversights, or misjudgments that can cause system failures,

No.	Category	Key Potential Risks	Probability (/10)	Impact (/10)	Severity (/100)	Impacted Project Area	Key Potential Mitigating Actions
							accidents, or damages. For example, operators may fail to detect or respond to system faults, alarms, or anomalies, or may override or misuse the system controls or settings. To reduce the risk of human operation of the system, the DES should provide adequate and ongoing training and education for the system operators and maintenance staff and ensure that they are familiar and competent with the system functions, features, and protocols. The DES should also implement robust and reliable system monitoring and automation systems that can assist and support the human operators, and provide them with clear and timely feedback, alerts, and guidance. Moreover, the DES should establish and enforce strict and consistent system operation and maintenance standards and procedures that can prevent or minimize human errors or negligence.
23	Technical	Undersizing of key equipment	6	8	48	Design, budget, operation	• Undersizing of key equipment, such as the geo-exchange boreholes, the sewer energy exchange heat exchangers, the pumps, the pipes, or the heat pumps, that can affect the system capacity, efficiency, and longevity. Undersizing of key equipment may occur due to inaccurate or incomplete data, assumptions, or calculations during the system design and sizing process, or due to budget constraints, regulatory limitations, or site conditions that restrict the size or number of the equipment. Undersizing of key equipment may result in insufficient or uneven heat transfer, increased system losses or pressure drops, reduced system performance or lifespan, or increased system wear and tear or maintenance costs. • To avoid or overcome the risk of undersizing of key equipment, the DES should conduct thorough and rigorous data collection and analysis and use reliable and validated models and methods for the system design and sizing process. The ATDES should also consider the future growth and variability of the system load and conditions and incorporate safety factors and contingency plans for the system sizing. The DES should also seek to optimize the system design and configuration and use high-quality and efficient equipment that can maximize the system's capacity and performance. Additionally, the DES should regularly monitor and evaluate

No.	Category	Key Potential Risks	Probability (/10)	Impact (/10)	Severity (/100)	Impacted Project Area	Key Potential Mitigating Actions
							the system operation and performance and identify and address any issues or gaps related to the system sizing.
24	Technical	Equipment malfunction / failure	6	9	54	Operation, revenues	• Equipment malfunction or failure may affect the building's comfort and indoor air quality, as well as the system's energy efficiency and cost-effectiveness. For example, heat pump malfunction or failure may cause insufficient or excessive heating or cooling, increased noise or vibration, or increased energy consumption or emissions. A rigorous preventative maintenance and repair programme should be established as part of the project governance and must be a foundational consideration for the system as it develops. This will ensure a resilient reliable system moving forward.
25	Technical	Inadequate system controls	8	9	72	Operation, revenues	• ATDES systems are far more complex to control than traditional 4th generation or earlier DES systems. The establishment of a suitable controls and monitoring system alongside adequate operator training is essential for the long-term viability of the project to head off potential issues with customer satisfaction in the system.

6. GOVERNANCE FRAMEWORK

6.1 Governance Framework Overview

While strong technical and engineering practices are essential to the success of a district energy system, the economic and financial structures combined with appropriate business models supported by solid governance frameworks are even more critical.

The type of governance model chosen is also determined by the ownership structure selected for the project. The ownership structures commonly seen in district energy projects have been outlined in Milestone 5 Section 3.1 already. For this project, the 2 ownership options selected were the fully private model and the fully public model.

The ownership and governance models are essential to managing and allocating risks and ensuring projects progress and are delivered successfully. Typically, the entity carrying the risks needs to be compensated for it and if there is a transfer of risk it is also accompanied by a transfer of the associated compensations or value. The governance aspect of district energy systems is an ongoing process and requires continuously monitoring the progress of the project to meet the set objectives; and incorporating and enabling best practices in design, construction, customer acquisitions and operations.

The key factors for success of these projects include:

1) Establishing a single project champion, who will provide leadership, commitment to vision, continuity in policy as well as long-term leadership.
2) Optimizing resource allocation as projects progress
3) Mitigate risk with robust risk identification, mitigation planning and continuous monitoring
4) Establishing investability for project partners, funding and financing agencies
5) Aligning stakeholders by actively engaging with them through a planned process, sharing information appropriately, and identifying key decision-making and approval milestones
6) Finally, these projects must have a full life-cycle perspective and consider long-term sustainability keeping in mind policy changes and climate-related risks

6.2 Governance Framework and Operating Model for a Private District Energy Company

A private district energy system model is one in which a private company (can also be a public company listed on stock exchanges) or a company held by a group of publicly listed entities or institutional investors own, operate and maintains the DES from the initial stages of design through completion of the operating term.

6.2.1 Board of Directors

Once a private model is selected for the DES, a board of directors would have to be constituted. The responsibilities of the board include providing strategic oversight and direction, risk management and ownership, developing detailed execution plans and policies, authorizing and adhering to budgets, monitoring performance of the entity and ensuring regulatory compliance.

The Board is typically composed of executive, non-executive and independent directors, the CEO and other key executives as required. Directors have a fiduciary duty to act in the best interests of the company and its shareholders.

The board then identifies committees that are critical to the successful governance of the company. Each committee has specific roles to play, and the most commonly seen committees include the audit committee, executive or steering committee, risk management committee, sustainability or ESG committee, compensation committee, ad hoc committees or other specialized committees as may be needed.

6.2.2 Executive Management

The executive management includes the C-suite, namely:

- CEO – The Chief executive officer is responsible for overall management and leadership of the entity.
- CFO – The Chief Financial officer is responsible for financial planning, fundraising, financial reporting and investor relations.
- CTO – The Chief Technology officer oversees the technical strategy, innovation and integration of technologies
- COO – The chief operating officer is responsible for day-to-day operations of the entity and improving operational efficiencies and maintenance of the systems.
- General or Legal Counsel – the legal counsel manages legal affairs, compliance and regulatory issues of the firm.
- CSO – it is increasingly seen that the C-suite has a chief sustainability officer who links into all aspects of sustainability, and ensures compliance with reporting requirements, local standards and regulations.

The executive management has further oversight over the project development and project management activities, ongoing operations and maintenance, finance and accounting, marketing, sales, customer acquisitions and servicing, human resources and IT and data management systems.

6.2.3 Policies

The executive management is also responsible for laying out the policies of the firm. Key policies include the privacy policy, code of conduct policy, supplier standards of conduct policy, accessibility policy, conflict of interest policy, whistleblower policy, environmental and sustainability policies.

6.2.4 Procedures

At the corporate governance level, the executive management is also responsible for establishing clearly defined procedures for decision-making, approvals, financial authorization, performance evaluation and improvements, stakeholder management, health and safety, compliance and risk management.

Compliance frameworks would have to be implemented for regulatory compliance to ensure adherence to local, provincial, and federal regulations. Internal audit teams are required to ensure regulatory compliance and external audit teams need to be brought in periodically. It is also important to consider engagements with governmental agencies and public authorities to be informed about policy changes and advocate for favourable policies and regulations through a government liaison. Finally, compliance reporting systems need to be planned and implemented alongside the above measures.

6.2.5 Stakeholder Management

A significant challenge for most large energy infrastructure projects is getting the right people engaged at the right time and ensuring that meaningful and ongoing dialogue is maintained throughout. A detailed stakeholder engagement plan was developed for the project in Milestone 2. This plan can be expanded by reconfirming the identified stakeholders, their expectations from the entity, their impact on the entity and the project's needs from the stakeholders.

6.2.6 Project Management Structure

The project management group is responsible for all activities of the project from the initiation stage through to the execution and commissioning of the system Figure 60 shows a structure that would enable the successful delivery of the DE system.

The project management group is typically comprised of the following:

- **Project Steering Group** – responsible for project oversight, ensuring risks are appropriately managed, providing direction, holding key relations and ensuring the necessary resources are made available.
- **Project Advisory Board** – the project team may choose to have an advisory board of subject matter experts and industry veterans to provide guidance, feedback and share best practices and learnings from other projects
- **The Project Management (PM) Team** – is responsible for all daily project management tasks and activities and are typically comprised of project directors, project managers and senior executives
- **Financial Group** – the financial group ties into the project team through the PM team. They assist the PM team by developing detailed cash flows and conducting detailed financial analyses on an ongoing basis to account for changes in assumptions, financial impacts of risks, sensitivity analysis and the development of rates along with the commercial group.
- **Commercial Group** – the commercial group would be responsible for legal and regulatory aspects, customer acquisition, negotiating contracts and enabling the project team to progress with the project with required contractual commitments that are financially vetted and feasibly
- **Technical Group** – the technical group would comprise of the internal and external engineering teams. The internal teams are typically subdivided into the design, construction and operations.
    a. The design team leads the engineering and technical development of the system in collaboration with external engineering consultants.
    b. The construction team would weigh in on practical construction aspects and manage a team of construction managers and contractors required for executing the project.
    c. The operations team would ensure the systems operates as designed following the required levels of system performance and efficiency with a team of operators – both on-site and off-site. The operations team may also include customer relations or support teams to uphold the service standards being delivered and provide ongoing support.

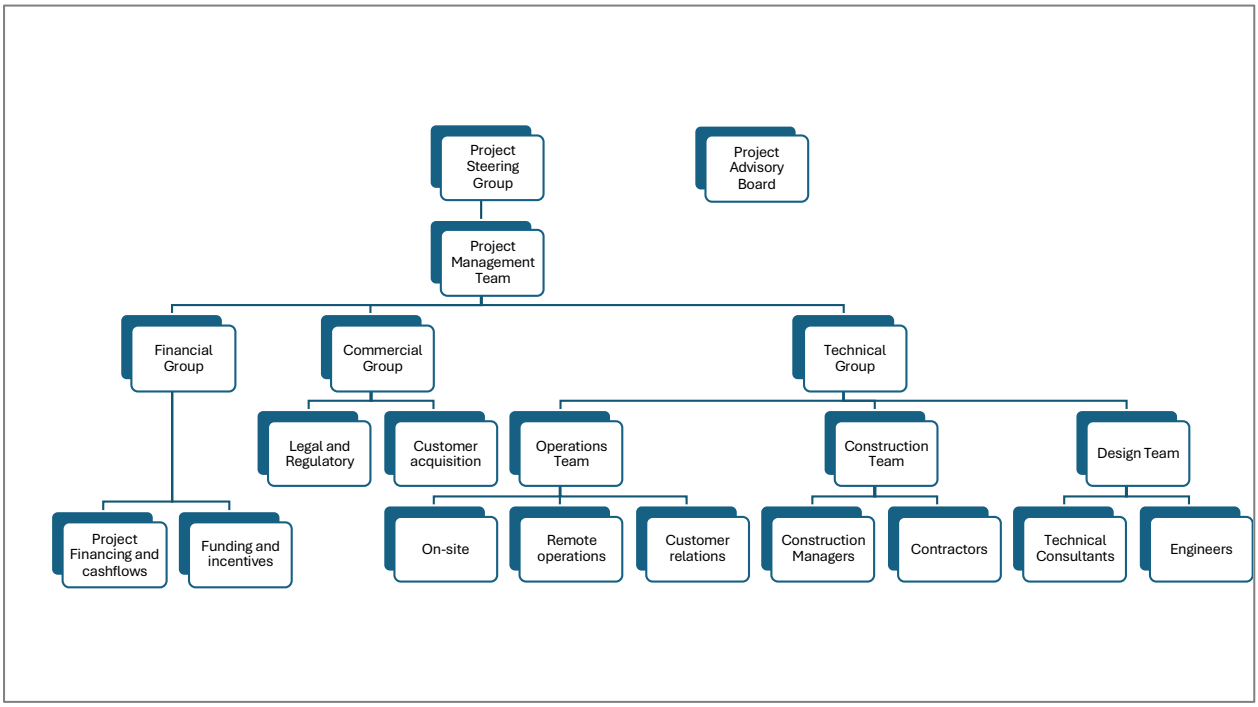

Figure 60: Project Management Team Structure

6.2.7 Stages of Project Development, Management and Execution

There are several stages for large infrastructure projects such as DE projects. The project management team described above would take a DES project like this through the major phases that are as follows:

- Concept design (CD)
- Schematic Design (SD)
- Design Development (DD)
- Detailed Design and Tendering
- Construction Documents (CD)
- Procurement
- Construction
- Installation and Commissioning
- Customer Connections
- Operations and Maintenance

While the stages can be progressed sequentially as shown in the figure below, it is recommended and necessary at times to iterate on a subset of stages of the project development process. This is necessary to reconfirm that the technical feasibility and economic arguments for the project are consistent and substantiate the business case. An evolving business model allows for better alignment and planning of technologies, business aspects, financial considerations and governance structures.

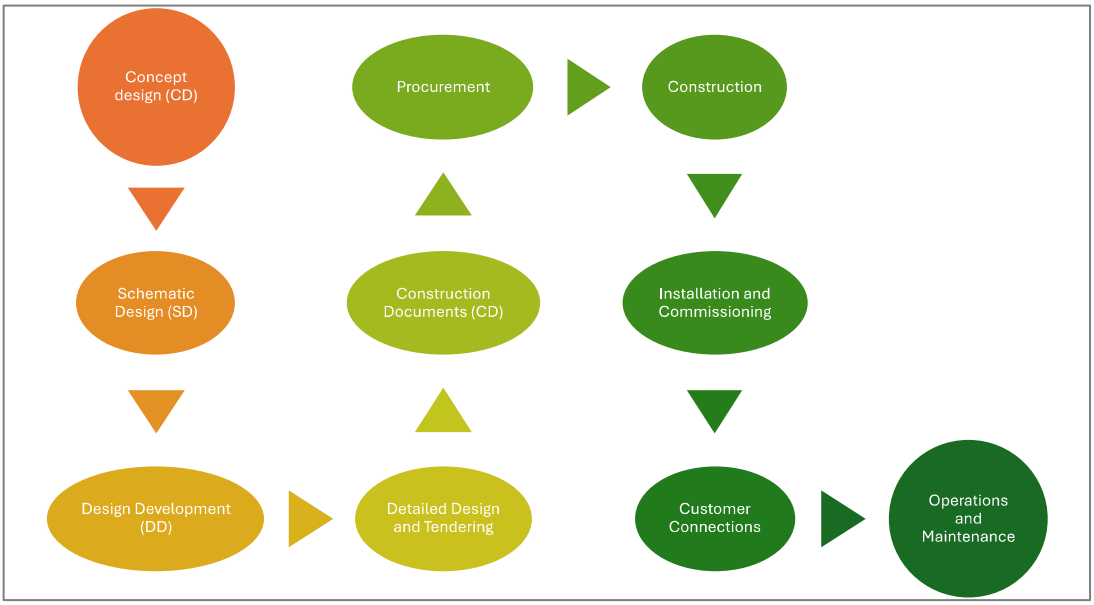

Figure 61: DE Project Development Phases

6.3 Governance Framework and Operating Model for a Public District Energy Company

A public district energy system model is one in which a city, town or municipality would own, maintain and operate the DES. In the public model, the DES can be delivered either directly through the Town or through a subsidiary corporation of the Town. There is also an option to start the DES directly by the Town and then transition it to a subsidiary corporation at a later date.

The main advantages of the public ownership model are the access to lower-cost capital and lower profitability requirements or aim to maintain a not-for-profit business model. Decision-making would not be entirely driven by financial parameters, but heavily consider social and economic aspects of the district, Town and the Region. Funding and lines of credit from previously identified institutions such as the FCM and CIB would be available to enhance project viability. As a public initiative, the finances of the system would be fully transparent, thereby making rate-setting and investment decisions simpler with faster buy-in from the stakeholders. Other benefits of a publicly-owned DES are as follows:

- Allows for the alignment of municipal or town policy to enable low carbon community energy.
- Provides a means for the municipality/town to also generate revenues or dividends.
- Any potential returns or positive business cases can be controlled and benefited by the public entity
- Public ownership allows for more utilization of regulation tools to encourage customer connections to the DES
- Public ownership allows for more stability through rate control as it is not driven by profits, but rather municipal mandate.
- Public entities have access to funding opportunities including: Grants, Subsidies, and low interest loans.

- Instills trust, given that municipalities are capable of carrying a long term ownership model, which will ensure that the DES ownership and management will remain consistent for customers.
- Ensures that benefits of DES implementation (i.e. financial, environmental and social) remain within and are driven by the municipality.
- Similar to the governance and jurisdictional power like OEB, who regulates gas and electricity rates, the governance council of municipality/town can ensure fair energy rates for the customers, residents while enjoying the benefits of low carbon energy.
- Opportunity for a local job creation through the development of a publicly owned DES

6.3.1 Direct Ownership by the Town

This is the case where the DES is delivered directly through the Town, which would be faster and possibly easier to commence. There would be a need to look in to establishing separate budgets, personnel and resources to carry the project forward. The permitting and approvals process can also be made simpler given the common governance of the departments throughout the Town. An example of this system is the Southeast False Creek Neighborhood Energy Utility in Vancouver, Canada which had the first sewage heat recovery plant in Canada. It is still owned and operated by the City as the Neighborhood Energy Utility (NEU).

The challenges with direct ownership include the longer procurement and decision-making times as the council would have control over decision-making and the daily activities of the DES. The capital would have to be deployed by the Town and this can become challenging to manage and convince the taxpayers that the funds are being allocated in the best way possible. Also, the Town would become directly liable legally and financially and would have to enter into contracts and agreements directly.

The Town would need to form a project management group as explained above to take the project forward and likely need to structure special committees to oversee the activities of the project management group. The stages of project of project development, management and execution would also broadly follow the stages explained above.

6.3.2 Indirect Ownership by the Town

In the indirect ownership case, the Town would look to incorporate a separate subsidiary company for the DES. The subsidiary company would own, operate and maintain the DE system from the initial stages of design through completion of the operating term.

A board of directors and executive team as outlined above would have to be formulated for the subsidiary company. The Town can choose to retain voting rights and veto powers to have control over key resolutions and decision making. The entity would have the ability to raise financing and lines of credit in addition to those brought forward by the Town thereby allowing the Town to allocate resources elsewhere. This would also enable the separation of the financials and the balance sheet of the DES from those of the Town.

The challenges in this model are the reduced availability of Town funding and financing mechanisms compared to departmentally owned entities. The formation of the subsidiary and staffing would require initial investments. As the operations would be separate from other departments of the Town, the coordination times can be longer, especially around the permitting and approvals.

7. CONCLUSIONS & RECOMMENDATION

The project led by the steering committee and the Oakville community is in a favourable position to successfully progress the hospital district DES project based on the results and findings presented in the business case. This business case is an important step in establishing the financial parameters and investability in a DES project of the size and scale detailed through the report. The business model based on the conceptual design and noted assumptions suggests that there is a reasonable business case to be made for a district energy system connecting sewer and geothermal energy sources and the new developments as noted. Thus, the team recommends moving forward with the next stages as outlined in the implementation planning for the project.

The factors that make this location beneficial for district energy include:

- There is a good mix of different building uses, (commercial, residential, institutional) which creates a stable baseload for the district energy system
- The presence of the sewer trunk main for energy exchange in a greenfield site.
- Favorable drilling conditions for geo-exchange per engagement with local drillers.

While greenfield sites often provide favourable conditions for developing district energy systems, many successful examples exist in urban centres. Each district energy system, however, should be evaluated individually based on its specific site characteristics. All of the above favourable conditions are still subject to connection uptake. Should there be poor sign up then the business case for DES gets worse. The sensitivity explored in this report demonstrates this.

The Town is exploring other options for incentivizing connection. One example leveraged in other jurisdictions is mandatory connection. However, even under a mandated connection policy, there would still need to be engagement and discussion with developers, mandated connections still have minimum requirements that both parties must meet.

The DES provider (whether public or private) is responsible for working with developers to establish the success framework for the business case. It may also be possible for a neutral third-party or expert district energy consultant to review and opine on the business case. Even if the DES is delivered as a public entity – third parties can be brought in to operate and manage connection negotiations. Further to the details presented, Urban Equation recommends the following next steps:

1. Engage with decision-makers at the Town based on this document to ensure the municipality and public officials understand the significance and benefits of this project
    a. Identify project champions who will take on the responsibility for successful implementation of the project
    b. Explore the possibilities to bring in requirements for new buildings to be DE-ready to easily connect to the current or future district energy systems.
    c. Similarly explore the possibility to bring in requirements for all retrofit projects to also DE ready to easily connect to the current or future district energy systems.
    d. Explore and participate in the development of the planned Green Development Standards (GDS) that encourage the use of sewer energy, geo-exchange or low-carbon thermal energy networks

    e. Discuss the possibility of financial incentives and expedited approvals processes with other departments for developments who connect to low-carbon thermal energy networks to achieve ambitious GHG intensity levels in new and existing developments
2. Engage with primary lending and funding agencies to detail out application requirements and timelines and have a better view into commercial terms and structures
3. Engage a prime consultant or consortium to act as expert District Energy project managers and manage partner procurement and planning
    a. Detail out project schedules and delivery plans
    b. Establish project development budgets and align on governance processes
    c. Progress discussions on locking down the locations of assets
4. Value in the avoided cost of infrastructure - it is recognized that the DES can lower peak requirements for other utilities (gas and electric) and as such, create avoid costs benefits which have not been factored at this stage. There may be a challenge in quantifying the benefits and how they are applied through the regulatory process, it is recommended to explore this further as the project design progresses.
5. Progress the outlining of major contracts and key material terms
6. Start discussions with key customers who can provide large anchor loads
    a. After general agreement, provide a Letter of Intent is generally signed
    b. Initial technical and commercial work is then undertaken which then forms the basis of a Memorandum of Understanding (MOU)
    c. Enter into MOUs with indicative rates and paths to contract signing
    d. There are multiple workstreams that would have to progress in parallel with decision gates and checkpoints. As technical and financial evaluations are progressed, agreements are also mapped out to ensure alignment in timing, binding commitments and risk sharing.
7. Engage regularly with the Region to look into technical and commercial aspects of sewer energy exchange with an understanding of long-term commitments and impacts on design
8. Establish a position on the ownership and transfer of carbon credits and or energy attribute certificates that is in line with carbon accounting protocols
9. Public engagements
    a. For the stakeholder groups identified, develop customized plans to reach and engage them
    b. Develop communication collaterals and hold stakeholder workshops to raise awareness and enable opportunities for public participation

There is a significant opportunity for the Oakville community to develop a world-class and exemplary ambient temperature thermal energy network based on sewer heat recovery and geo-exchange systems that will enable the Town of Oakville to achieve its GHG reduction targets and Climate action goals.

APPENDIX A - STAKEHOLDER ENGAGEMENT PLAN

1. STAKEHOLDER ENGAGEMENT PLAN

November 10, 2023

The greatest challenge for most large energy infrastructure projects is getting the right people engaged at the right time and ensuring that meaningful and ongoing dialogue is maintained through the project development cycle. This work will build upon the stakeholder engagement done in the pre-feasibility assessment, where Rathco engaged the District Energy (DE) Task Force consisting of critical stakeholders in key positions with the Town of Oakville (ToO), as well as representatives from Oakville Hydro and Halton Region, called the Project Team. This round will involve more direct engagement with potential customers/developers and continued discussions with the Project Team. For this project, Rathco has partnered with Urban Equation (UE).

1.1 Summary Of Key Stakeholder Engagement Activities

This document summarizes the key scope of work related to stakeholder engagement:

- Initial engagement workshop with local developers to introduce the feasibility project and parties ("Developer Introduction Session") in Milestone 2.
- Rathco working with stakeholders to define project phasing in Milestone 3.
- UE meeting with the ToO and Project Team to get input for financial modelling for the project in Milestone 4. Ongoing conversations with the ToO on the Town's ability to access capital and preferences for DE ownership (in coordination and steering group meetings).
- UE leading market-sounding sessions with developers and the feasibility team to develop the technical concepts and confirm inputs for the economic modelling in Milestone 5.
- UE providing Planning Team support to encourage district energy adoption in Milestone 5.

1.2 Identifying Key Stakeholders

Stakeholder Group	What does the stakeholder expect from the project?	How does the stakeholder impact the project?	What does the project need from each stakeholder?
Town of Oakville/ Halton Region	A detailed DES feasibility study with a clear business case and implementation plan	Project owner sets timelines and provides input	Ongoing project approvals and support
Developers	Ongoing stakeholder engagement to provide key inputs and updates on DES project timing and requirements	Interest is key to technical design and project financial viability	Information about development timing, interest in connecting, proposed loads and mechanical systems
Utilities	To understand the impact on future energy needs of the community. Potentially an ownership stake in DES.	Advises on current comparable utility rates, connection requirements, partnership needs.	Information about utility rates, connection requirements, and potential partnership/ownership.
Other Interested Parties	To be determined.	To be determined.	To be determined.

1.3 Key Stakeholder Representatives

Stakeholder Group	Organization	Contact
Town of Oakville/ Halton Region	Town of Oakville District Energy Task Force	Economic Development and Corporate Strategy
		Facilities and Construction Management
		Planning Services (with representatives from Urban Design and Development Services)
		Transportation and Engineering
		Climate Action
	Halton Region	Water and Wastewater Treatment Climate Change Response and Sustainability, Strategic Policy & Government Relations
Developers	Oakville Green	Senior Development Lead
	Halton Healthcare	P3 Operations, P3 Operations
	Infrastructure Ontario	P3 Asset Management
	Schlegel Village	Senior Development Lead and Architect
	All Seniors Care	NA
Utilities	Oakville Hydro	NA
	Oakville Enterprises Corporation	Senior Leadership
Other Interested Parties	To be determined.	

1.4 Managing Stakeholder Input

As part of the stakeholder engagement process, stakeholders may provide views, opinions, and requests that are outside of existing scope and need to be managed. These types of requests will be managed by the consultants as shown in the following flow chart.

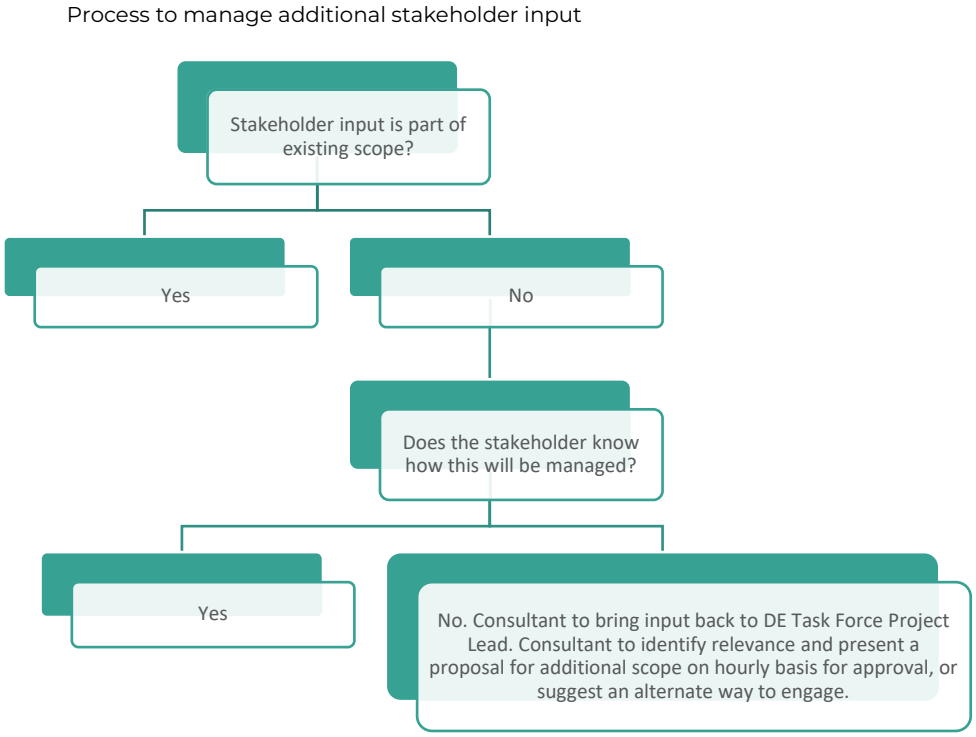

Figure 62: Process to manage additional stakeholder input

2. DEVELOPER INTRODUCTION SESSION (MILESTONE 2)

At the Hospital District, specific and ongoing discussions with landowners and developers will be needed to move the proposed project from concept to reality.

The goal of this initial introduction session with the local developers was to provide general education and build alignment. We wanted the developers to have basic information and a general idea of timing (i.e., in the next 5 years) so they could gather their input prior to the phasing calls that will occur in Milestone 3 and the market sounding calls that will occur in Milestone 5. Key outcomes were to obtain general interest of the developers, which will start to define the project boundary.

UE prepared a presentation and facilitated the engagement session on Wednesday, October 18, 2023, at 10 am. There was strong attendance from all organizations above (26 attendees).

The following list of agenda items were discussed in the meeting:

- Attendee introductions
- Rathco/UE Introductions
- What is District Energy
- Benefits for Developers
- Background work completed to date

- Why Hospital District
- Results of Pre-feasibility Study
- Current Workplan
- Stakeholder Engagement/Activities: initial goal is to figure out developer timelines
- Key Input Required: follow up phasing calls
- Next Steps:
    - Finish data collection
    - Start Milestone 3
    - Stakeholder calls Nov/Dec
- Other key items of discussion
    - Oakville Green would like to clarify recovery costs before making a serious commitment to DES, to understand how much DES will add to their building operating costs
    - Oakville Green is interested in:
        - using stormwater management ponds for geo-exchange. Rathco commented that the Stormwater ponds are not large enough for this.
        - implementing a horizontal piping system, below their parking lot that will be close to 7 or 8 acres.
        - rainwater storage with distributed thermal batteries at every building to avoid the need of a massive system.

3. PROJECT PHASING MEETINGS (MILESTONE 3)

Rathco will work with stakeholders to agree on the phasing for the overall district energy project including highlighting timelines for critical building connections, sewer energy exchange, etc.

The latest schedule aims for this to occur in the weeks of November 13 and 20, 2023.

4. FINANCIAL INPUTS MEETING (MILESTONE 4)

Urban Equation will facilitate a financial kick-off meeting with the Project Team. The goal of this meeting will be to discuss the workplan and agree upon the approach and key inputs for the business model: including market size, projected revenues and expenses, energy escalations, profitability, and ownership models, among others.

The latest schedule aims for this to occur the week of January 8, 2024.

5. ECONOMIC VIABILITY MEETING (MILESTONE 4)

Urban Equation will present the results of the economic viability model to the ToO and the Project Team. The outcome of this 1.5-hour meeting is to agree upon the business-as-usual model, preferred ownership structures, products and services, market size, projected revenues and expenses, energy escalations, profitability, and what sensitivity will be run in the more refined techno-economic model. UE will collect the Town's feedback to be addressed in the techno-economic model. Rathco will take the results into consideration for the Technical Report (Milestone 3).

The latest schedule aims for this to occur the week of Feb 26, 2024.

6. MARKET SOUNDING SESSIONS (MILESTONE 5)

Engagement with local developers to support the business analysis is included under Market Sounding in Milestone 5. UE will lead market-sounding meetings to inform both the financial modelling in Milestone 4 and the implementation strategy in Milestone 5.

The first round of market sounding will help solve the question: what are the business and ESG objectives of each party and how do they impact the DES financial analysis? The key outcome will be which developments are on board and when. The next round of market sounding will help solve the key question: what is the preferred ownership structure and how to deliver?

- Up to six 1-hour meetings with local developers in the Hospital District to gauge their interest and seek feedback as to real and perceived challenges and opportunities of connecting to the DES.
- Up to four 1-hour meetings with other key industry stakeholders to assist in investigating the practical potential of the scenarios and review other constraints/opportunities of district energy at the Hospital District. The identified stakeholders should include any identified and suitably qualified DES suppliers.
- Up to four 1-hour meetings with stakeholders from Local Authorities (e.g., Oakville Hydro, Enbridge Gas, Halton Region, OEB, etc.) to present the proposed solution(s) for the site and seek feedback as to real and perceived challenges and opportunities to the realization of the energy vision for the site.

Identification of the interviewees will be done collaboratively with ToO. UE will prepare key questions to address during the meeting as well as meeting notes. We have assumed ToO will coordinate virtual meeting logistics, however happy to adjust as helpful.

The latest schedule is aiming for this to occur from March to June 2024.

7. PLANNING TEAM SUPPORT (MILESTONE 5)

UE will conduct market research in other jurisdictions with a focus on identifying planning by-laws, development policies and incentives that have proven to help encourage developers to adopt and invest in similar DE systems. We will examine the common barriers associated with planning, development, and approvals, and make recommendations to overcome these barriers.
We will present our findings in a 1-hour meeting with the ToO Planning Team. We have assumed up to 2 days of work.

The latest schedule aims for this to occur during the weeks of May 13 to May 27, 2024.

APPENDIX B - FUEL COST STUDY

OAKVILLE DISTRICT ENERGY

FUEL COST STUDY

TOWN OF OAKVILLE

MARK BEBAWY
SENIOR CLIMATE OFFICER

URBAN EQUATION

URBAN EQUATION

To: Town of Oakville

From: Urban Equation

Date: June 4, 2024

Project Name: Town of Oakville District Energy Detailed Feasibility Assessment

Revision	Date	Description
0	April 18, 2024	Draft Issue
1	June 4, 2024	Draft Issue

URBAN EQUATION

1 Summary

This fuel cost study provides background information on fuel costs in Ontario and documents why certain fuel costs were used in the economic model to assess economic viability of the Oakville District Energy System. Overall, fuel cost rates In Ontario are difficult to estimate because the rates depend on volume of consumption and the required capacity/demand. Without an hourly energy model for each consumer, a level of data that is not available at this stage in the project, it is impossible to accurately assess each rate.

For simplicity, in the economic model we have assumed:

1. one default rate for electricity: $0.135/kWh and one high volume rate for large-scale energy consumers at $0.10/kWh
2. one average rate for natural gas that will be uniform across all end user types: $0.033/ekWh
3. thermal energy is supplied at equivalent market rates, offsetting the building's total equivalent costs of providing thermal energy (heating, cooling, DHW): $165/MWh

URBAN EQUATION

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URBAN EQUATION

2 Electricity Rates

2.1 Background

Electricity rates in Ontario are made up of a number of charges including the Hourly Ontario Energy Price (HOEP), the Global Adjustment (GA), and Local Distribution Company (LDC) charges. These charges are regulated by several governmental agencies including the Ontario Energy Board (OEB), Ministry of Energy (MoE), and the Independent Electricity System Operator (IESO). The Ontario Energy Board sets rates once a year on November 1.

- The Hourly Ontario Energy Price (HOEP) is the wholesale price of electricity, which is determined in the real-time market administered by the IESO and then charged to large consumers and LDCs.[i]

- The Global Adjustment (GA) covers the cost of building new electricity infrastructure, maintaining and refurbishing existing generation resources and delivering conservation programs in order to ensure adequate long term electricity supply in Ontario.[ii]
    - Class A customers that participate in the Industrial Conservation Initiative (ICI) pay their share of GA based on their Peak Demand Factor (PDF), which is their percent contribution to Ontario's total electricity demand during the grid's top five peak hours of the year. This encourages demand reduction/"peak shaving" initiatives that can be used at specific times of high demand.
    - Other Class B customers (typically residential and small business customers) pay their share of GA based on their monthly consumption multiplied by the applicable Class B rate. For these customers on the Regulated Price Plan (RPP), the GA charge is factored into the rate set by the Ontario Energy Board.
    - Other customers sign a contract with a licensed electricity retailer.[iii]
- Local Distribution Company (LDC) charges include delivery (transmission and distribution) and regulatory charges.

2.2 Electricity Rates in Oakville

In Oakville, the Local Distribution Company (LDC) is Oakville Hydro.

For Class B residential and small business customers, there are three different types of rates: Time of Use (TOU), Ultra-Low Overnight (ULO) and Tiered. With TOU and ULO, the price depends on when electricity is used. With Tiered, you can use a certain amount of electricity each month at a lower price. Once that limit is exceeded, a higher price applies.

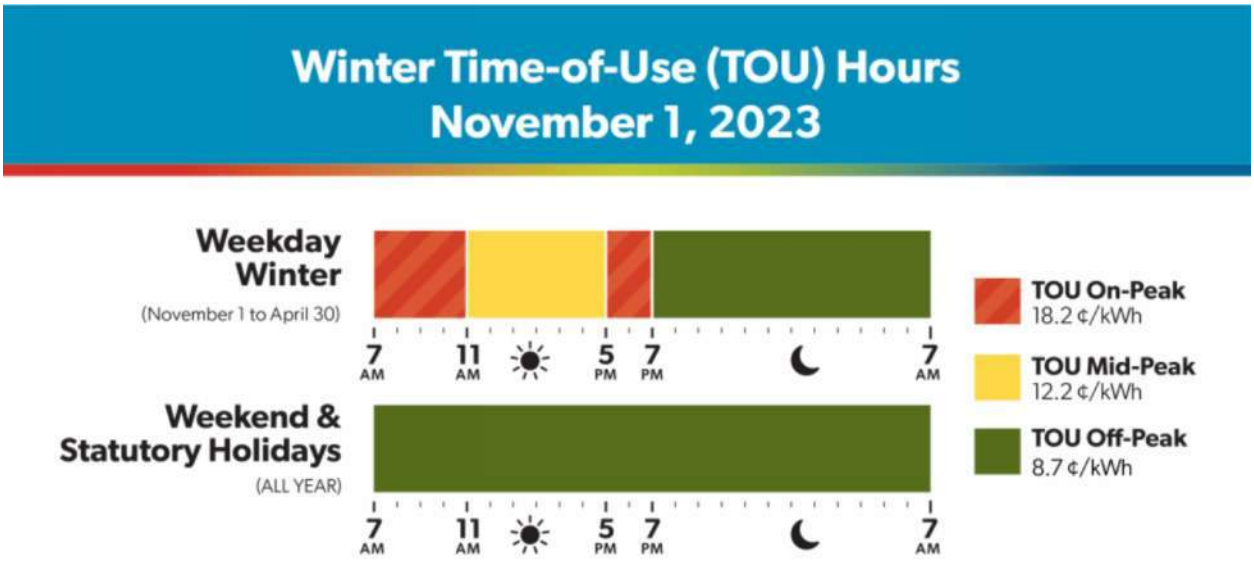


Figure 1. Residential Electricity Rates Time of Use Pricing, 2023

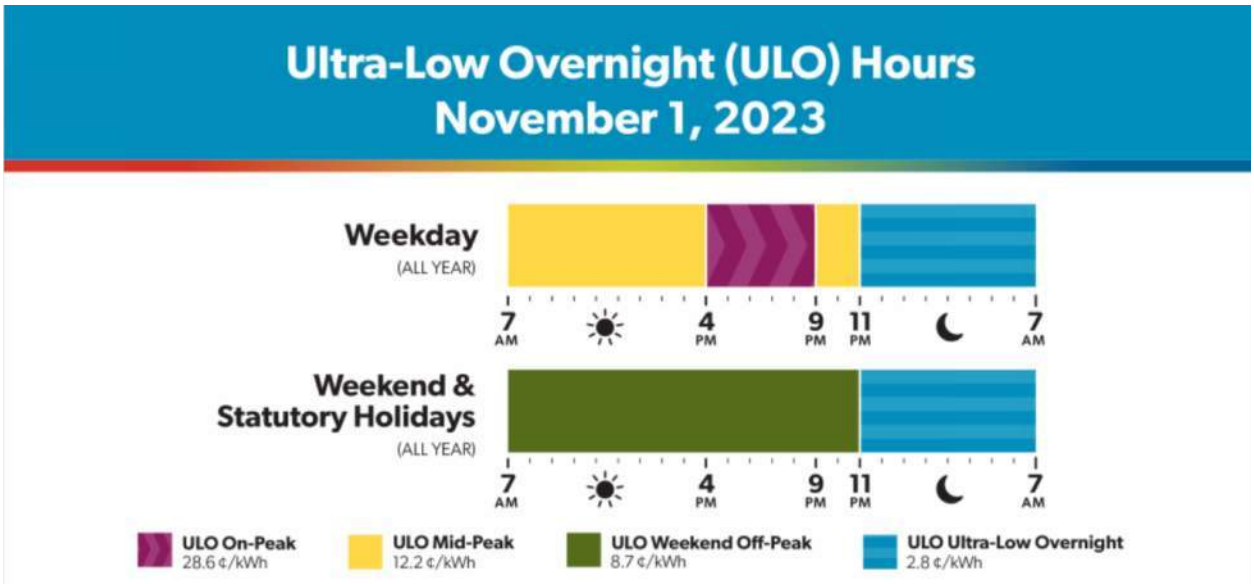


Figure 2. Residential Electricity Ultra-Low Overnight Pricing, 2023

Figure 3. Residential Electricity Rates Tiered Pricing, 2023

Using rates and LDC charges from Oakville Hydro, our analysis (including assumptions to spread time of use out across the day/year), suggests the following average electricity rates:

Table 1. Average Electricity Rates in Oakville, 2023.

Class B Residential			
Average Bill Size (kWh)	Average Cost /kWh		
	Tiered	Time of Use	Ultra Low Overnight
1200	0.148	0.162	0.179
5000	0.137	0.141	0.149
8000	0.136	0.139	0.146
10000	0.135	0.138	0.145
Class B Small Business			
Average Bill Size (kWh)	Average Cost /kWh		
	Tiered	Time of Use	Ultra Low Overnight
5000	0.172	0.185	0.179
10000	0.148	0.155	0.149
15000	0.144	0.149	0.143
20000	0.143	0.148	0.142

Class A ICI Customers with Demand > 50kW		
Average Demand (kW)	Average Bill Size (kWh)	Average Cost /kWh GS 50kW-4999kW
50	27000	0.281
100	54000	0.202
1000	540000	0.138
4000	2160000	0.134

Note that the Class A ICI rates use the average HOEP and average GA from the latest data from 2019-2021. It is anticipated that participants in the Class A ICI rates would practice methods of peak shaving to achieve lower electricity rates; this is not included in the table above.

2.3 Electricity Rates for the Oakville District Energy Study

We cannot comment on ICI rates until there is sufficient design and an hourly energy model to estimate demand and consumption rates as well as peak shaving strategies, for both end users and the DES. **In the economic model, we have assumed that the default electricity rate will be Class B at $0.135/kWh. We have assumed that the heat pumps can access Class A rates and we will target peak shaving strategies to achieve a rate of $0.10/kWh.**

Once the implementation of the DES has been approved, and we are looking at establishing connection charges and variable rates at the building level, we could take a closer look at market rates for each building connecting to the DES (not within the scope of the current study).

3 Natural Gas Rates

3.1 Background

Natural Gas rates in Ontario are made up of:

- Natural Gas supply charge which is a commodity price based on the amount used.
- Natural Gas price adjustment to correct to actual market supply costs because rates are forecast in advance.
- Delivery charges to cover the cost of transporting, storing and distributing natural gas, typically based on consumption and/or demand.
- Federal carbon charges associated with the federal Greenhouse Gas Pollution Pricing Act, based on the amount used.
- Monthly customer charges to administer the account, such as meter reading and customer service.

Natural gas rates are volatile and follow the commodity market. The following chart presents Natural Gas Rates for Union South Rate zone, which includes transportation charges since January 2017.[iv]

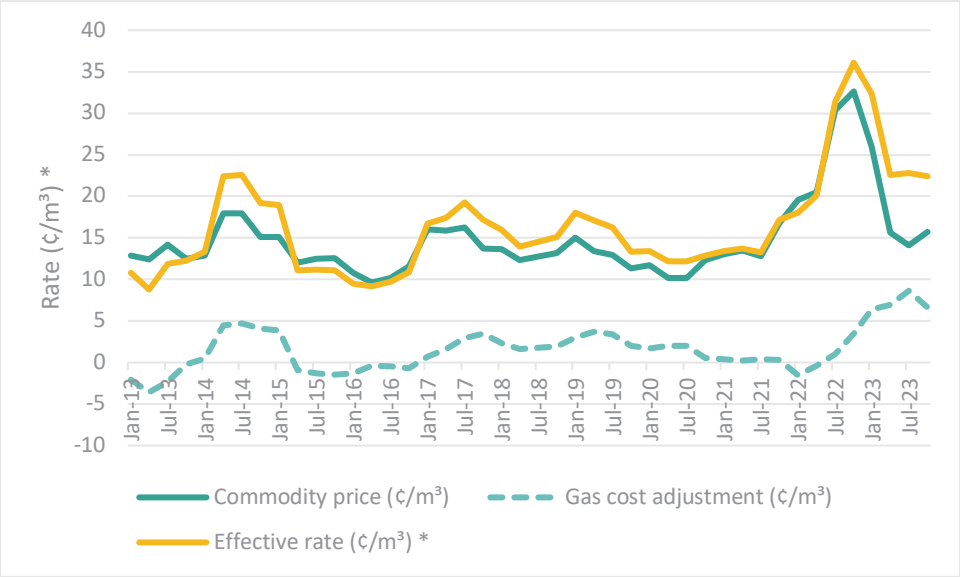


Figure 4. Natural Gas Rates for Union South over time[v]

Note that this chart does not include delivery charges or federal carbon charges.

3.2 Natural Gas Rates in Oakville

Oakville is served by Enbridge Gas Inc. in rate zone for Union South.

Figure 5. Ontario Natural Gas Rates Zones from Enbridge[vi]

Small businesses located in the Union rate zones that consume less than 50,000 m3 of natural gas each year are listed in the residential rates section Rate M1.[vii]

Table 2. Residential Natural Gas Rate M1 in Oakville, 2024. [viii]

Charges	Rates at Jan. 1, 2024	Annual increase or (decrease)
Customer Charge	$23.98 Monthly fee	No change
Delivery to You		
First 100 m^3	7.3842 ¢/m^3	($0.12)
Next 150 m^3	7.0718 ¢/m^3	
All over 250 m^3	6.2653 ¢/m^3	
Facility Carbon Charge (included in Delivery to You on the bill)	0.0157 ¢/m^3	($0.02)
Federal Carbon Charge	12.3900 ¢/m^3	No change
Total Annual Impact		**($0.14)**

Business rate M2 applies to medium - large commercial and small industrial customers, such as small businesses, small greenhouses, restaurants, hotels and retail stores that consume more than 50,000 m3 of natural gas each year.[ix]

Table 3. Business Natural Gas Rate M2 in Oakville, 2024. [x]

Charges	Rates at Jan. 1, 2024	Annual increase or (decrease)
Customer Charge	$77.58 Monthly fee	No change
Delivery to You		
First 1,000 m^3	7.0440 ¢/m^3	
Next 6,000 m^3	6.9351 ¢/m^3	($3.95)
Next 13,000 m^3	6.5632 ¢/m^3	
All over 20,000 m^3	6.1753 ¢/m^3	
Facility Carbon Charge (included in Delivery to You on the bill)	0.0157 ¢/m^3	($0.37)
Federal Carbon Charge	12.3900 ¢/m^3	No change
Total Annual Impact		**($4.32)**

Large commercial and industrial businesses that consume more than 500,000 m3 of natural gas each year and have signed a contract with Enbridge Gas can be found in the commercial and industrial rates section. For institutional and commercial customers with large volume distribution contracts, there is a complicated rate table[xi]:

Table 4. Large ICI Natural Gas Rates in Oakville, 2024. [xii]

Large Volume Rate Class	Rate M4	Rate M5A	Rate M7	Rate M9	Rate M10	Rate T1	Rate T2	Rate T3
Service Type	Firm/interruptible distribution service	Interruptible/firm distribution service	Firm/interruptible distribution service	Firm distribution service	Firm distribution service	Firm / interruptible distribution service	Firm / interruptible distribution service	Firm distribution service
Minimum load factor	✗	✗	✗	✗	✗	✗	✗	✗
Monthly customer charge	✗	✓	✗	✗	✗	✓	✓	✓
Contract demand charge	✓	✗	✓	✓	✗	✓	✓	✓
Delivery charge	✓	✓	✓	✓	✓	✓	✓	✓
Minimum annual volume requirement	Take or pay for a minimum consumption of 146 days of firm CD per year	Minimum consumption of 350,000 m^3 per year	✗	✗	✗	Minimum consumption of 2,500,000 m^3 per year at each consumption point	✗	Minimum consumption of 700,000 m^3 per year
Contract demand (CD)	Daily CD requirement between 2,400 and 60,000 m^3/day	Daily CD requirement between 2,400 and 60,000 m^3/day	Daily CD requirement greater than 60,000 m^3/day	✗	✗	Daily CD requirement up to 140,870 m^3/day.	Daily CD requirement over 140,870 m^3/day.	✗
Annual minimum bill charge	✓	✓	✓	✓	✗	✓	✓	✗
Notice of interruption	4 hours	4 hours	4 hours	✗	✗	4 hours	4 hours	4 hours
	Details	Details	Details	Details	Details	Details	Details	Details

Using the above rates from Enbridge, our high-level analysis suggests the following average natural gas rates:

Table 5. Average Natural Gas Rates in Oakville, 2024.

Small Business Rate M1		Medium-Large Business Rate M2		ICI Rate M4 (daily contracted demand between 2 400 m³ and 60 000 m³)		
Average Bill Size (m3)	Average Cost $/ekWh	Average Bill Size (m3)	Average Cost $/ekWh	Average Bill Size (m3)	Daily Contracted Demand (kW)	Average Cost $/ekWh
250	0.048	50000	0.036	480000	16000	0.035
1000	0.035	100000	0.036	900000	30000	0.033
10000	0.031	200000	0.036	1650000	55000	**0.033**
25000	**0.031**	500000	**0.036**			

For all of these rates, $0.0117/ekWh comes from the federal carbon charge.

3.3 Natural Gas Rates for the Oakville District Energy Study

We cannot comment on ICI rates until there is sufficient design and an hourly energy model to estimate demand and consumption rates. **For simplicity, in the economic model, we have assumed one average rate for natural gas that will be uniform across all end user types: $0.033/ekWh.**

Once the implementation of the DES has been approved, and we are looking at establishing connection charges and variable rates at the individual building level, it would be possible to take a closer look at market rates for each building connecting to the DES (Note: not within the scope of the current study).

4 Thermal Energy Rates

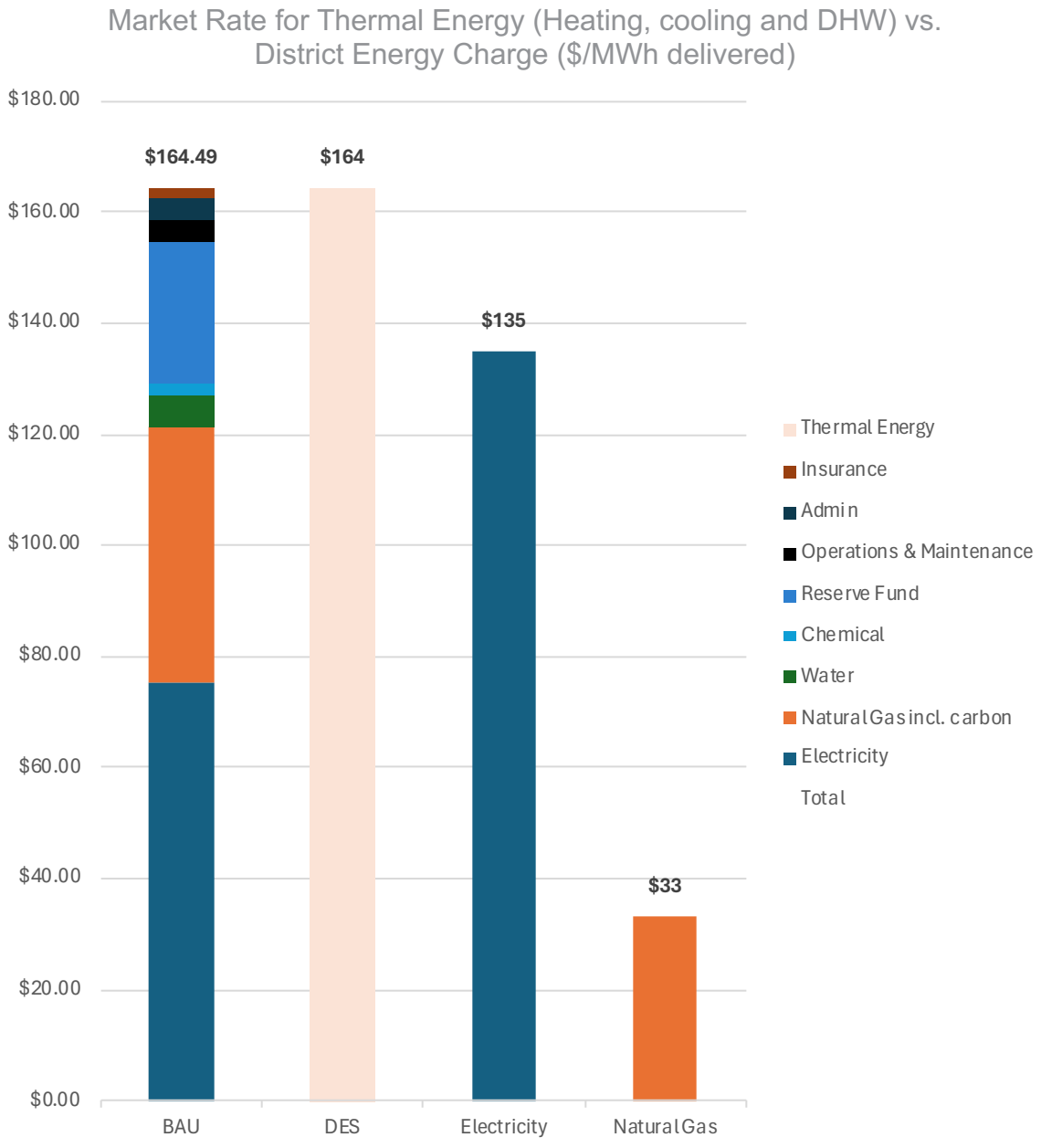
For the initial economic modeling and assessment we will use our database of past DES and EaaS projects to estimate BAU capital costs to inform connection charges and operating expenses to estimate thermal energy rates. In the next stage of rate assessment, we will refine the BAU costs further along with inputs on proposed system sizing and commodity consumption numbers in conjunction with Rathco.

Using our database of past DES and Energy as a Service (EaaS) projects, we have benchmarked the total cost of delivering thermal energy for heating, cooling and domestic hot water. The rate arrived at is $165/MWh of energy delivered.

The cost to deliver thermal energy offsets several operating expenditures for end user buildings, including: Electricity, Natural Gas including carbon charges, Water, Chemicals, Reserve Fund, Operations & Maintenance, Admin, and Insurance for HVAC systems. The rate charged for thermal energy is assumed to be equal to these costs, so that end users are charged an equivalent market rate.

URBAN EQUATION

Figure 6. Business-As-Usual Market Rate for Thermal Energy (Heating, cooling, DHW) vs. District Energy System Charge ($/MWh delivered)



[i] Source: IESO, accessed March 22, 2024https://www.ieso.ca/en/Power-Data/Price-Overview/Hourly-Ontario-Energy-Price
[ii] Source: IESO "Global Adjustment", accessed March 22, 2024. https://www.ieso.ca/en/Power-Data/Price-Overview/Global-Adjustment
[iii] Source: IESO "Global Adjustment", accessed March 22, 2024. https://www.ieso.ca/en/Power-Data/Price-Overview/Global-Adjustment
[iv] Source OEB, accessed March 22, 2024. https://www.oeb.ca/consumer-information-and-protection/natural-gas-rates/historical-natural-gas-rates
[v] Source OEB, accessed March 22, 2024. https://www.oeb.ca/consumer-information-and-protection/natural-gas-rates/historical-natural-gas-rates
[vi] Source: Enbridge, accessed March 22, 2024. https://www.enbridgegas.com/-/media/Extranet-Pages/Business-and-industrial/Commercial-and-Industrial/Large-Volume-Rates-and-Services/enbridge-gas-rate-zones-map.ashx
[vii]Source: Enbridge, accessed March 22, 2024. https://www.enbridgegas.com/residential/my-account/rates
https://www.enbridgegas.com/-/media/Extranet-Pages/residential/myaccount/rates/UG---Rate-M1---South-Marketer---Residential.ashx?la=en&rev=b7bfd973575f455395a64f710b7804b0&hash=2264579E0E6B11F99A4C4957AB10F99C
[viii]Source: Enbridge, accessed March 22, 2024. https://www.enbridgegas.com/residential/my-account/rates
https://www.enbridgegas.com/-/media/Extranet-Pages/residential/myaccount/rates/UG---Rate-M1---South-Marketer---Residential.ashx?la=en&rev=b7bfd973575f455395a64f710b7804b0&hash=2264579E0E6B11F99A4C4957AB10F99C
[ix]Source: Enbridge, accessed March 22, 2024. https://www.enbridgegas.com/business-industrial/business/rates
[x]Source: Enbridge, accessed March 22, 2024. https://www.enbridgegas.com/business-industrial/business/rates
[xi]Source: Enbridge, accessed March 22, 2024. https://www.enbridgegas.com/business-industrial/commercial-industrial/large-volume-services-rates/union-south/rate-m4
[xii]Source: Enbridge, accessed March 22, 2024. https://www.enbridgegas.com/business-industrial/commercial-industrial/large-volume-services-rates/union-south/rate-m4

APPENDIX C - FUNDING SOURCE SCAN

OAKVILLE DISTRICT ENERGY

TOWN OF OAKVILLE

MARK BEBAWY
SENIOR CLIMATE OFFICER

URBAN EQUATION

URBAN EQUATION

To: Town of Oakville

From: Urban Equation

Date: June 4, 2024

Project Name: Town of Oakville District Energy Detailed Feasibility Assessment

Revision	Date	Description
0	April 18, 2024	Draft Issue
1	June 4, 2024	Draft Issue

URBAN EQUATION

1 Summary

The Funding Sources Scan was prepared using desktop research and was completed in March 2024.

There are a wide range of incentives available and/or anticipated to fund innovative district energy projects with low carbon goals for the surrounding community. This report outlines funding opportunities available through various levels of government (Federal, Provincial and Municipal). Further study is required to confirm eligibility and specific funding amounts.

Based on published data, the Federation of Canadian Municipalities (FCM) Green Municipal Fund offers the largest potential funding opportunity for early planning and study and municipalities such as Oakville can apply directly. A submission would require a formal proposal and application. Much of the work required to secure funding through FCM could be repurposed and used to attract additional funding partners (see summary table below for most relevant sources). Key program considerations and recommended next steps are outlined below.

1.1 Key Considerations

- **Funding cycle**: Many incentives have annual allocations where the full allocation is given out throughout the same year. Some are replenished in a similar or a slightly evolved format the following year. Some are replenished less frequently. Others are one-time programs or competitions.

- **Funding proposal**: Many incentives require a proposal or formal application that shows how the project meets the funding program's specific goals, often requiring innovation or a pilot within a specific focus area.

- **Hidden details**: Many funding bodies do not disclose or confirm the details of total potential funding available until they receive an application.

- **Partnerships**: In order to secure funding, some incentives require partnerships with others, such as organizations, academic institutions and non-governmental organizations (NGOs). For the Town of Oakville, partnering with an organization my make the project eligible for additional funding or interest free loans.

1.2 Next Steps

The most promising funding source is the FCM Green Municipal Fund. It combines a low interest loan at 80% with a grant of up to 15%. Our recommendation is to pursue FCM funding, while making outreach to the other incentive providers. The content prepared for the FCM proposal may be discussed and detailed through formal engagements.

FCM Focus:

1. Review and confirm FCM eligibility with FCM Outreach team.
2. Prepare an incentive proposal that outlines the Oakville DES project potential

Other Incentive Providers:

As outlined in the table below, there are many other related incentive providers. While the published data on total funding potential and eligibility requirements is limited, Oakville may wish to investigate further to better understand funding potential. The following additional loan programs are promising, but may not be a perfect match:

- Innovation, Science, and Economic Development Canada – Strategic Innovation Fund
- Canada Infrastructure Bank

Next steps beyond FCM include:

1. Initiate contact with Innovation, Science, and Economic Development Canada to discuss the project.
2. Initiate contact with the Canada Infrastructure Bank to discuss the project.
3. Tailor FCM proposal to apply for other incentives.
4. Monitor funding providers that are not taking applications for re-activation of programming or additional intakes.
5. Pending the outcomes from the above investigation, consider preparing full applications to relevant incentive programs.

URBAN EQUATION

2 Funding/Incentives List

Incentive	Provider	Potential Funding ($)	Description (High Level)	Funding Requirements	Timing for Funding (if applicable)
Green Municipal Fund – Capital Project Energy recovery or district energy	Federation of Canadian Municipalities	Combined grant and low-interest loan up to $10 million and covering up to 80% of total project costs. The grant can be worth up to 15% of the loan amount. An additional 5% grant is available if the project involves remediation of a brownfield site.	The GMF helps municipalities switch to sustainable practices faster. Each application to the GMF is reviewed on an individual basis depending on the communities' needs and feasibility of improvements.	Project must be able to reduce GHG emissions by 40%, compared to current performance	Until fund is fully allocated
Strategic Innovation Fund - Net Zero Accelerator Initiative	Innovation, Science, and Economic Development Canada	Minimum contribution of $10 million with total project cost of at least $20 million.	NZA supports the government's strengthened climate plan to deliver a stronger economy that thrives in a low-carbon world.	Fund prioritizes near-term emissions reductions, developed technologies that can be used by 2030, and additional or quicker benefits as a result of NZA investment.	Applications are currently ongoing. The steps are: 1) consultations, 2) statement of interest 3) full application
Canada Infrastructure Bank	Canada Infrastructure Bank (CIB)	CIB typically takes on 55% to 75% of the total debt for infrastructure projects (depending on	CIB has a mandate to invest and seek to attract private sector investment in projects	Should CIB come on board, the debt will be dependent on principles of	No specific timing. The application process is open

Incentive	Provider	Potential Funding ($)	Description (High Level)	Funding Requirements	Timing for Funding (if applicable)
		assets class) at a below market rate.	in Canada that are in the public interest.	optimal risk allocation. Investments have been increased in clean power infrastructure to advance decarbonization and district energy.	but it is not a direct application process, Instead, CIB's investment team customizes solutions after going through an intake and consultation process.
Commercial Buildings Retrofit Incentive	Canada Infrastructure Bank	Loans available at below market rates.	Initiative provides investments in the decarbonization of buildings and provides attractive financing to reduce investment barriers. While not specifically applicable to district energy systems, it could provide support to help connect buildings.	Minimum $25 million CIB investment opportunity up to a maximum of 80% except for public or MUSH where the max will be limited to 60%-70%. Minimum 25% reduction in carbon or energy savings.	Capital must be invested in 2-5 years.
Clean Technology Investment Tax Credit	Federal Government	Refundable 30% tax credit on capital cost of investment made by taxable entities in wind, solar PV and energy-storage technologies.	Budget 2023 proposes to expand eligibility for the Clean Technology Investment Tax Credit to include geothermal energy systems.	Unknown	Starting May 28, 2023, through to 2034 (reductions applicable for projects starting after 2032)
Canada Community Building Fund	Government of Canada - Association of	A total of $890 million was administrated in Ontario for the year of 2023-2024. The	CCBF is a source of funding to support local infrastructure	Not stated	After 2021 there is no more funding to be

Incentive	Provider	Potential Funding ($)	Description (High Level)	Funding Requirements	Timing for Funding (if applicable)
	Municipalities administered by the City of Toronto and Toronto and the CCBF on behalf of the province	Town of Oakville was allocated approximately $6.4 million.	projects. The fund supports 18 project categories including 'community energy systems'.		allocated for new projects. It appears that there is continued funding for existing projects. Money allocated to the Town of Oakville may still be accessible.
Low Carbon Economy Challenge	Environment and Climate Change Canada	Applicants are able to request between $1 million and $25 million for eligible expenditures with cost sharing range from 25% (for-profit private sector) to 50% (provincial government bodies)	Part of the Low Carbon Economy Fund, this incentive supports reducing emissions and clean growth by providing $500 million in funding. The challenge section is divided into two streams, the championship stream and the partnership stream.	Project must result in reduction of GHG in 2030 and over the lifetime of the project.	Application period closed on February 8, 2024, 8 PM EST. Assessment process started on February 9, 2024. Another round of funding may open in the future.
Towards Net-Zero Communities	NRCan	No funding limit within the budget. Budget (in millions) $4.2 in 2022-2023, $4.2 in 2023-2024, $3 in 2024-2025, $3 in 2025-2026.	Funding for innovative projects to support creative energy efficiency initiatives for the Canadian residential sector.	Legal entities in Canada including for-profit. Projects must contribute to the improved energy efficiency of homes and increased	Applications are no longer being accepted after September 21, 2022. Path 2 for Indigenous organizations

Incentive	Provider	Potential Funding ($)	Description (High Level)	Funding Requirements	Timing for Funding (if applicable)
				understanding of the housing sector or energy-using products that affect energy consumption.	opened on October 5, 2022. Oakville should monitor this program for additional budget and offerings.
Energy Innovation Program	Ontario Ministry of Energy managed by the Office of Energy Research and Development	Annual grants	The EIP advances clean energy technologies that will help Canada meet its climate targets while supporting transition to low carbon economy.	Responsibility of the applicant to demonstrate why a particular amount of funding is necessary to support the project.	As of March 2024, the only eligible categories are methane mitigation and battery innovation. This changes often. Monitor for future intakes.

Oakville District Energy Feasibility Study

October 10th, 2024

RATHCO ENG

URBAN EQUATION

Presentation Agenda

1. Team Introductions
2. District Energy System (DES) Introduction
3. History of DES at the Hospital District
4. Project Scope
5. Milestone 2 – Project Kickoff
6. Milestone 3 – Modelling and Design
7. Milestone 4 – Economic and Financial Analysis
8. Milestone 5 – Implementation Planning
9. Project Outcomes
10. Next Steps

RATHCO ENG URBAN EQUATION

Introduction – Rathco Team

John Rathbone, President, P.ENG

Rathco's President, John Rathbone, is a Professional Engineer and certified Project Management Professional with extensive experience in energy systems as well as a solid foundation of experience in environmental engineering (water & wastewater). John has led local and international teams on the planning, design, and implementation of multiple district energy systems.

Mairead Kennedy, Vice President, P.ENG

Rathco's Vice President is a Professional Engineer and Certified Energy Manager with over 17 years experience in developing and leading district energy and civil infrastructure project initiatives in Canada, the US, the UK, and Eastern Europe.

Alisha Sealey, Energy Strategist, P.ENG

Alisha is an Energy Strategist with Rathco ENG. She is a Professional Engineer and LEED Green Associate with cross-industry experience. Alisha has experience in district energy systems of various scales, from a few buildings to city-scale. She has experience working with several low-carbon technologies, including heat pumps, geo-exchange, wastewater energy exchange, biomass, and more.

RATHCO ENG URBAN EQUATION

Introduction – UE Team

Jenny McMinn, Senior Advisor

Jenny excels at leading multi-disciplinary teams on cutting-edge green projects, including those targeting One Planet Living, LEED Platinum, the Living Building Challenge, and the WELL standard. A LEED-accredited professional, Jenny holds degrees in architecture and environmental studies from the University of Waterloo.

Fin MacDonald, Senior Consultant

Fin is an ESG and carbon management professional with over 10 years' experience managing sustainability programs and advising clients on sustainability strategy. As a senior consultant at Urban Equation, Fin supports ESG, district energy, sustainability strategy, and green development standards work.

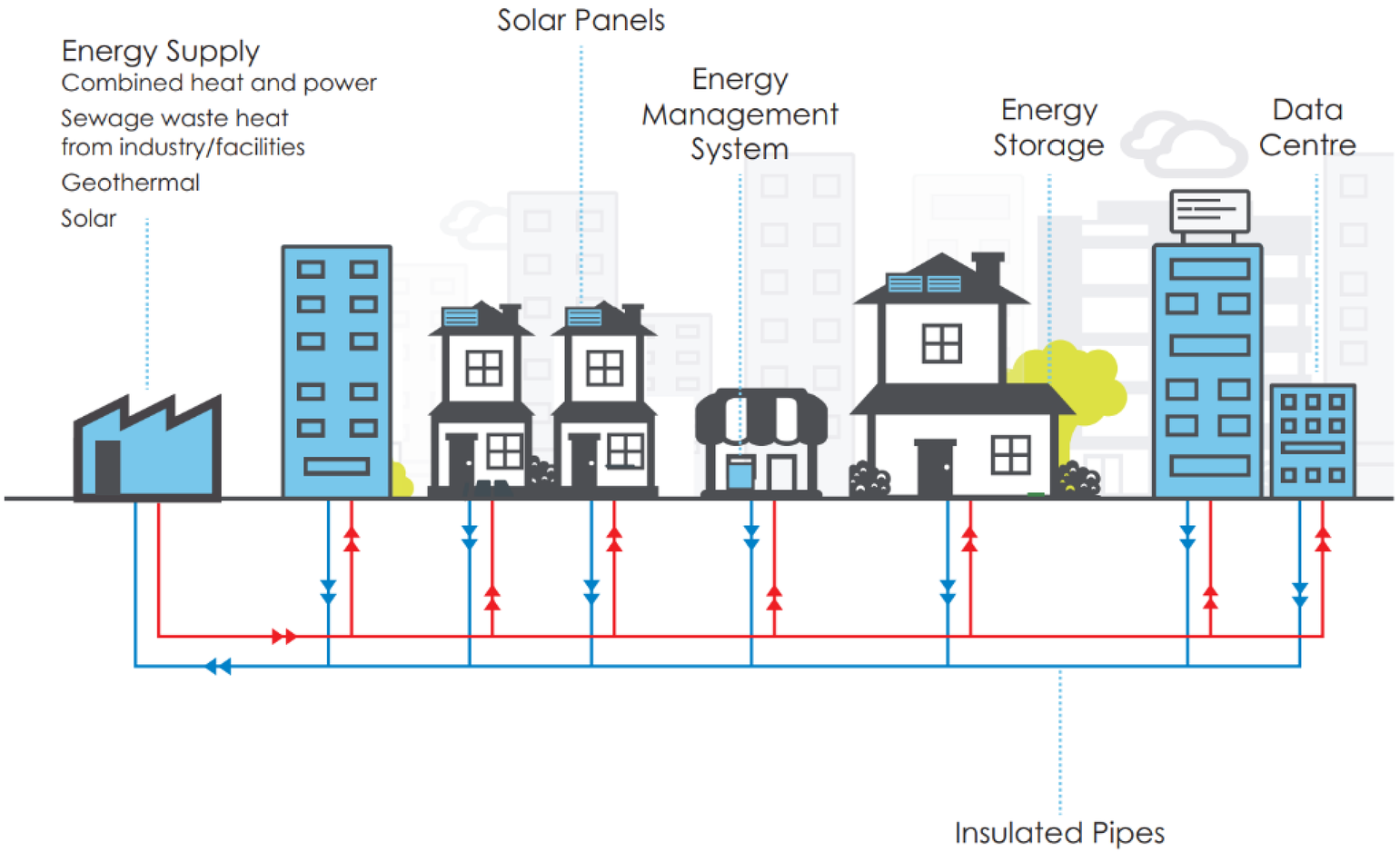
Darynne Hagen, District Energy Consultant

Darynne is an experienced energy systems professional with over 5 years of experience working in the energy sector. As a consultant, Darynne assists clients in the assessment and implementation of district energy systems to support their project goals.

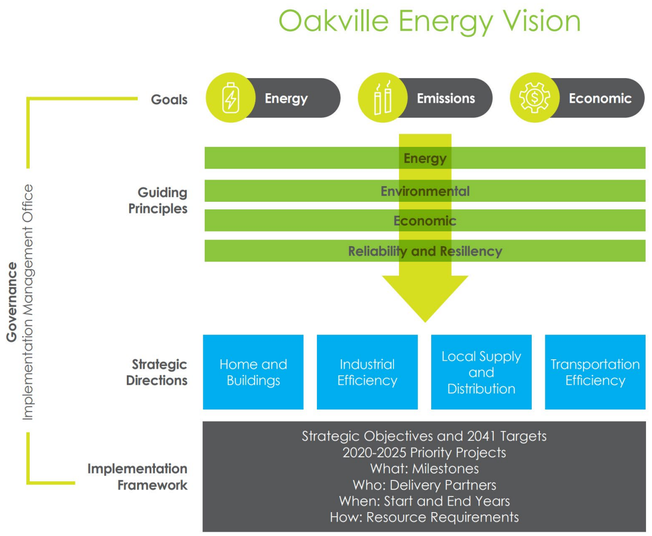
RATHCO ENG URBAN EQUATION

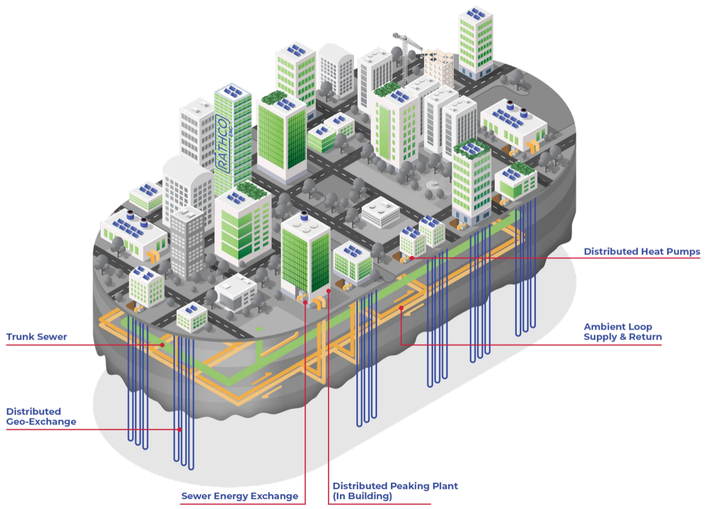
Introduction to District Energy

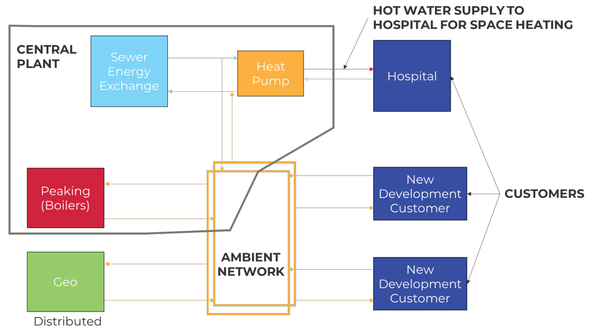
- District Energy Systems Include:
  - **Thermal Generation** (Heating, Colling and Domestic Hot Water generation)
  - **Thermal Distribution Network** (Buried Pipes distributing hot, cool or ambient temperature water)
  - **Customer Connections** (the interface or energy exchange point between the DES and the customer building



Project History







2018 – 2020
Community Energy Strategy
(Garforth International)

2021 - 2022
Prefeasibility Study
(Rathco + Damgaard)

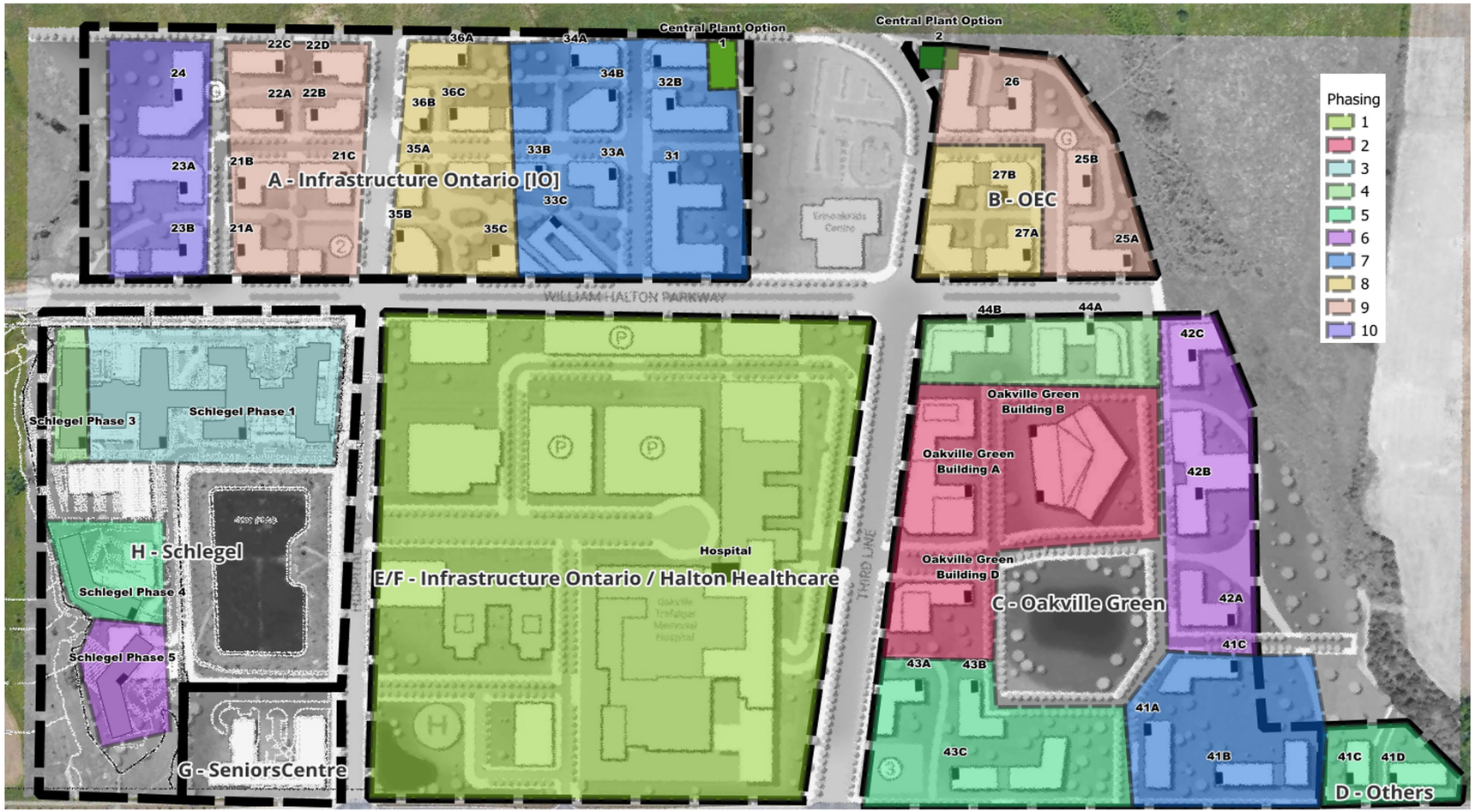
2023 - 2024
Detailed Feasibility Study
(Rathco + Urban Equation)

The Town of Oakville's commitment to ambitious district energy planning began with the Community Energy Strategy which set the parameters, direction and ambition for DES in Oakville. This was followed by a heat mapping and opportunity assessment prefeasibility study in 2021 that identified the Hospital District as one of a number of DES opportunities in the City. Based on guidance from the Town, the Hospital District was selected as a prime opportunity for development to greater detail in a detailed feasibility study.

RATHCO ENG URBAN EQUATION

Project Overview

- 10-phase district energy system
  - geo-exchange
  - sewer heat recovery
  - peaking boilers
  - heat pumps
- Can provide low carbon heating and cooling to ~950,000 sq.m of development at full buildout
- Anchored by the hospital

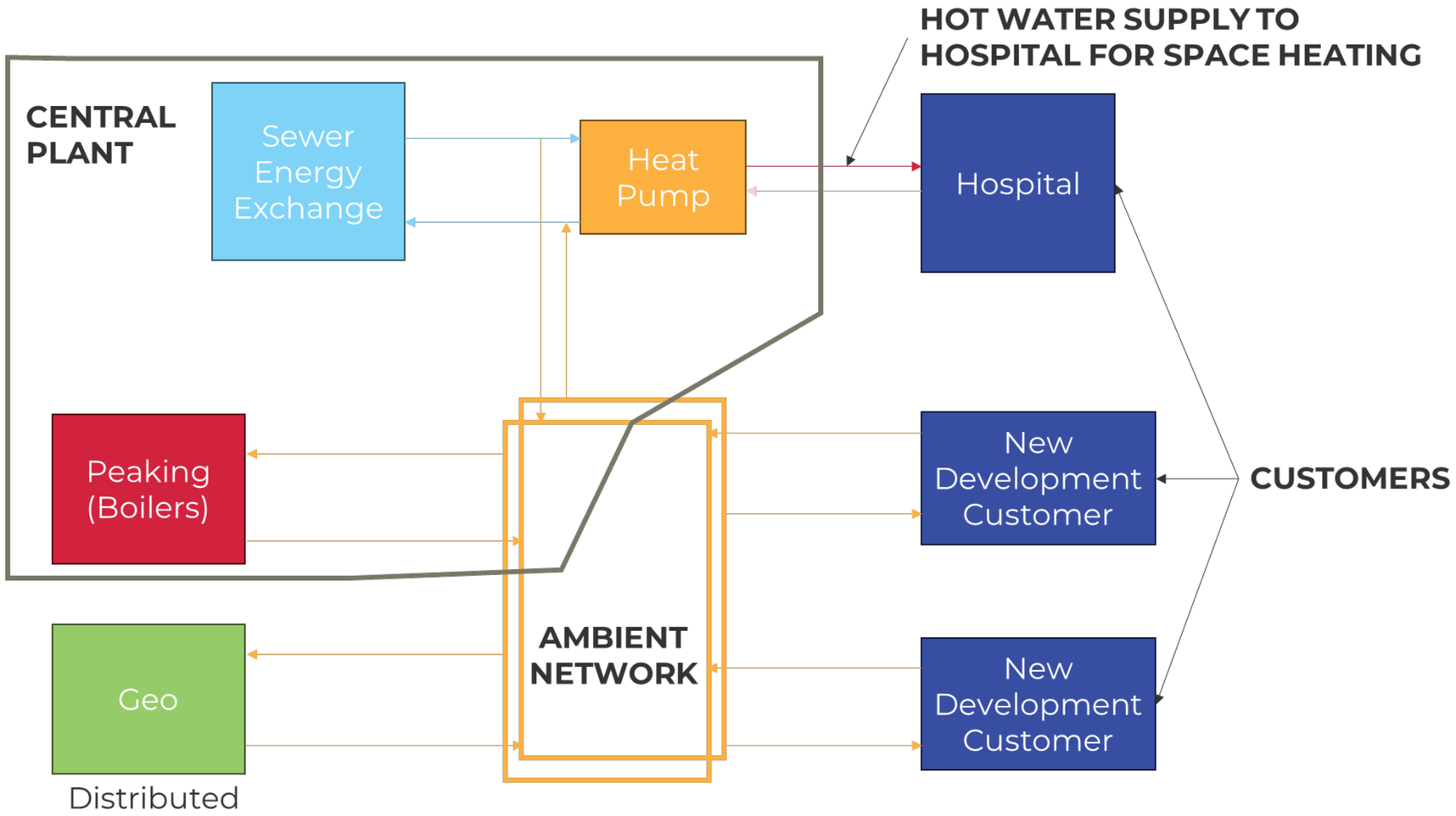


Technical Modelling and Design

Changes from Pre-Feasibility

- A connection to the existing hospital building (based on feedback from ToO)

- The dedicated hot water loop is removed and instead the ambient network will provide domestic hot water to the buildings via a water-to-water heat pump.



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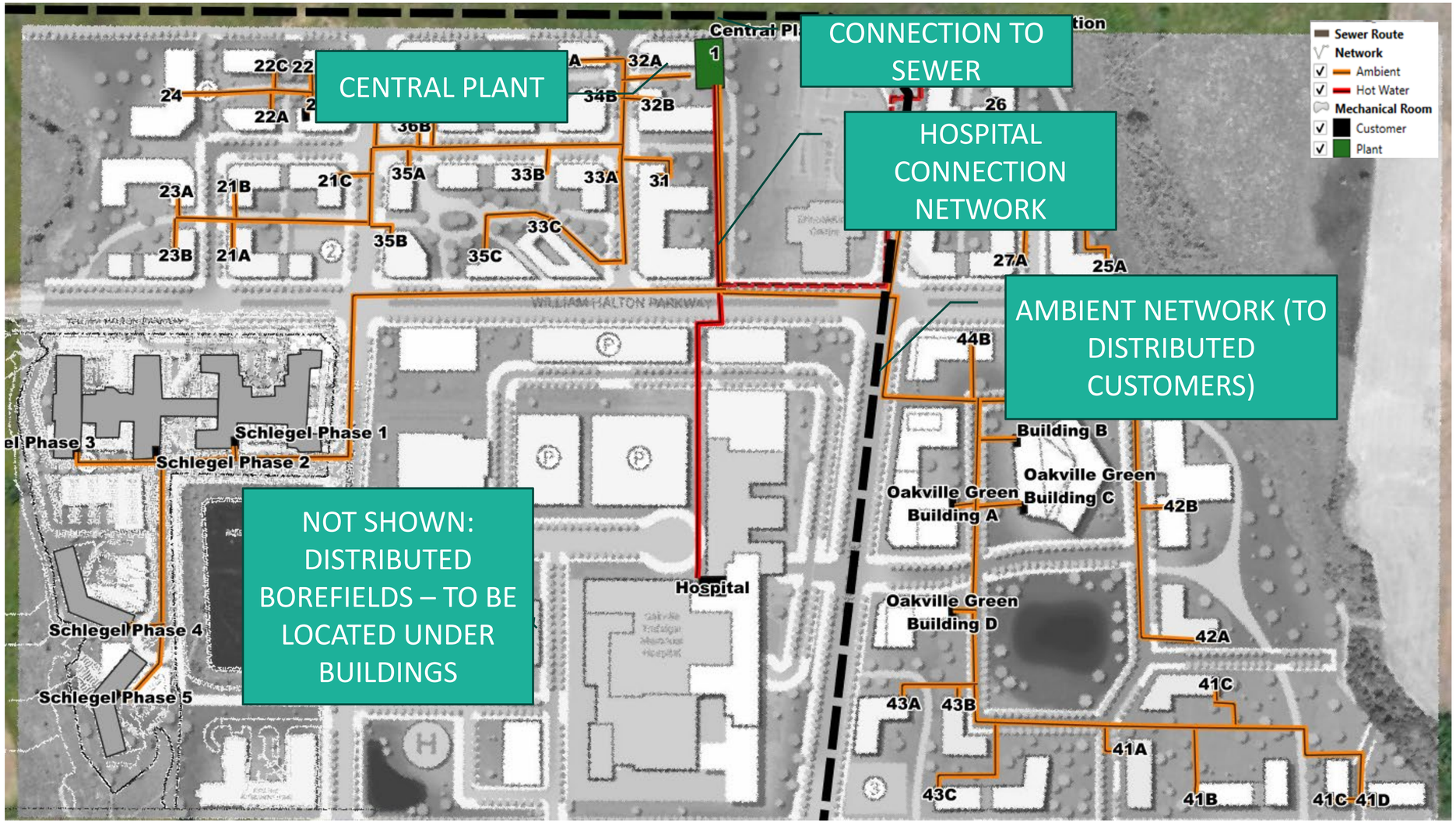
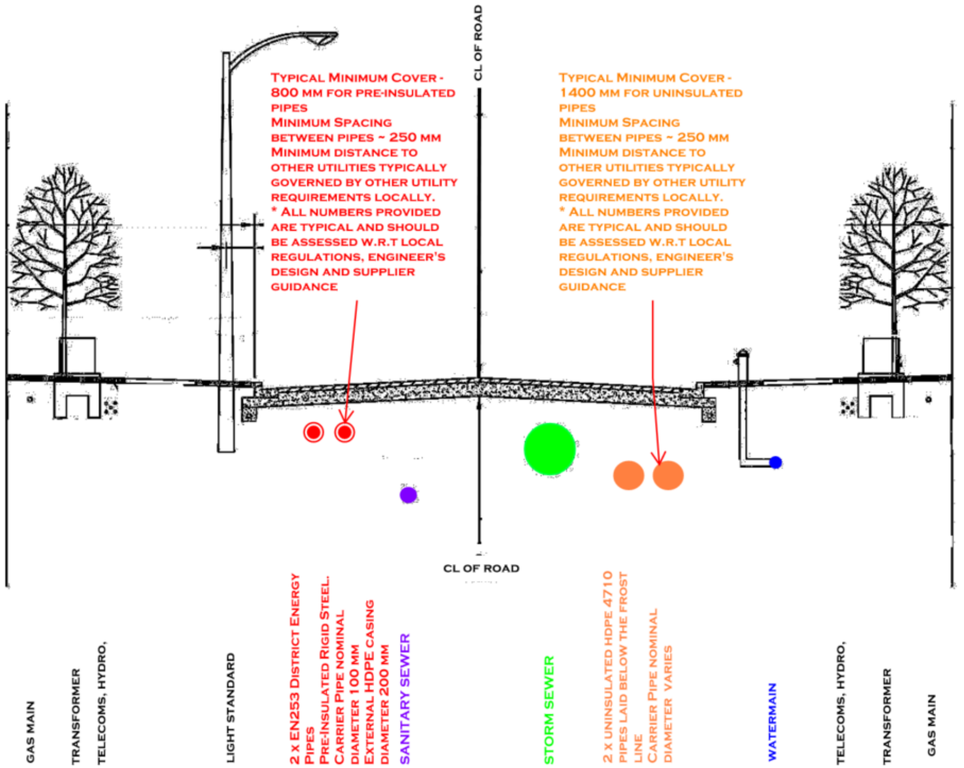
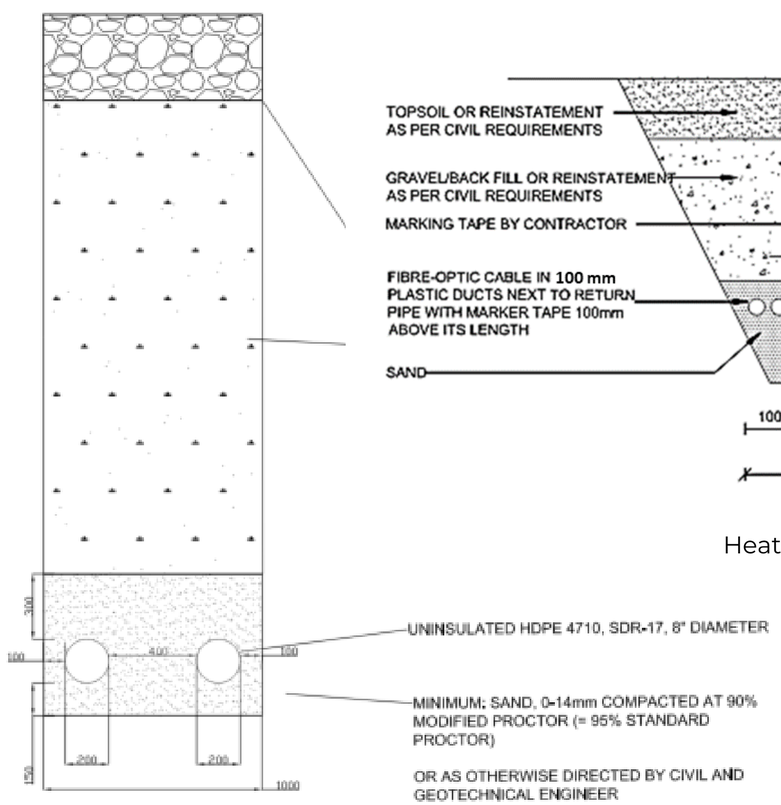
Technical Modelling and Design



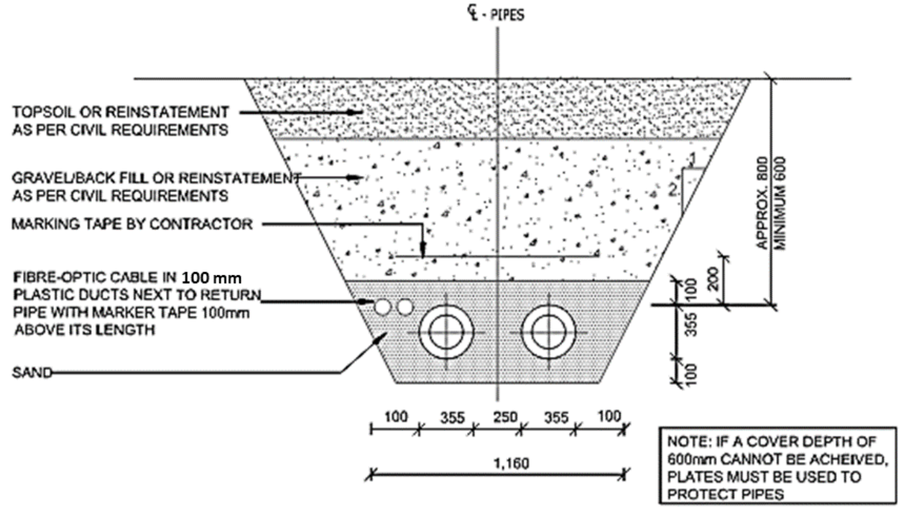
Technical Modelling and Design



Network Piping in Street – Illustrative (Orange – Ambient), (Red – Hospital Heating Water)



Ambient Loop Cross Section



Heating Water Cross Section

Technical Modelling and Design

- Capital, operation and maintenance costs defined.
- DES Investment: $140 M over 10 phases (22 years)

- System is designed to provide 100% of energy to all new developments at full build out.

- The effective emissions reduction achieved is 62% compared to Business as Usual.

- The technical solution has a well-defined track record of implementation with high reliability.

	Total – 2024 Dollars
Central Energy Recovery	38,131,680
Sewer Interface	7,454,060
Geo-Exchange Manifold Rooms	40,243,003
Network	13,366,402
Customer Connections	21,928,300
Total System Capital Costs	121,123,444
Contingency	18,168,517
Total Incl. Contingency	**139,291,961**

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Economic and Financial Analysis

Milestone 4 – Led by Urban Equation

Scope and Approach

Milestone 4: Economic and Financial Analysis

Milestone Goal: To determine the economic viability of the DES as configured, based on current market conditions.

Milestone Scope and Approach:

- Carry out fuel cost study and funding assessment to influence model inputs.
- Establish other inputs, based on market understanding and previous stakeholder engagement.
- Create financial model:
    - Layout capital costs, operating costs and projected revenues for each phase, based on preliminary phasing plan.
    - Escalate costs based on market escalators
    - Determine unlevered rate of return and net present value for ‘DES Owner’ based on 30-year term for each phase.
- Carry out sensitivity analysis to determine inputs and criteria that are critical to project success.

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Funding Sources Scan

Milestone 4: Economic and Financial Analysis

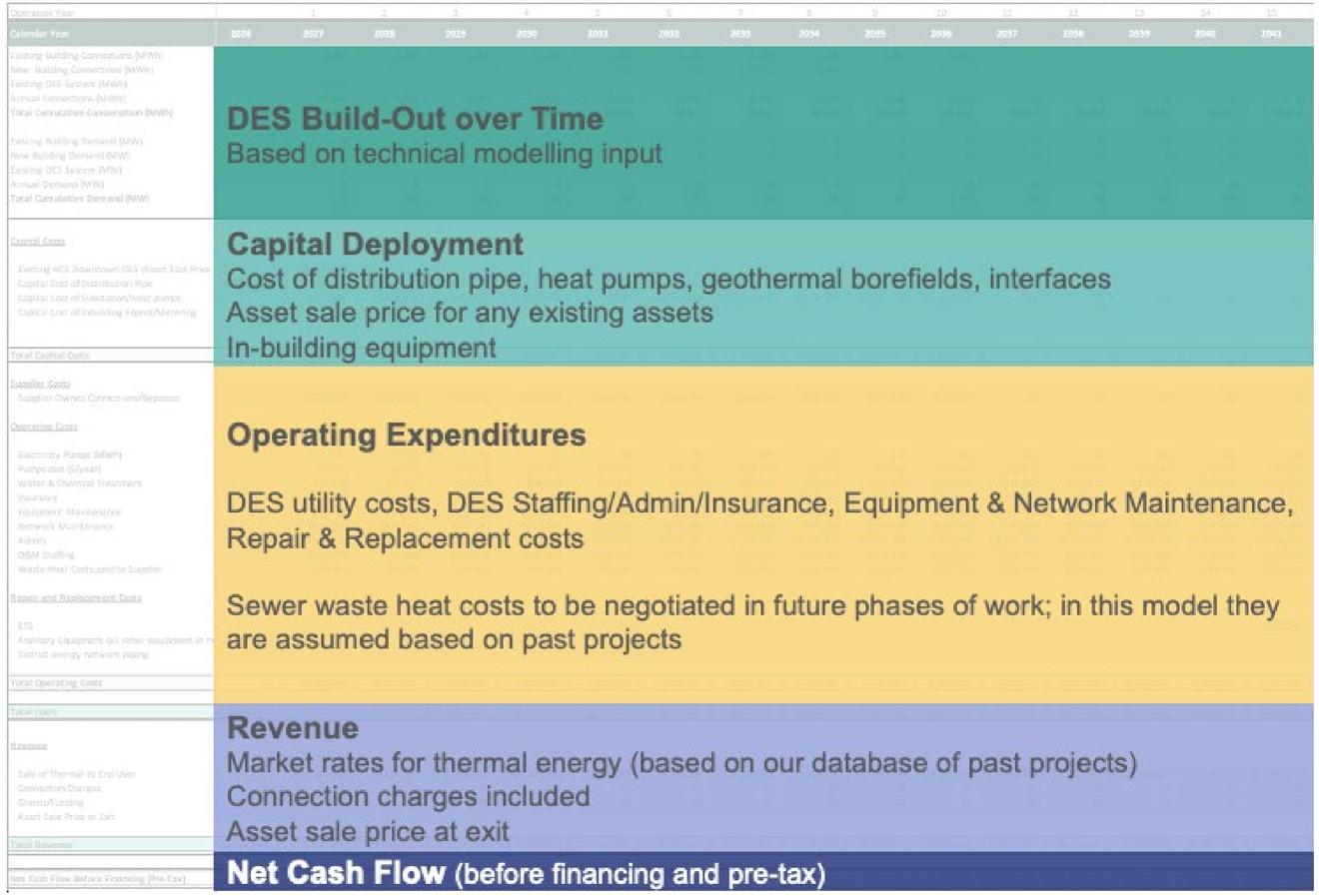
- Desktop study carried out to determine various government funding sources available (including Federal, Provincial and Municipal).
- Federation of Canadian Municipalities (FCM) – Green Municipal Fund: Interest free loans of up to $10 million (80% of project costs). Up to 15% of the loan could be awarded as a grant.
- Innovation, Science, and Economic Development Canada – Strategic Innovation Fund: Low/no interest loans with a minimum contribution of $10 million with total project cost of at least $20 million.
- Canada Infrastructure Bank: Low interest loans tied to emissions savings.
- Other potential funding sources include:
  - Canada Community Building Fund
  - Low Carbon Economy Challenge
  - Towards Net Zero – Communities
  - Commercial Buildings Retrofit Incentive
  - Energy Innovation Program
  - Clean Technology Investment Tax Credit

RATHCO ENG URBAN EQUATION

Model Approach

Milestone 4: Economic and Financial Analysis

- **Global Benefit Approach**: A global benefit, life-cycle cost perspective balancing the impact on the vertical developers, end users (residents/tenants), DES operator, and sewer heat suppliers. The allocation of cost/benefit by party is to be determined
- **Revenue Assumptions:** Sets an estimate for revenue equivalent to market rates for thermal energy
- **Finance Assumptions:** Evaluates the investment without the cost of financing, without the benefit of funding, and pre-tax.
- **Term length** – 30 years from start of Phase 1 operations



Model Assumptions: Staying Conservative

Milestone 4: Economic and Financial Analysis

To ensure the results presented to the Town were adequately conservative and rates remained competitive for future DES customers, the following assumptions were carried in the model:

- **Terminal Value:** Results have been presented both with and without terminal value of the DES (ie. the 'sale price' after 30 years).
- **Hospital Rates:** Hospital has been modelled to have lower rates, since they're only using heating energy.
- **Customer Rate Discount:** All assumed DES thermal energy rates and connection costs were discounted by 20% from the calculated 'business as usual' costs.
- **Owner Discount Rates:** Discount rates for both the public and private DES owner (11% and 9%, respectively) were intentionally set to be conservative.
- **Financing Facility Interest**: The model assumed the DES owner is paying interest costs on the full debt facility every year, rather than the draws. As loan structures are unique to each lending facility, a conservative assumption was made.

RATHCO ENG URBAN EQUATION

Model Results

Milestone 4: Economic and Financial Analysis

- Typical minimum UIRR in the market is 8-12% - still showing a very strong business case
- Assumed a construction start date of 2027, and revenue generation beginning in 2028 with a term of 30 years.
- Terminal value shows small impact on unlevered IRR.

District Energy System – Including Terminal Value		
Capital Costs	$202	M
Operating Costs	$404	M
TOTAL COSTS	**$605**	**M**
Thermal Energy Sales	$586	M
Connection Charges	$117	M
Terminal Value	$470	M
TOTAL REVENUE	**$1,173**	**M**
TOTAL PROFIT (FV)	**$706**	**M**
TOTAL PROFIT (PV)	**$13.8**	**M**
UIRR (pre-tax, excluding funding/financing)	**13.3**	**%**

District Energy System – Excluding Terminal Value		
Capital Costs	$201	M
Operating Costs	$404	M
TOTAL COSTS	**$605**	**M**
Thermal Energy Sales	$586	M
Connection Charges	$117	M
Terminal Value	$0	M
TOTAL REVENUE	**$703**	**M**
TOTAL PROFIT (FV)	**$236**	**M**
TOTAL PROFIT (PV)	**($1.2)**	**M**
UIRR (pre-tax, excluding funding/financing)	**10.7**	**%**

RATHCO ENG URBAN EQUATION

Sensitivity Analysis Results

Milestone 4: Economic and Financial Analysis

Base Case

Supplier	UIRR	NPV
DES	10.7%	($1.2M)
WHS	-	$1.4M

Carried out a sensitivity analysis on a variety of inputs including capital costs, operating costs, escalation rates and revenues. Most analyses showed limited impact on returns – the table below highlights the critical inputs.

Risk / Lever	Scenarios	Target or current	Realistic Upside	DES (% UIRR)	DES NPV ($2024)	WHS NPV ($2024)	Realistic Downside	DES (% UIRR)	DES NPV ($2024)	WHS NPV ($2024)	Proposed Sensitivity Range
Heating Demand	Increase or decrease	69,540 MWh	20,000 (29%)	14.0%	$12.6M	$1.4M	-20,000 (-29%)	6.53%	$(15M)	$1.4M	+/- 50%
Revenues / Thermal Energy Rates	Increase or decrease	Market-based	20%	14.4%	$14.6M	$1.7M	-10%	8.37%	$(9.2M)	$1.2M	-10% to 20%
Capital Cost	Increase or decrease	0%	-10%	12.6%	$5.6M	$1.4M	30%	6.5%	$(21.7M)	$1.4M	-10% to 30%
Commodity Costs	Increase or decrease	0%	-30%	12.7%	$6.9M	$1.4M	30%	8.4%	$(9.3M)	$1.4M	-30% to 30%
Carbon tax	Removed	5% (after 2030)	No carbon tax	11.1%	$503K	$1.4M	6.5% after 2030	10.6%	$(1.6M)	$1.4M	Rates defined up to 2030. 5% after.
Thermal Energy Escalator	Increase or decrease	4%	5.5%	15.2%	$21.4M	$1.7M	2.5%	3.34%	$(18.3M)	$1.1M	2.5% to 5.5%

RATHCO ENG URBAN EQUATION

Ownership Options Assessment

Milestone 5: Implementation Planning

- Ownership model used to layer in financing assumptions to determine levered rates of return.
- Considered both 100% public and private ownership of the DES, modelling both with and without terminal value for the public owner, as per Town's direction.
  - Note that without a terminal value (i.e. asset sale), the DES Owner would continue to generate revenue for the asset, which would result in higher rates of return than what is shown below.

Ownership Model	Description	Financing Assumptions	Terminal Value Included?	Levered Internal Rate of Return (UIRR)	Net Present Value (NPV)
100% Private Ownership	A project company owned and led by private developer/ investor	• Private: 40% equity contribution; 60% debt • Cost of Capital: 7.95% (prime + 100 bps) • Discount Rate: 9%	Yes	9.53%	$4.2M
100% Public Ownership	A project company owned and led by public company and the Town of Oakville	• Public: 20% equity; 80% debt • Cost of Capital: 6.3% (10 yr Canada bond rate + 3%) • Discount Rate: 11%	Yes No	10.4% 3.26%	($2.9M) ($13M)

RATHCO ENG URBAN EQUATION

Town Planning – Policy Recommendations

Milestone 5: Implementation Planning

To gain a better understanding of the barriers to DES implementation, as well as municipal policy tools that can be implemented to overcome those barriers, UE:

- Conducted a desktop analysis to discover common barriers to DES, as well as tools available to Ontario municipalities to support DES implementation and uptake.
- Layered in feedback from market sounding assessment and meeting with the Town
- Results:

Barriers to DES implementation include:

- Cost competition with market rates
- High upfront costs
- Extensive buildout schedules
- Land use planning uncertainty
- Revenue uncertainty
- Significant stakeholder coordination

Municipal Planning tools to overcome these challenges include:

- Green development standards
- Property taxation rebates
- Development charge rebates
- Accelerated approval timelines
- Official plans
- Zoning by-laws

RATHCO ENG URBAN EQUATION

Milestone 4 and 5 Takeaways

What have we learned?

- The business case for the district energy system owner is strong and resilient to typical market changes, as shown through the sensitivity analysis.
- The Halton Region would experience a strong financial upside through waste heat revenue generation, without needing to invest any capital in the system.
- The market sounding was positive overall:
  - Landowners and developers are interested in connecting to the DES, but require more information and want to ensure that it's cost competitive with their business-as-usual.
  - All district energy providers in the local market are interested in supporting the project.
  - No local regulatory agencies expressed any major concerns with the feasibility of the system, but all expressed the need to remain engaged as the process moves along.
- The major risks identified in the risk analysis can be mitigated according to the mitigation plans outlined in the risk register.

Overall, we recommend that the Town move forward with this project.

RATHCO ENG URBAN EQUATION

Questions?

Appendix

Fuel Cost Study

Milestone 4: Economic and Financial Analysis

- Provided background information on fuel costs in Ontario and documented why certain fuel costs were used in the economic model to assess economic viability of the Oakville District Energy System.
- Overall, fuel cost rates in Ontario were difficult to estimate because the rates depend on volume of consumption and the required capacity/demand. The fuel cost study provided the following outcomes:
  - one default rate for electricity: **$0.135/kWh** and one high volume rate for large-scale energy consumers at **$0.10/kWh**
  - one average rate for natural gas that will be uniform across all end user types: **$0.033/ekWh**
  - thermal energy can be supplied at equivalent market rates, offsetting the building's total equivalent costs of providing thermal energy (heating, cooling, DHW): **$165/MWh**

RATHCO ENG URBAN EQUATION

Model Inputs

Milestone 4: Economic and Financial Analysis

The following table summarizes the various assumed inputs for the business model.

Criteria	Assumption	Criteria	Assumption	Criteria	Assumption
Start Date	2028	Class A Electricity Price	$0.100/kWh	Thermal Energy Escalator (%)	4.0%
PPA Term	30 years	Class B Electricity Price	$0.135/kWh	Sewer Waste Heat	$3.00/MWh
DES Discount Rate	11%	Electricity Escalator	3.5%	Market rate for Thermal Energy	$132/MWh
Sewer Heat Supplier Discount Rate	9%	Natural Gas Price (incl carbon)	$0.033/ekWh	Market Rate for Heating Energy (Hospital Only)	$85/MWh
Terminal Capitalization Rate	5%	Natural Gas Escalator	3.5%	Upfront Connection Charge – Heating & DWH	$720,000/MW
CPI Escalator	3.5%	Carbon Tax Escalator (after 2030)	5%	Upfront Connection Charge – Cooling	$1,480,000/MW

Memo

To: Mayor and Council

From: Trisha Henderson

CC: Executive Leadership Team

Date: October 1, 2024

Subject: City of Guelph Greener Homes Program

Comments

This memo is to report back and address Council's request at the July 11, 2023, Council meeting that staff investigate and "report on the operation and success or progress of the Guelph local improvement charge program" in the City of Guelph.

Overall, staff note the Guelph Greener Homes Program required a significant financial contribution from the City of Guelph of $3.75 million, with 2 FTE's dedicated to the core elements related to program administration over the 4-year program period (not covering resources required beyond the program period, resources needed during the program development phase, or staff time related to additional activities such as drafting by-laws, general reporting, etc.). Additional details on the program framework (including enabling by-laws, applicant eligibility, structure, and requirements) and initial uptake, as well as the Town of Oakville's progress in this space, is outlined below.

Program Framework

The City launched the Guelph Greener Homes program (GGH or Program) in late July 2023 with assistance from Federation of Canadian Municipalities (FCM) Green Municipal Fund (GMF) to help reduce greenhouse gas emissions and make homes more energy-efficient, comfortable, and climate-friendly. This FCM funding includes up to $10 million in the form of an interest free loan from FCM, or up to $5 million in the form of a grant from FCM, and further required up to $3.75 million City of Guelph contribution. This funding supported the GGH program development and will support the four years of GGH program operation.

To support the Program, City Council enacted the Guelph Greener Homes By-law in 2023 pursuant to Ontario Regulation 586/06 under the Ontario Municipal Act, 2001 (O. Reg. 586/06: Local Improvement Charges - Property Lien Status) that authorizes 'the undertaking of energy efficiency works, renewable energy works or water conservation works on private residential property as local improvements under the [GGH] program.' The City amended this by-law in 2024 finding 'adjustments to: (i) respond to applicants' feedback; (ii) enhance access to financing; (iii) improve efficiencies in program delivery; and (iv) make housekeeping amendments' that would be beneficial to the program.

The Program by-law includes the program framework that consists of the 5 following key elements:

1. Applicant eligibility

To qualify for the Program, it is important that the home improvements haven't yet started and that applicants:

- reside in a residential low-rise building in Guelph with a property tax account with the City;
- have all registered owner(s) of the property consent to participating in the Program;
- own properties with no back taxes or liens or title disputes;
- own property that is more than five (5) years old.

The Program offers both a:

a) zero-interest loan of up to $50,000 requiring a 20% deposit and a 10-year payback term that is added to the property tax bill, and a
b) grant program that offers up to $15,000, with no payback, for eligible low-income households to install air-source heat pumps in homes where the property owner(s) are the primary residents; these grants are limited and subject to availability.

2. Home energy audit requirements

Property owner(s) are required to hire an NRCan certified energy advisor to perform a pre-project EnerGuide home evaluation and, a post-project EnerGuide Home evaluation. It is also noted that 'all eligibility and performance criteria for the Canada Greener Homes Grant and Enbridge Home Efficiency Rebate Plus requirements apply to the Guelph Greener Homes program.'

3. Qualifying home improvements that reduce GHG emissions

The non-comprehensive list of eligible projects include:

Building envelope:
• Installation or upgrading of thermal insulation (insulation areas include basement walls or foundation, exposed floor, crawl space, exterior walls, attic, ceiling or roof)
• Air-sealing (e.g., caulking, sealing, repair of windows and doors)
• Fenestration (e.g., windows, doors, sliding glass doors) replacement

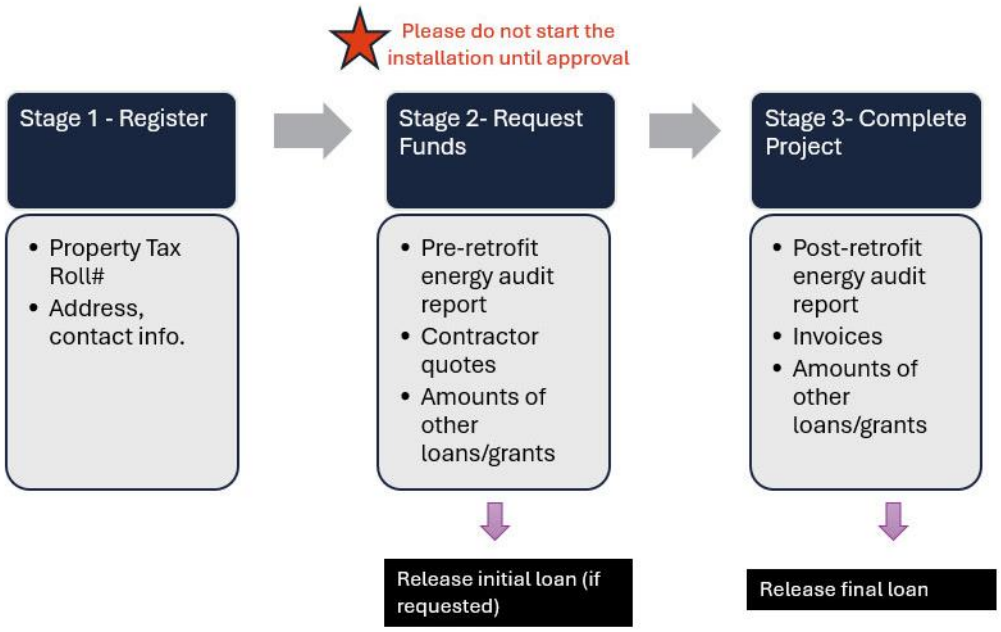
Mechanical systems:
• Air source heat pumps and cold climate air source heat pumps
• Heat pump water heaters
• Heat recovery systems

Control systems:
• Smart or programable thermostats (eligible if only combined with any other eligible home improvements)

Renewable energy systems:
• Solar photovoltaic systems
• Solar hot water systems

4. Application and project close-out procedures

The GGH program has kept applications open since its launch on July 31, 2023, with no anticipating closing date. Applicants register via on-line portal, developed by the City of Guelph, and progress through the following program workflow:



5. Local improvement charge repayment and disclosure

Successful applicants must enter into a Property Owner Agreement that requires consent to a variety of legal clauses to ensure understanding, privacy and confidentiality measures, file retention and that all parties agree to fees and payment structures. Details of local improvement charge repayment and disclosure can be found within the Guelph Greener Homes By-law.

GGH Program Progress

The GGH program was launched on July 31, 2023; within the first 10 months the GGH program received approximately 400 applications of which:

- 300 have been approved, 220 are progressing through various stages of the GHH program workflow and 80 have been fully completed
- of those 80 completed projects, approximately
    - 70%, or 56 of the 80 completed projects include air source heat pump installation, which is currently the most adopted action
    - 13%, or 10 of the 80 completed projects include PV solar panel installation

Applications have been primarily for the loan program with approximately 7%, or two of the 300 projects having a grant component.

Federal Initiatives

As of February 2024, the Canada Greener Homes Initiative is no longer accepting new applications or completing pre-retrofit energy assessments for the Ontario Greener Homes Grant, delivered by Enbridge. The federal initiative still offers the Oil to Heat Pump Affordability program and the Canada Greener Homes Loan to help Canadians make their homes more energy efficient and offers up to $40,000 in interest-free financing to eligible homeowners at the pre-retrofit stage.

Town of Oakville's Progress

Town and OEC staff hosted the Home Energy Retrofit Workshop on April 4, 2023, where the discussion focused on homeowner education and working towards establishing an energy coach service, while promoting existing, in-market programs. Since that proposal town staff have:

- Received Natural Resources Canada (NRCan) funding to deliver heat pump accelerator training sessions for contractors within the region of Halton. Town staff collaborated with the city of Burlington, town of Halton Hills and heating and refrigeration, air conditioning institute (HRAI) to setup 6 training sessions, 3 online sessions and 3 in person training sessions in each of the municipalities.
- A Strategic Business Advisor was hired in the Building Services department to consult as an energy coach for new and retrofit building applications.
- Created the Home Energy Retrofits 101 webpage on Oakville.ca that contains information for homeowners on EnerGuide home evaluations, rebates and incentives, qualified contractors and more.
- Launch of an interactive Climate House on Oakville.ca to depict what climate mitigation and adaptation actions residents can take at home.
- Future Energy Oakville (FEO) has been established as the agency to deliver the update to and implementation of the Community Energy Strategy (CES).
- Completed a detailed feasibility study district energy for the Hospital District, with funding from Federation of Canadian municipalities (FCM) and Danish Energy Agency, following the prefeasibility study of district energy in Oakville completed in 2022.
- Town staff are launching a climate mitigation and adaptation educational series for homeowners in 2025.

REPORT

Council

Meeting Date: October 21, 2024

FROM:	Corporate Strategy and Government Relations
DATE:	October 8, 2024
SUBJECT:	**Climate Emergency Declaration Progress Report**
LOCATION:	Town Hall
WARD:	Town-wide

RECOMMENDATION:

That the report entitled "Climate Emergency Declaration Progress Report" dated October 8, 2024, be received.

KEY FACTS:

The following are key points for consideration with respect to this report:

- The Climate Emergency Declaration Progress report is an annual requirement of the Climate Emergency Declaration and details the progress made in fulfilling the six goals of the Climate Emergency declared by Council in June of 2019.
- This report summarizes the completion of climate action initiatives from across the organization, in our buildings, equipment, data, plans, governance structure and promotion and community outreach.
- Highlights include:
    - Introducing electric buses into Transit's fleet
    - Achieving LEED Gold Certification at the Oakville Trafalgar Community Centre
    - Completion of a district energy feasibility study for the Hospital District.
    - Improving town alignment with the Task Force on Climate-Related Financial Disclosures (TCFD) framework by 15%
    - Increased focus on community education, promotion and outreach
    - Simplifying zoning rules for rooftop solar panels and permit fees for green installations
    - Hiring of an energy coach (Strategic Business Advisor) to support energy efficiency and low carbon options for development in the community

BACKGROUND:

The Town of Oakville is committed to climate action leadership to help accelerate greenhouse gas reductions and increase community resiliency. In the 2019 Climate Emergency resolution, staff were directed to report annually on climate change actions to:

1. Address the operations of the corporation of the municipality.
2. Identify the public's role in the climate crisis and the actions the community can do to fight climate change.
3. Embed a climate crisis lens into the Town's asset management program.
4. Incorporate climate change crisis policies into Livable Oakville, the Town's official plan.
5. Increase action and ambition for the Town's climate change crisis-related activities; and
6. Include performance metrics to track progress and timelines for achieving key deliverables/major milestones, and a strategy to report back publicly on progress of municipal and public efforts.

Tasks that support the delivery of these actions have been summarized for 2024 and can be found in **Appendix A.**

This report outlines actions that have been completed this year that are in alignment with the environmental sustainability strategic priority while capturing climate action efforts from program and service areas across the organization.

COMMENTS:

The Corporate Strategy and Government Relations (CSGR) department focused on strengthening coordination of climate action among program and service areas this past year. Staff from various programs and services have worked to keep the momentum of climate action response moving forward. The Climate Action team has worked closely with internal partners to embed climate considerations into ongoing and future work, continuing to reinforce climate action as an organizational priority and maintaining alignment with the Environmental Sustainability strategic priority from the Town of Oakville Council Strategic Plan and 2023-2026 Action Plan.

The town's climate action response extends beyond the CSGR department with many climate-related initiatives progressing this year, reinforcing climate action as an organizational priority to reduce greenhouse gas emissions and to ensure the town's services, operations, and infrastructure are resilient to the impacts of climate change. Achievements in 2023/2024 demonstrate the town's leadership and commitment to address the climate emergency.

Spotlight of achievements in 2024 for the organization include:

- Oakville Transit introduced 15 battery electric buses into its fleet in 2023, specifically for its specialized Ride On-Demand service. This has reduced the environmental impact of Oakville Transit by cutting down on diesel fuel consumption and lowering greenhouse gas emissions. Oakville Transit will be receiving 15 additional battery electric buses at the end of 2024. **(Oakville Transit)**

- Fourteen electric fleet vehicles were deployed to building inspectors in 2024. **(Building Services)**

- Oakville Trafalgar Community Centre received LEED Gold Certification for green excellence. (**Facility Services)**

- Two new electric ice resurfacers will be deployed by the end of 2024 as lifecycle replacement of natural gas units. Each electric ice resurfacer reduces GHG emissions by approximately 29 tonnes. **(Recreation and Culture)**

- Feasibility studies completed for Iroquois Ridge and Glen Abbey community centres, which are in the top 5 GHG-emitting facilities, to identify low-carbon retrofit opportunities. (**Facility Services)**

- The district energy feasibility study has been completed for the proposed Oakville hospital district area. **(CSGR)**

- Development of a corporate carbon and energy dashboard to identify the town's high GHG-emitting facilities and identify highest impact projects. (**Facility Services)**

- Continued addition of building controls to sites and optimization of energy use through said controls. (**Facility Services)**

- Oakville Fire updated its 2024 Emergency Plan to include climate mitigation measures and integrated climate considerations to asset management plans to increase resilience. This will reduce risks and opportunities related to emergency preparedness, mitigation, response & recovery. **(Oakville Fire)**

- Staff are working to transform the long-term capital planning process to embed climate considerations in planned and future work. **(Asset Management)**

- In collaboration with Planning and Development, the zoning by-law was amended (in 2023) to be less restrictive on rooftop solar panel installations since the Green Energy Act was repealed. **(Building Services)**

- Permit fees for green initiatives (such as solar panels) were reduced to a flat rate. **(Building Services)**

- In September, an energy coach (Strategic Business Advisor) position was filled to assist in developing a program focused on energy efficiency and low carbon options for development in the community. **(Building Services)**

- Continued work to improve the operational efficiency of our pools by reducing water, chemical, and energy waste. Digital platforms have been installed at Iroquois Ridge and Oakville Trafalgar pools that will mitigate risk as it tracks and optimizes pool performance continuously. **(Recreation and Culture)**

- Improving the inventory of cycling facilities in Oakville, using AI machine-learning technology to capture all bike lanes, signed bike routes, sharrows, and paved shoulders. Staff then established a standard operating procedure to transfer the information into a GIS database periodically. These efforts help build a solid foundation in the current asset of cycling facilities, to help maintain/expand the infrastructure, thereby encouraging more ridership. **(Transportation & Engineering)**

- Development of discussion papers to inform the town's ongoing Official Plan review that will put forward policy and project recommendations that address climate change through mitigation and or adaptation. **(Planning and Development)**

- Rejuvenating the Smart Commute program, in partnership with Milton, Burlington, Halton Hills and other municipalities in the GTHA, to promote sustainable modes of commuters amongst participating businesses in Oakville. **(Transportation & Engineering)**

- Completed a review of small gas-powered equipment for corporate and community use and deployed an annual education and awareness campaign encouraging residents to choose electric yard maintenance tools over gas-powered alternatives. **(CSGR)**

- Reviewed 2025 business cases for climate considerations to document process for next submission cycle. **(CSGR)**

Communicating Climate Action at the Town of Oakville

The Climate Story initiative started in Fall of 2023 with the purpose of improving the way the town shares information with the corporation and community on climate related projects. Staff completed four actions to improve communication on climate action:

1. **External Website Refresh**
   The town updated the external Environment webpage to include up to date and relevant information related to climate action. Residents can find information on the town's progress in responding to the climate emergency and improvements made in managing our carbon footprint and improving energy efficiency.

2. **Climate Action Initiatives in Oakville - GIS Map**
   The Climate Action Initiative Map was launched to help residents learn about climate action initiatives happening in the town. Staff from across the organization continue to update the map as projects with a climate solution begin.

3. **Climate Interactive House**
   Together with Halton Hills and Burlington, the town has launched the climate interactive house to promote education and awareness of how residents can take better charge of minimizing their carbon footprint and increase energy efficiency. The interactive tool promotes various ways residents can implement changes in their house and in their daily activities.

4. **Climate Action Internal SharePoint Hub**
   The Climate Action team has a new dedicated internal SharePoint page that will serve as a one-stop hub for climate action information. Staff will have access to the most current reports, engagement and outreach events, training opportunities and tools and resources to stay current on climate related topics.

An annual communications plan has been implemented to promote the climate action at the town.

Update on Task Force on Climate-Related Financial Disclosures (TCFD)

Staff continue to work on embedding climate considerations in our decision making processes while using the Task Force on Climate-Related Financial Disclosure framework as a guide to do so. Alignment with this framework will allow the town to incorporate climate-related risks and opportunities into risk management, strategic planning and decision-making processes to improve assessment of climate risk and impact on the town's assets.

The town's initial assessment completed by Manifest Climate in 2022 revealed that 19 of 39 actions were being disclosed. Staff had committed to completing six actions under the governance pillar of the framework shown in the table below.

	TCFD Area	Recommendation	Identified Gap
1	Governance	Establish a clear process to inform and enable management-level authority for climate matters	**No Gap: the town is publicly disclosing**
2	Governance	Establish a regular cadence for the Board review of climate-related matters	
3	Governance	Delegate appropriate and clear authority to promote management-level authority on climate matters	
4	Governance	Set up a documented process to govern the Board's oversight of climate-related risks, opportunities, goals, and targets	
5	Governance	Integrate climate-related matters into key areas of Board/Board Committee decision-making	
6	Governance	Assign clear responsibility for climate oversight with Board members	

The six actions were completed earlier this year, bringing the town's score up to 25 of 39 actions being disclosed, a 15% increase from last year. Alignment with the TCFD framework will continue into 2025 with staff building on governance and

focusing on the metrics and targets pillar of the framework. Staff are also developing a process to embed climate considerations in the 10-year capital plan in parallel with the budget cycle. This process will help to inform what the financial climate investment will be for planned work.

The Need for Oversight and Governance on Climate Related Initiatives

The Climate Change Advisory Committee (Committee), with support from the Executive Leadership Team (ELT), brings together staff from internal departments to develop strategic direction and collaborate to advance climate change action. The Terms of Reference for this committee was developed and approved by ELT which can be referenced in **Appendix B.**

The committee meets regularly to discuss active climate initiatives, providing expertise and sharing information, further embedding climate considerations and reporting to ELT twice a year on climate initiatives where feedback and direction may be needed. This committee is also focused on accelerating the reduction of GHGs and helps to streamline reporting and communicate progress towards achieving GHG reduction targets and increasing resiliency. The Committee to date has:

- Initial review and feedback on the town's participation in the carbon market, specifically the Federal Government's Clean Fuel Regulation Program, with additional recommendations to ELT to follow
- Reviewed the 2025 business cases for climate opportunities for the capital budget.
- Reviewed the 2026 capital forecast, applying a climate lens for climate opportunities and considerations.
- Support the development of a Sustainability Consultant Roster for specialized sustainability expertise to support climate projects/initiatives.

The Committee has shown improved collaboration to the climate action program and emerging topics while providing ELT and Council the opportunity to provide oversight and governance on climate action work moving across the organization.

Reviewing Climate Action and Sustainability Policy

Staff are currently reviewing the Environmental Sustainability Policy and associated procedures to ensure that the town's climate procedures are relevant and effective in our effort to respond to the climate emergency. Staff are focused on an Electric Vehicle Plan for the town, which will begin by setting out a procedure to guide staff on how to manage its existing EV charging infrastructure. As electrification of the town's fleet progresses, staff will look to develop a holistic Electric Vehicle Plan to address greening the town's fleet and small equipment in 2025.

Corporate Climate Resiliency Plans Integration with Town Program and Services

Climate Resiliency Action plans were developed for Facilities and Construction Management (FCM) and Recreation and Culture. Staff are currently working to implement the outcomes of the resiliency plans together with the support of FCM, Recreation and Culture and Communications. Staff are implementing the Facility Climate Communication Plan created to highlight the climate friendly features of town facilities. On-site signage for Oakville Trafalgar Community Centre is being designed and will be complimented and promoted via social media campaign later this year.

The development of the Oakville Special Event Plan is underway; from a climate perspective, the focus is on planning for increased incidents of extreme weather protocols. Staff will be applying a climate lens to all aspects of recreational programming to better understand the environmental impacts, promote natural resources conservation, waste reduction and diversion, air quality protection and extreme weather resilience.

Engagement and Resilience in partnership with Community Organizations

As the town continues to address climate adaptation efforts, staff continue to work with OakvilleReady, which is a program supported by eight community organizations, the Halton Environment Network as well as the town and regional climate and emergency management departments. This past year, the OakvilleReady collaborative worked to launch the Community Climate Action Grant awarding a total of $10,000 to support five projects that seek to increase climate resiliency. This grant received several applicants in its first year with projects addressing active transportation, urban forestry, biodiversity and more.

During Emergency Preparedness Week, OakvilleReady provided an opportunity for the community to hear from climate expert Dr. Blair Feltmate, who discussed climate resiliency measures to protect against flooding, extreme temperatures and high wind events. The OakvilleReady collaborative also hosted 70 Oakville Scouts at town hall to educate participants on the risks of extreme weather relating to climate change. Climate Action staff supported the Mayor's Youth Climate Action fund, an initiative supported by Bloomberg Philanthropies, providing funding to Oakville youth that are aspiring leaders in climate change solutions. Climate Action staff also participated in Oak Park Fall Fair, Generation Green, Fire Prevention Day and the Halton Children's Water Festival this year.

Education and awareness are an integral part of the climate action program and provides the opportunity for climate action staff to hear directly from the community on climate issues that matter most. The Town of Oakville continues to be a leader in

climate action ensuring a sustainable and livable community for generations to come.

CONSIDERATIONS:

(A) PUBLIC

There is no impact to the public with the receipt of this report.

(B) FINANCIAL

There are no direct financial implications to receiving this report although with continued review of the capital budget by the Climate Change Advisory Committee and embedding a climate lens to future project work, increases in budget for varying programs and services can be expected and that if needed, will be brought to Council during the budget process.

(C) IMPACT ON OTHER DEPARTMENTS & USERS

As the climate action program is further embedded into program and service areas, there may be updates to existing procedures and processes and development of new processes to support his work.

(D) COUNCIL STRATEGIC PRIORITIES

This report addresses the following Council strategic priorities: Environmental Sustainability, Accountable Government and Community Belonging.

(E) CLIMATE CHANGE/ACTION

This report depicts the climate action efforts driven by staff over the past year to address the Climate Emergency declared by Council which aligns with the town's long-term emission reduction goals and provides an opportunity to enhance and support climate change adaption and mitigation efforts.

APPENDICES:

Appendix A: Climate Action Program Plan
Appendix B: Terms of Reference – Climate Change Advisory Committee

Prepared by:
Alicia Lall, Corporate Strategy Program Advisor – Climate Action

Recommended by:
Swaraj Mann, Manager, Manager, Intergovernmental Affairs and Public Policy

Submitted by:
Julie Clarke, Director, Corporate Strategy and Government Relations

Appendix A: Climate Action Program Work Plan

Date: October 2024

1. Address the operations of the corporation of the municipality.

COMPLETED

- Build Business Cases for 2025-2028 Budgets
- Emergency Plan update & EOC training
- Include Climate Considerationsin Corporate Policy Toolkit

IN PROGRESS

- Develop and implement Corporate Climate Resiliency Plans
- Emergency Management Plan - Ongoing work and planning
- Land Acquistion Plan and Parkway lands
- Oakville Harbours Plan
- Urban Forest Management Plan

2. Identify the public's role in the climate crisis and the actions the community can do to fight climate change.

COMPLETED

- Community resilience in partnership with faith and community organizations
- Develop and launch Heat Pump Accelerator Program for Contractors (Funding)
- Explore Potential Ban on Two Stroke Equipment Council Report
- Mayors' Youth Grant
- Oakville Community Foundation Report
- Oakville Ready - community resilience - con't and expanded

IN PROGRESS

- Community of Practice - Contractors
- Community of Practice - Industrial
- Explore Partnerships with local utilities, leverage current market programs
- Future Energy Oakville Project Management
- Halton Childrens Water Festival
- OakvilleReady Community Climate Action Grant
- Promoting home energy retrofits through education & outreach and support energy efficiency opportunities for renovations and new builds
- Reviewing and updating the Community Energy Plan in partnership with community stakeholders
- Special Events Committee

3. Embed a climate crisis lens into the Town's asset management program.

COMPLETED

- Build Internal Climate Action SharePoint Website
- Prepare and develop TCFD Workshop for ELT

IN PROGRESS

- Aligning with recommendations from the Task Force on Climate-Related Financial Disclosures
- Electric Vehicle Plan
- Work towards TCFD integration and long term annual reporting

4. Incorporate climate change crisis policies into Livable Oakville, the Town's official plan

COMPLETED

- Evaluating and exploring opportunities for district energy (Oakville Hospital District)

IN PROGRESS

- Active Transportation, Urban Mobility, Transportation Master Plan
- Climate Action & Sustainability Policy Review
- Green Development Standards (Sustainable Design Guidelines for Corp blds)

5. Increase action and ambition for the Town's climate change crisis-related activities; and

COMPLETED

- Choose Electric Campaign: External Community Education and Awareness
- Community Engagement Education and Outreach
- Develop Climate Action Intiatives GIS Map
- Develop Internal and External Communication Plan for Education and Outreach
- Earth Hour (notice on Portico and external site)
- Earth Week - Internal Staff Education Awareness
- Update External Climate Change Website

IN PROGRESS

- Developing and Implementing a Low Carbon Mobility Plan

6. Include performance metrics to track progress and timelines for achieving key deliverables/major milestones, and a strategy to report back publicly on progress of municipal and public efforts.

COMPLETED

- Community Energy Strategy Implementation Update Council Report

IN PROGRESS

- CPIs - Community Performance Indicators
- Report regulary to Council on the Climate Emergency Progress Report - annually

Climate Change Advisory Committee (CCAC)
Terms of Reference

The Town of Oakville's Climate Change Advisory Committee (CCAC or Committee) has been assembled with the strong desire from the Executive Leadership Team (ELT) to have a coordinated response to the climate change emergency.

The Advisory Committee will bring together staff from internal departments to develop strategic direction and collaborate to advance climate change action at the Town of Oakville. Additionally, the establishment of the Advisory Committee addresses the outstanding actions needed to further align to the Task Force on Climate-Related Financial Disclosures (TCFD) framework under the governance pillar of the framework.

In late spring 2024, the Strategy, Policy and Communications (SPC) department will launch the CCAC that will work collectively to:

Purpose

- Establish a **coordinated organizational effort among staff while strengthening the coordination among program and services**.
- Facilitators will share information, plan and coordinate work, provide climate change guidance to the program area and **support reporting back to Council.**
- **Accelerate the reduction of greenhouse gas emissions** within all programs and services to support the town's 2030 reduction targets – 20% reduction in energy use and 30% reduction in carbon emissions.
- **Streamline reporting and communicate progress** towards achieving GHG reduction targets and increasing resiliency.

Scope

The advisory team will work with the Asset Management team as a first task while continuing ongoing conversations with each program area.

Advisory Committee staff in partnership with asset management staff will review individual programs and apply a climate lens and develop budget for climate considerations.

As projects are identified, Advisory Committee staff will help with identifying specific climate change projects that can be prioritized. Advisory Committee staff will help assemble business cases with management teams to ensure that the work is moved forward.

Once a specific climate change project is approved, the management team will support staff in program areas to carry out the project. Advisory Committee staff will gather and report on climate work that has been competed for input into the Climate Emergency Declaration Progress Report to Council.

The broader scope of the intended work for the committee will be to meet with internal staff in various program areas to have open dialogue about climate action opportunities, further embedding a climate lens within program areas while building capacity at an organizational level. **The main purpose will be**

for facilitators to connect with management staff identified by the commissioner to better understand where climate considerations are being implemented and where it can be applied.

Furthermore, the committee will assemble the **Climate Emergency Declaration Progress Report** that will be delivered to Council annually.

An outcome of the is exercise will be creating and documenting processes for how climate considerations are embedded in the town's programs and services, solidifying and layering in a climate lens in our business practices.

Roles and Responsibilities

Advisory Committee: will **provide recommendations** to management-level staff for awareness and direction, seeking ELT's direction where necessary.

Staff: will support members of the committee by fostering open dialogue and embrace ideas related to climate considerations

Executive Leadership Team (ELT): will focus on issues management, strengthening collaboration internally, and supporting mid to senior management to embed a climate lens in decision making.

Composition:

The establishment of the Advisory Committee will help broaden the climate network across the organization and build capacity on climate-related initiatives. The committee and SPC have separate purposes and function independently from each other. SPC has a climate change workplan with project and initiatives that will be supported by the committee. SPC will facilitate the Advisory Committee and continue to manage its own projects and initiatives separately.

The Advisory Committee will be compromised of the following sections:

- *Facilitators* – the town's dedicated climate action staff
- *Committee Members* – **Directors/Managers** from select programs areas that are carrying out climate change initiatives.
- *Steering Committee* – Executive Leadership Team
- *Council* – Council Members

The Facilitators will include eight climate staff members who will represent the Commissions.

- Corporate Strategy Program Advisor, Strategy, Policy & Communications
- Senior Climate Officer, Strategy, Policy & Communications
- Climate Officer, Strategy, Policy & Communications
- Energy Solutions Manager, Facilities and Construction Management
- Environmental Planner, Planning
- Policy Planner, Planning
- Manager, Transportation Planning
- Manager, Asset Management
- Manager, Infrastructure and Asset Management Planning

Background

Climate action work that is being carried out throughout the organization will be streamlined to address the six climate change actions resulting from the declaration of the Climate Emergency in 2019. The six actions are:

1. Address the operations of the corporation of the municipality.
2. Identify the public's role in the climate crisis and the actions the community can do to fight climate change.
3. embed a climate crisis lens into the Town's asset management program.
4. Incorporate climate change crisis policies into Livable Oakville, the Town's official plan.
5. Increase action and ambition for the Town's climate change crisis-related activities; and
6. Include performance metrics to track progress and timelines for achieving key deliverables/major milestones, and a strategy to report back publicly on progress of municipal and public efforts.

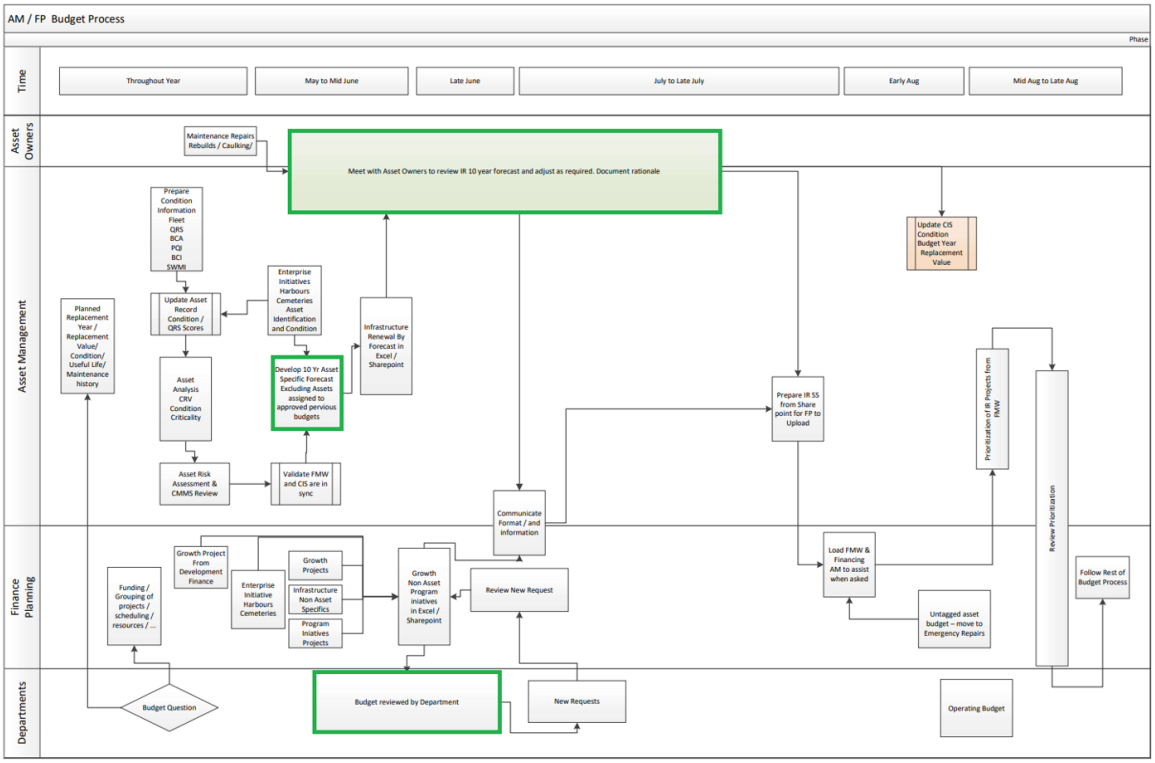
The Advisory Committee has three roles – planning, implementation, and reporting. Facilitators will meet with managers to support the planning and implementation of climate action initiatives and gather insight that will inform the annual Climate Emergency Declaration Progress report that is delivered to Council. Facilitators will also be able to offer guidance on climate initiatives where needed.

Business Process

Asset Management and Finance have developed a combined process that integrates the financial planning cycle with the asset management planning process. Synchronizing these processes allows for reduced financial risk when planning for the longevity of the town's assets. Applying a climate lens to this process mitigates potential financial risks to the town's assets posed by climate change and allows identification of climate-associated costs as part of the capital planning process.

The facilitators will assist asset management, finance and asset owners with the application of the climate lens to the following areas as outlined in the AM/FP Budget Process:

- Department: Budget Reviewed by Department
- Asset Management: Develop 10 Yr. Asset Specific Forecast Excluding Assets assigned to approved previous budgets.
- Asset Management / Asset Owners: Meet with Asset Owners to review IR 10 year forecast and adjust as required. Document Rationale.



Term:

The initial term will be a two-year term. The Advisory Committee will be facilitated by staff in the Strategy, Policy and Communications Department. At the end of the first year, committee members will convene to reflect and make recommendations on improvements that can be made to improve the value of the Advisory Committee.

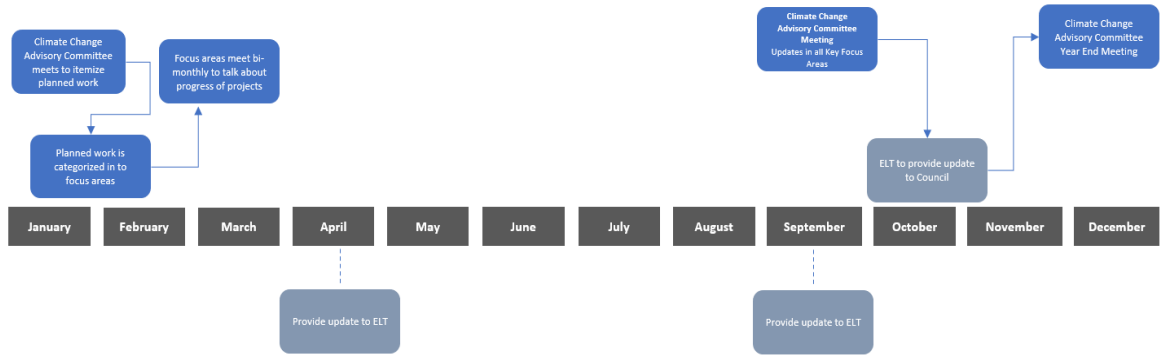
Time Commitment

The Advisory Committee will meet quarterly to share updates and insights to ongoing climate-related project work. Bi-annual updates on the progress of climate initiatives will be shared with the Steering Committee. These meetings will provide the Steering Committee the opportunity to hear from staff on projects underway, successes and challenges that are experienced and at times. **The directors/managers will deliver their respective sections of the annual Climate Emergency Declarations Progress Report to Council**, or as needed to provide updates on the progression of climate-related initiatives at the Town.

Prioritizing Climate Change Initiatives at Oakville

Implementation of climate-related solutions at the Town will be at the discretion of the management team, with guidance and support from the Steering Committee.

Process Map for Embedding and Prioritizing Climate Change Initiatives



Reporting on Climate Change Action

The Committee will facilitate a coordinated effort and formalize a process on how the Town reports on climate change action. The **recommendation** is to continue reporting to Council annually, with **ELT bringing forth the Climate Emergency Declaration Progress Report** which would address progress on the six goals of the climate emergency, reduction of energy use and carbon emissions, and provide a broader update on significant climate change initiatives taking place at the town addressed through the committee.

Reporting on Climate Change Action

The Corporate Strategy and Government Relations department will lead the development of the Climate Emergency Declaration Report, with contributions from the Advisory Committee. The report will highlight climate action work that has progressed throughout the organization and will be presented to Council annually.

REPORT

Council

Meeting Date: October 21, 2024

FROM:	Facilities and Construction Management Department
DATE:	October 8, 2024
SUBJECT:	**Energy and Emissions of Town Owned Buildings 5-Year Plan**
LOCATION:	Town-wide
WARD:	Town-wide

RECOMMENDATION:

That the Energy and Emissions of Town Owned Buildings 5-Year Plan (the Conservation and Demand Management Plan) be received.

KEY FACTS:

The following are key points for consideration with respect to this report:

- The Conservation and Demand Management (CDM) Plan for 2025-2029 (Appendix A) guides the actions of staff to progress toward climate goals related to town owned buildings.
- This is the third iteration of a 5-year Conservation and Demand Management (CDM) Plan, mandated by provincial regulation O.Reg 25/23.
- The town maintains a robust energy management program, implementing numerous cost-effective initiatives that have achieved 10% reductions on average compared to the 2015 baseline.
- The new CDM Plan encompasses three key components: (1) Energy efficiency improvements; (2) Standardize decarbonization in design of new buildings and retrofits; and (3) Explore renewable energy when cost-effective.

BACKGROUND:

The Conservation and Demand Management (CDM) Plan is a 5-year plan for reducing energy use and emissions at town-owned buildings (see Appendix A). This is mandated by provincial regulation O.Reg 25/23. The town created plans for 2015-2019, 2020-2014 and now in 2025-2029.

As part of the town's 2023-2026 Strategic Plan, the priority Environmental Sustainability has a key focus area of climate change mitigation. In 2022 Council adopted a Net Zero Carbon target by 2050 for all corporate activities.

The next 5-year period is very important in making strides toward the goal of Net Zero by 2050. The new CDM Plan identifies strategies for incremental energy reductions and cost-effectively standardizing construction practices that will result in substantial impacts on the town's total emissions. Decarbonization refers to the process of reducing or eliminating carbon emissions from day-to-day operations. This involves reducing energy use and transitioning to electric heating (air source heat pumps, geothermal systems, etc.) in place of standard natural gas systems. Ontario generates low-emission electricity, but electricity costs more than natural gas, which can make it challenging to cost-effectively implement projects that make the largest gains toward decarbonization. The town's transition to electric-based facilities must be strategically implemented over time.

Energy efficiency improvements include advanced building controls, equipment recommissioning, insulation, air tightness, heat recovery, and usage reduction. These cost-effective initiatives enhance comfort and wellness while extending the lifespan of capital assets. Incremental energy efficiency measures are cost-effective with relatively short payback periods. Implementing these types of projects has led to an average 10% reduction in GHG emissions from the 2015 baseline, even with a 9% increase in the total square footage of the town's facilities. To make more impactful changes, with respect to energy efficiency and support the transition to a low carbon pathway, higher levels of investment and longer payback periods may be required.

Standardizing decarbonization for new builds and retrofits will be strategically aligned with asset renewal timelines. Many replaced assets will still be operational by the 2050 net zero target. Over the next 5-10 years, complete building replacements and major retrofits for facilities responsible for nearly 75% of the town's carbon emissions are planned. If these replacements are like-for-like without decarbonization measures, making necessary changes before 2050 will be challenging and costly.

Facility Services will analyze the costs and benefits of updating the Sustainable Building Standards to enhance carbon reduction, guided by the principles in the Asset Management Plan. This includes assessing the effects of adding the Zero Carbon Building (ZCB) Certification requirement in addition to the current LEED Silver standard. The updated standards will also consider factors like embodied carbon and how buildings can withstand climate risks such as extreme weather. The findings of this analysis will be shared with Council in 2025, and staff will be seeking direction on a preferred approach.

Renewable energy like solar, wind, and batteries are being explored. Even though a large solar PV system has been successfully installed at the Oakville Trafalgar Community Centre, relying solely on rooftop solar will not achieve net zero for the corporate building portfolio. However, with renewable energy costs expected to decrease, future investments will benefit the town's budget. The current CDM plan will focus on improving building design to reduce energy usage and incorporate infrastructure that will facilitate the integration of future renewable energy systems.

The above points are addressed in the CDM Plan to guide the town's activities over the next 5 years on how to reduce energy and greenhouse gas emissions.

CONSIDERATIONS:

(A) PUBLIC

There is no impact to the public with the receipt or discussion of this report.

(B) FINANCIAL

There are no direct financial implications to approval of the CDM Plan. A Council report will be brought in 2025 to consider options for an updated approach to the Sustainable Building Standards and any associated budget impacts related to the options.

(C) IMPACT ON OTHER DEPARTMENTS & USERS

Facility Services will continue to liaise with various departments to identify and implement actions that reduce energy and emissions through how the buildings are used. Facility Services will work closely with Asset Management and Finance to investigate the best path forward for reducing greenhouse gas emissions in construction practices and facility operations. The Climate Change Advisory Committee will be engaged to review and advise as needed.

(D) COUNCIL STRATEGIC PRIORITIES

This report addresses Council's strategic priority: Environmental Sustainability.

(E) CLIMATE CHANGE/ACTION

This report addresses highly important activities for achieving climate change goals.

APPENDICES:

Appendix A: Town-Owned Buildings Energy and Carbon Plan 2025-2029

Prepared by:
Nathaniel Magder, Energy Solutions Manager

Recommended by:
Kendall Wayow, Director - Facility Services

Submitted by:
Paul Damaso, Commissioner - Community Services

Appendix A

OAKVILLE

Town-Owned Buildings Energy and Carbon Plan

2025-2029

Plan prepared by:

Town of Oakville Facility Services Department

Approved by:

Paul Damaso, Commissioner, Community Services

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1.0 Executive summary

As a growing lakeside community of 234,000 in Southern Ontario's Greater Golden Horseshoe, the Town of Oakville has a demonstrated longstanding commitment to sustainability. The wise use of energy resources and a commitment to reduce greenhouse gas emissions is consistently supported by Council and Senior Leadership.

In 2019, Town Council passed the **Climate Emergency Declaration** resolution and set forth commitments to continue, and increase, efforts to mitigate and adapt to the impacts of climate change. Council has reinforced this commitment by including Environmental Sustainability as a Strategic Priority of the **Town of Oakville Council Strategic Plan (2023-2026)**. This Priority specifically highlights the need to reduce greenhouse gas (GHG) emissions and conserve energy across municipal facilities and operations.

This Energy and Carbon Plan has been created using the input of various reports created for staff by external consultants including a Low Carbon Roadmap, a Renewable Energy Strategy, and several Deep Energy Retrofit reports, among others. Ideas generated from these third-party experts, along with internal stakeholders, has led to the proposed direction for the next five years of energy and carbon management at Oakville.

The **Town-Owned Buildings Energy and Carbon Plan (2025-2029)** was prepared in compliance with *O. Reg. 25/23: Broader Public Sector: Energy Reporting and Conservation and Demand Management Plans.* It is the third iteration of provincially regulated requirements to create energy management plans on a five-year renewal timeline. The nomenclature for the plan is referred to in regulation as the Conservation and Demand Management (CDM) Plan and is sometimes referred to as such in this document.

The 2025-2029 Plan:

- Provides a framework for energy and carbon reduction at town facilities for the next five years.
- Provides data on energy use and carbon emissions.
- Summarizes the current state and highlights exemplary projects undertaken in the last five-year CDM period.

2.0 Oakville's Commitment and Legislative Requirements

2.1 Oakville's Commitment to Environmental Sustainability

The Town's strong commitments to the environment and climate change is longstanding and is supported by publicly available documents and the Town's memberships in various initiatives.

These include:

- Livable Oakville - Official Plan
- Vision 2057 - Sustainable Community Framework
- Council's Strategic Plan (2023-2026)
- Climate Emergency Declaration (2019)
- Conservation and Demand Management Plans (2014 and 2019)
- Climate Change Strategy (2014)
- International Council for Local Environmental Initiatives (ICLEI) Local Governments for Sustainability
- Future Energy Oakville
- Sustainable Design Guidelines
- Sustainable Building Design Procedure
- Sustainable Green Fleet Procedure
- Sustainable Purchasing Procedure

2.2 Vision for 2050

Town Council adopted the following short and long-term GHG emissions targets for town-owned buildings:

- **Short-Term:** Reduce GHG emissions by 30 per cent and energy use by 20 per cent below 2015 levels by 2030
- **Long-Term:** Net Zero GHG emissions by 2050

2.3 Provincial Legislation and Oakville's Compliance

The Town of Oakville has reported its annual energy consumption and GHG emissions to the Ministry of Energy, Northern Development and Mines since 2014, as per O.Reg. 507/18 under the *Electricity Act 1998*. Ontario Regulation 25/23 (O. Reg. 25/23) replaced O. Reg 507/18 in 2023. All previous reports, as well as this year's report and the 2014 and 2019 CDM Plan, are posted to the Town of Oakville's website.

In accordance with O. Reg 25/23, the Town of Oakville has developed and published a plan to implement energy conservation and demand management initiatives over a five-year period. Including:

1. *A summary of annual greenhouse gas emissions for each of the public agency's prescribed operations, which shall be included in the summary of the public agency's annual energy consumption required under paragraph 1 of subsection 25.35.2 (3) of the Act.*
2. *A description of the results of previous activities and measures to conserve the energy consumed by the public agency's prescribed operations and to otherwise reduce the amount of energy consumed by the public agency, including by employing such energy conservation and demand management methods as may be prescribed.*
3. *The cost and saving estimates for the public agency's current and proposed activities and measures referred to in paragraph 2 of subsection 25.35.2 (3) of the Act.*
4. *A description of any renewable energy generation facility operated by the public agency and the amount of energy produced on an annual basis by the facility.*
5. *A description of,*
    i. *the ground source energy utilized, if any, by ground source heat pump technology operated by the public agency,*
    ii. *the solar energy utilized, if any, by thermal air technology or thermal water technology operated by the public agency, and*
    iii. *the proposed plan, if any, to operate heat pump technology, thermal air technology or thermal water technology in the future.*
6. *The estimated length of time the public agency's current and proposed activities and measures referred to in paragraph 2 of subsection 25.35.2 (3) of the Act will be in place.*
7. *A confirmation that the energy conservation and demand management plan has been approved by the public agency's senior management.*

3.0 Energy and Carbon Data

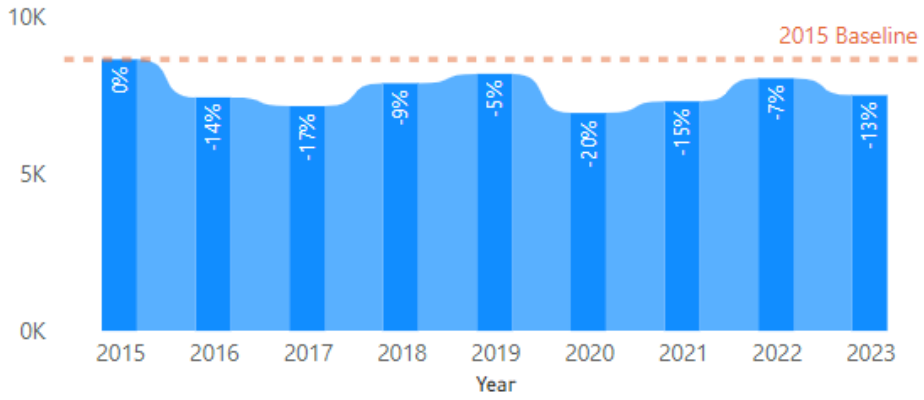
Ontario Regulation 25/23 requires all Broader Public Sector institutions to report on their energy use annually. The graphs and tables presented in this section provide information on the Town's energy use, costs and GHG emissions in the most recent reporting year energy information was reported to the Ministry.

As of 2024, the town operated 122 buildings totaling 2.3M square feet. The town also operated 16,500 streetlights, 16 splash pads, 38 parks with a range of amenities (including seasonal parks buildings), parking meters and other outdoor infrastructure. In 2023, the town spent $6.8M in utilities and had scope one and two emissions of 7.5M tonnes of carbon dioxide equivalent (tCO_2e).

Figure 1 presents the annual greenhouse gas emissions (GHGs) trend from all town sources since baseline year 2015[1]. Overall, GHG emissions decreased and then remained stable with a significant dip in 2021 attributed to the COVID-19 pandemic.

The trend shows that more aggressive actions are still required to achieve to the town's short term carbon reduction goal of 30% reduction by 2030. In budget years 2022 and 2023, Council approved funding for initiatives (geothermal, recommissioning, sustainable design standards, etc.) that will result in decrease of GHG emissions. However, the impact of these initiatives will not be visible in the overall emissions data for a few years.

Figure 1: Annual Greenhouse Gas Emissions Baseline Year to Present



[1] Baseline year shifted from 2014 to 2015 since last CDM Plan. The rationale was that 2015 is more reflective of standard operating conditions since it was the first year when all coal-powered generating facilities on the Ontario grid were fully offline. The higher grid emissions factor including coal generating plants confuses a decreases in GHGs resulting from Town operations alone.

Figure 2: Annual Energy Use Baseline Year to Present

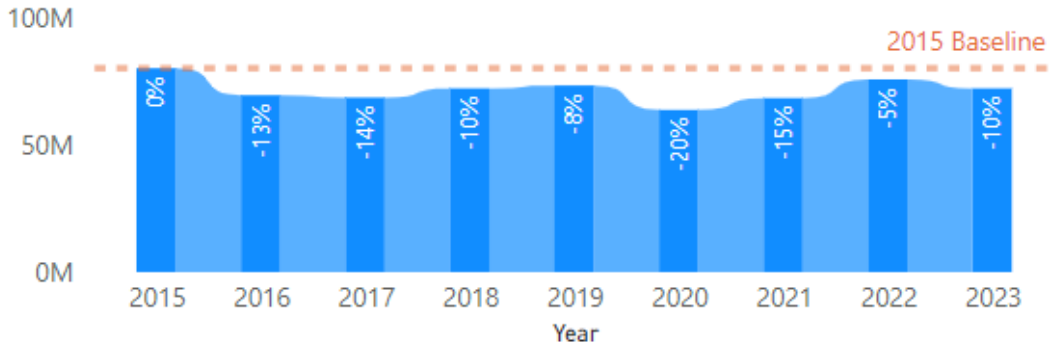
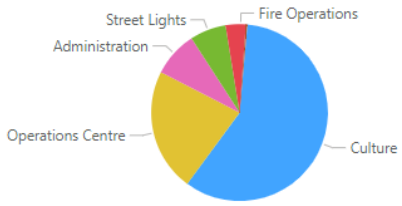


Figure 3 illustrates the distribution of energy consumption, utility costs and greenhouse gas emissions for each category of facility types.

The below charts show that Culture facilities – including community centres, arenas, museums, art galleries, parks, etc. – are the major driver of both cost and GHG emissions. Electricity-only loads, such as streetlights, are high in cost but low in GHG emissions. This showcases a key challenge in decarbonizing, that electricity is low in carbon impact in Ontario but higher in cost.

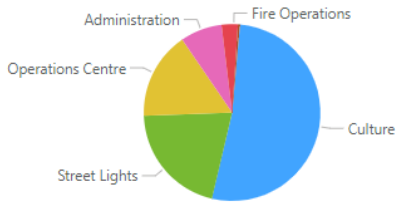
Figure 3: Energy, Cost and Greenhouse Gas Emissions by Category 2023

Energy (ekWh)



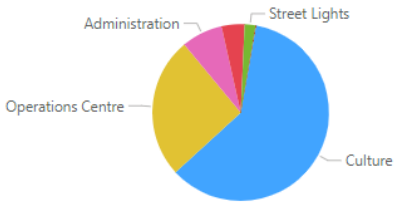
Facility Type	Energy (ekWh)
Administration	5,435,341
Culture	38,464,712
Fire Operations	2,407,280
Operations Centre	14,710,434
Parking Garages	170,687
Street Lights	4,332,451
Total	**65,520,905**

Cost ($)



Facility Type	Cost
Administration	$500,349
Culture	$3,428,495
Fire Operations	$194,612
Operations Centre	$1,049,823
Parking Garages	$22,819
Street Lights	$1,359,623
Total	**$6,555,721**

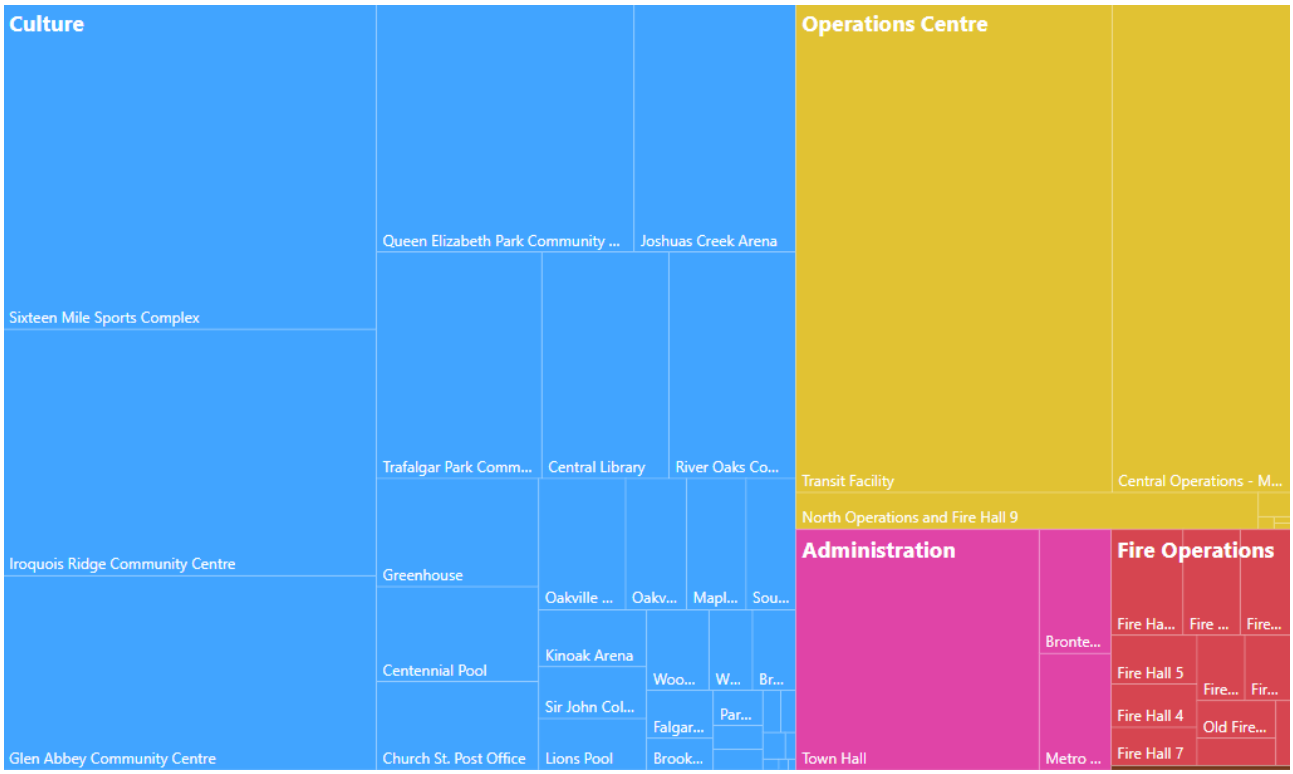
GHGs (tCO2e)



Facility Type	GHGs
Administration	491.35
Culture	3,943.60
Fire Operations	274.99
Operations Centre	1,681.25
Parking Garages	5.12
Street Lights	129.97
Total	**6,526.29**

Figure 3 breaks out the specific buildings in the Town's portfolio that drive the majority of GHG emissions. The major emitters are large-sized community centres with pools and arenas. These systems require significant natural gas and electricity to heat water, cool ice and dehumidify specialized use spaces. Other large emitting facilities include Operations Centres, where high levels of air exchange are required to maintain air quality when vehicles are operated indoors.

Figure 4: Greenhouse Gas Emissions by Facility



4.0 Current State and Activities from 2020-2024

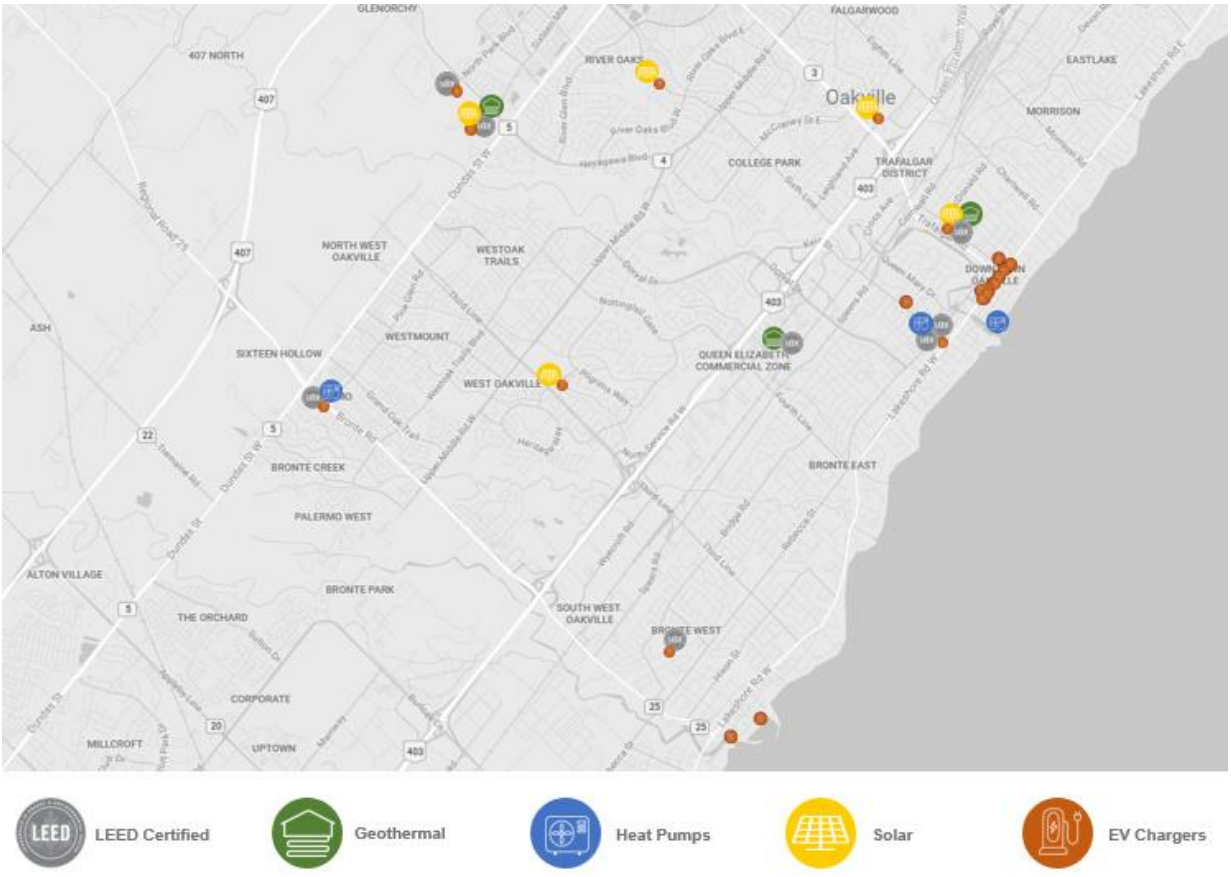
4.1 Current State

The Town has been striving to be a leader in energy efficiency and low-carbon solutions for some time and has achieved many successes. Key infrastructure includes:

- 6 LEED® Silver Certified facilities
- 2 LEED® Gold Certified facilities
- 3 Geothermal Heating/Cooling Systems
- 4 Air-Source Heat Pump Heating/Cooling Systems
- 5 Sites with Solar Panels (1 town-owned, 4 town-hosted)
- 20 EV Charger Locations supplying a total of 62 Charging Ports

Figure 4 shows a map of key infrastructure related to energy management and decarbonization.

Figure 5: Map of Key Sustainability Projects



4.2 Overview of Progress Over the Last 5 years

The timeframe of the last CDM Plan (2020-2024) represents a substantial change in strategy for the Town of Oakville. There is a transition from a focus on projects prioritizing a quick financial payback to initiatives that make a larger, long-term impact on GHG reductions. Since the Town is committed to owning and operating facilities for the long-term, quick paybacks are not the only determining factor. Larger investments often return larger savings over the long-term, even if the break-even timeline is not as short. Therefore, the financial benefit to the Town can be just as good if not better.

Consistent with industry best-practices from over the last twenty years, activities previously were focused on conserving initiatives that saved electricity (LEDs, VFDs) or tweaked energy use by optimizing building controls. Electricity-saving projects can provide great paybacks, but offer little in GHG emissions reductions, since Ontario's electricity grid is already so clean[2]. Optimization of building controls are more wholistically beneficial because they save on both cost and carbon, but to be effective requires dedicated staff time dedicated to catching areas of waste and quickly fixing them.

Over the last 5 years, following from Council's Declaration of Climate Emergency in 2019, the Town has grown the Energy Management team by adding a BAS Specialist and an Energy Data Analyst. These dedicated staff resources plus a greater commitment to funding capital projects are expected to result in the most significant decrease in GHG emissions the Town has experienced to date.

4.3 Key Successes 2020-2024

The Town of Oakville has been a leader in piloting new energy management technologies and, when found to be successful, deploying them more widely as part of standard operations.

The following section will describe key energy efficient and low-carbon technology deployments at the Town:

4.3.1 Geothermal

Sixteen Mile Sports Complex (expected completion 2025)
Set to be the flagship recreational facility for the Town of Oakville, this existing 155,000 sq ft 4-pad arena is being coupled with an 88,000 ft^2 full-service community. The facility

[2] IESO: Ontario's Electricity Grid, Supply Mix and Generation - https://www.ieso.ca/Learn/Ontario-Electricity-Grid/Supply-Mix-and-Generation

addition will include a pool, a library, a gymnasium, and community spaces. The geothermal borehole field is already completed and is expected to be able to meet the energy needs of the new addition plus a partial load of the existing facility.

Oakville Trafalgar Community Centre

The first facility built by the Town where the HVAC system was entirely supplied by a ground-source heat pump (geothermal). The GHG emissions are 90% lower when compared with a similar gas heated facility in the Town's portfolio. Using the ground as a source of heat exchange creates such a high level of energy efficiency (~60%) that even with the higher cost of electricity, compared to gas, overall utility bill savings are still being achieved.

Transit

Oakville Transit's main operations centre has a geothermal field sized for partial load of the building. The system has been operating since 2016 with no major issues.

4.3.2 Solar

Town-owned

The Town completed its first outright purchase of a solar system array on top of the Oakville Trafalgar Community Centre. Covering both the community centre roof and adjacent parking structure, over 1,300 panels offset 43% of the facility's energy requirements and reduce GHG emissions by 19.9 tonnes.

Roof-leased

In partnership with the town-owned electric utility (Oakville Electric Company) the town is host to solar PV systems on rooftops at five of our facilities: Glen Abbey Community Centre, River Oaks Community Centre, Sixteen Mile Sports Complex, Town Hall, and Oakville Hydro. Together, these systems have a total generating capacity of 1,500 MWh which, reduces GHG emissions by 45 tonnes.

Solar-ready

To continue to enable future adoption of clean energy, new facilities currently in the design phase, will include the infrastructure to allow for solar PV to be added in the future. This includes structural and electrical capacity that, if not added at the time of construction, would make the addition of future solar cost prohibitive. Sixteen Mile Sports Complex and Firehall 9 are planned to be solar-ready to allow the Town to add solar when it becomes most appropriate.

4.3.3 Heat Pumps

Oakville Museum

The Town has been operating air-source heat pumps at the 6,600 sq ft Oakville Museum site since the 2012. The site is a designated Heritage building and gas service was not an option. Town staff have been able to gain experience with air-source heat pump technology to solve any issues that have arisen. The site was added to the Building Automation System (BAS) network in 2023, which will allow us to improve efficiency and monitor any issues as the heat pump units age.

Firehall 3 & 8

The two newest fire stations achieved LEED Silver certification. A Variable Refrigerant Flow (VRF) heat pump system is used with natural gas backup for colder days.

Feasibility Studies

Feasibility studies are currently being undertaken for Glen Abbey Community Centre, Iroquois Ridge Community Centre, and Gairloch Galleries to evaluate the use of heat pumps. Natural gas will still be considered for lower temperatures, to ensure no disruption to operations in case of extreme cold and to be cost effective with respect to utility costs.

4.3.4 LEED Certified Buildings

The town has integrated sustainable building design characteristics into several of our facilities by mandating a minimum requirement of LEED® Silver certification for all new buildings. Certified buildings to date include:

- North Operations Depot (LEED® Silver)
- Oakville Fire Station 3 (LEED® Silver)
- Oakville Fire Station 8 (LEED® Silver)
- Oakville Trafalgar Community Centre (LEED® Gold)
- Oakville Transit (LEED® Silver)
- Queen Elizabeth Cultural and Community Centre (LEED® Silver)
- Sixteen Mile Sports Complex (LEED® Gold)
- Trafalgar Park Community Centre (LEED® Silver)

LEED design goes beyond conserving energy to include best-practice design for indoor environmental quality, embodied carbon, water, waste, and more.

4.3.5 Rink Water Treatment

Oakville trialled an ice rink water treatment system at Sixteen Mile Sports Complex in 2020 and found success in lowering the ice resurfacer water temperatures without any impact to

ice quality. The project was then replicated across the five other rink facilities the Town owns and operates.

Energy and cost savings were realized from both the natural gas used to heat up the water and a reduction in rink compressor electricity from not having to cool the ice as much when hot water is applied. The estimated payback for this system was less than two years.

4.3.6 LED Lighting and Other Energy Efficiency Projects

The town has been consistently upgrading all lighting to LED as equipment reaches end of life. At this point, 62% of interior spaces owned and operated by the Town is converted to LED. Other projects include BAS upgrades, HVAC unit replacements with more efficient equipment, and more. Figure 5 shows estimated annual savings from such projects.

Figure 6: Other Energy Efficiency Project Savings

Year	Project Name	Energy Savings (ekWh/yr.)	Cost Savings ($/yr.)	GHG Reductions (tCO2e/yr.)
2019	Glen Abbey CC Rink Lighting	21,360	3,204	0.6
2019	Iroquois Ridge CC Library and Gym Lighting	58,417	8,763	1.8
2019	Oakville Transit Facility RTU Upgrade	275,600	8,580	49.4
2019	Queen Elizabeth Park CC Theatre Lighting	2,673	401	0.1
2019	Town Hall BAS Upgrade	465,472	30,063	63.9
2019	Town Hall Lighting	59	9	0.0
2020	Rink Water Treatment (3 sites)	494,633	46,508	49.6
2021	Cornwall Road Salt & Sand Lighting	10,121	1,518	0.3
2021	Glen Abbey CC Gymnasium Lighting	67,708	10,156	2.0
2021	Iroquois Ridge CC Library Lighting	58,417	8,763	1.8
2021	Kinoak Arena Lighting	40,427	6,064	1.2
2022	Central Operations Centre Office Lighting	110,148	16,522	3.3
2023	Central Operations Centre Exterior Lighting	35,044	5,257	1.1
2023	Rink Water Treatment (2 sites)	240,459	23,040	23.6
2023	Maplegrove CC Lighting	39,106	5,866	1.2
2023	River Oaks CC Refrigeration Plant	141,120	21,168	4.2
2023	Town Hall Server Replacement	142,108	21,316	4.3
2024	Iroquois Ridge CC Interior Lighting	115,154	17,273	3.5
2024	Transit Facility Lighting	477,271	71,591	14.3
		2,795,296	**306,061**	**226**

4.3.7 Submetering

Collecting data on large energy-consuming equipment is essential for understanding where savings can be achieved before deciding to implement a project and how much savings are achieved once a project is implemented. Submetering needs to be done

sooner rather than later in the energy management journey, as it is impossible to go back in time and understand data if you have not collected it in the first place.

The Town has implemented submetering at several facilities and is committed to continuing to do so.

Figure 7: Progress toward energy submetering at Town facilities

Oakville Trafalgar CC	Iroquois Ridge CC	River Oaks CC	Town Hall	Transit	Glen Abbey CC	Queen Elizabeth Park CC	Trafalgar Park CC	Sixteen Mile Sports Complex	Joshua's Creek Arenas
Fire Hall 2	Iroquois Ridge Branch	White Oaks Branch	Central Library	Central Operations	Glen Abbey Branch	Sir John Colborne	TP Outdoor Rink	Sixteen Mile Branch	Maplegrove Arena
Gairloch Gardens	Fire Hall 7	Oakville Centre for the Performing Arts	Former Fire Hall 3	Fire Training Campus	Oakville Gymnastics	Fire Hall 1	Woodside Branch	North Ops	Kinoak Arena
South -East Depot	Clearview Branch	Uptown Core	Church St. Post Office	Fire Prevention	Palermo School House	Bronte Convention Centre	Museum Buildings	Centennial Pool	Brookdale Pool
Greenhouse	White Oaks Pool	Hydro	Parking Garage	Fire Hall 5	Fire Hall 8	Bronte Heritage Park	Fire Hall 3	Bronte Beach Park	Wedgewood Pool
Former OT High School	Melvin House		Fire Hall 4	Bronte GO Trailer	Fire Hall 6	Bronte Tennis Club	TOWARF Harbours	Bronte Athletic Park	Falgarwood Pool
Cornwall Road Sports Park	Lafrentz Road		Oakville Scout Shop	Third Line Pump Stn	Oakville Soccer Club	Sovereign House	Lawn Bowling Club House	Tannery Park	Bronte Pool
Wallace Park	Whitehall Homes			1094 Third Line House		Bronte Outer Harbour Marina Office	Thomas House	Coronation Park Stonehouse	Lions Pool

4.3.8 Strategic Initiatives

In addition to retrofitting equipment, many measures were taken to enable staff to implement future energy and carbon projects. This work, from the last CDM plan period, will continue to underpin the success of initiatives over the next 5 years. This includes:

- Hiring a BAS Specialist to ensure ongoing optimum performance.
- Procuring a BAS Preventative Maintenance contract for annual PM site visits.
- Procuring BAS integrated monitoring and analytics platform.
- Creating internal standards for lighting levels and thermal comfort.
- Installing submetering at various sites (see Figure 7).
- Requiring for minimum certification of LEED Silver for all new buildings.
- Applying a mandatory consideration of using a Climate Lens when creating SOPs.
- Retro-commissioning studies completed at 6 major facilities.
- Air balancing projects completed for energy efficiency, indoor environmental quality, and thermal comfort.
- Commissioning a *Low Carbon Pathway Report* and *Deep Energy Retrofit Studies* to influence future design.
- BAS training provided to operators.
- Collaborating with the Town's Climate Committee.
- Working with Operations Staff to identify energy opportunities.

- Releasing Climate Primer document to the public when the Climate Emergency Declaration was made by Council.

4.4 Notes on Operational Impacts 2020-2024

COVID-19

As with all organizations, the COVID-19 pandemic was a major disruptive event to operations. The majority of Culture facilities were closed from March 13, 2020 until late-2021 and only partially opened at that time. Much of the energy management staff efforts were put on hold and staff resources redirected to supporting pandemic management.

Air quality in building spaces became a key requirement and impacted energy through adding load for treating more fresh air. Filtration mediums were increased to prevent viral spread, increasing resistance to airflow and putting further energy requirements on fan loads. Even with these greater HVAC requirements, the Town was still able to achieve significant reductions in 2021 by re-programming HVAC to shifting operating schedules.

Infrastructure and Operational Growth

As with other municipalities in the Golden Horseshoe region, Oakville is undergoing population growth and requires growth in services to continue to uphold a high standard of community infrastructure. To meet this requirement, the Town's managed footprint grew by 9% from 2015-2022. On top of this, facilities have been required to provide longer use hours to keep up with demand. Infrastructure growth adds a greater challenge to reducing energy and carbon reduction on whole. The Town's focus on ensuring new buildings are getting as close to possible to net zero emissions is a key mitigation strategy.

4.5 Lessons Learned from Last CDM Period

The Town strives for continuous improvement in all aspects of operations. To improve we must reflect on key lessons-learned at each planning renewal milestone.

Time to move from generalized energy studies to detailed planning: While the numerous energy studies carried out have been extremely insightful in generating ideas for energy efficiency and decarbonisation, it is time to move more aggressively to implementation. This means using lessons from these studies and integrating with asset renewal cycles. Instead of commissioning energy audits to generate ideas, the Energy Management team will focus on Feasibility Studies (Pre-Design Phase Studies) to identify exactly which technologies and design will be utilized for the Detailed Design Phase.

Focus on asset management renewal alignment: When renewing buildings or equipment, the lifespan of the new assets is expected to last out to or beyond the 2050 timeframe, which governments broadly have set as the target to achieve net zero carbon emissions. It is vital that new assets are considering designs that either achieve net zero carbon emissions or allow for future low-cost conversion to net zero.

Solar is not a silver bullet: While renewable electricity from solar provides relatively good payback and is a visible indication to residents of the Town's commitment to sustainability, Ontario's extremely low-carbon electricity grid means that the carbon impact of offsetting grid electricity is relatively low. Higher impact reductions are found in converting from using natural gas for heating to electricity for heating.

Operational energy efficiency needs rigorous data feedback to sustain savings: The operators at the Town have adopted many strategies to curb energy waste through management of BAS schedules and monitoring for inefficient programming. The hiring of an in-house BAS Specialist has drastically reduced temperature and humidity issues in the spaces and caught many energy waste issues at their root. To improve even further, data feedback loops are necessary to inform operators of how their sites are performing. Numerous options are being explored, including the use of AI and machine learning to regularly scheduling in-house BAS recommissioning.

5.0 What We Are Planning 2025-2029

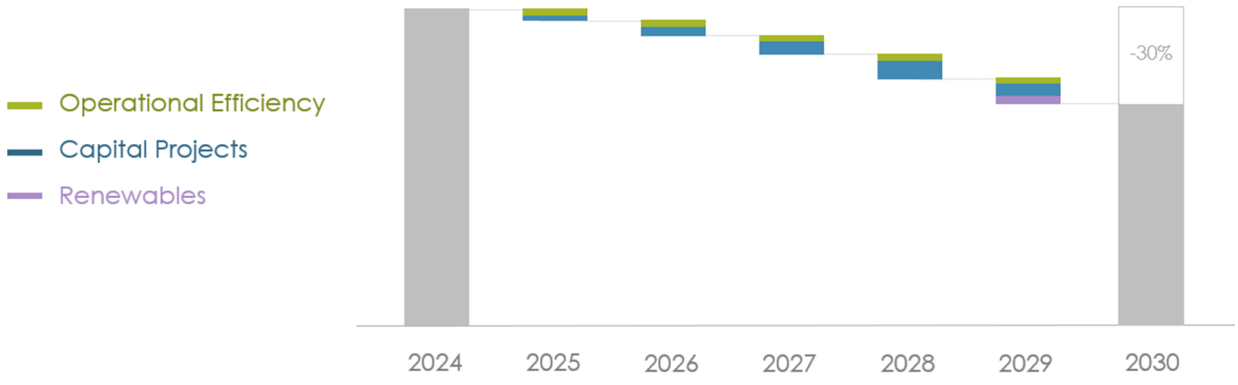
The 2025-2029 CDM will build on the work of the previous two CDM periods. Much of the underlying capacity building work has been completed with some finishing touches to be completed in the next few years.

The work will be divided into two main pillars: (A) Operational Optimization, and (B) Capital Upgrades. This aligns with the Town's departmental structure, which has an Operations team that oversees day-to-day facilities management and a Project Management team that implements capital upgrades for larger retrofits and new builds. A contribution from Renewable Energy (primarily solar PV), acquired by the town, will be used to make up any gap towards achieving the target of 30% GHG reduction by 2030.

Over the past several years, a restructuring has taken place within the town to aggregate all facility management and project managers into one department, so coordination on implementing new technologies has become more streamlined. The Energy Management team is situated directly within this new Facility Services department, working side-by-side both the Operations and Project Management teams.

A target of 2% annual reduction from Operational Efficiency will mean a 10% reduction over the five-year period. Capital Projects are expected to make a larger impact, as there are several significant equipment renewals due in the next five years. Capital Projects are targeted to contribute 15-20%. Cost-effective financing for Renewables will be explored with a target of 0-5%, depending on the impact of Operational and Capital initiatives.

Figure 8: Potential Pathway to 30% GHG Reduction by 2030



5.1 Operational Optimization

Reducing energy and carbon emissions through incremental low-cost initiatives will be led by the Operations team in partnership with the Energy Management Team. The types of projects fall into three categories: (A) HVAC Controls Optimization, (B) Efficiency Improvements, and (C) Recommissioning of Select Systems. The strategies below are targeted to achieve 2% GHG reductions per year.

5.1.1 HVAC Optimization

Ensuring the HVAC systems across the Town portfolio perform at optimal levels to meet comfort, humidity and fresh air requirements is a large task. Reducing time spent by operators responding to occupant comfort issues will improve facility management efficiency overall. Dehumidification in rinks and pools is vital to preventing window fogging and mold growth. The importance of good indoor air quality has been brought into sharper focus after the COVID-19 pandemic.

These elements of day-to-day facility management can be improved along with reducing energy and carbon by creating a strong Building Automation System (BAS) program. The Town's onboarding of a BAS Specialist has already made great steps in reducing the number of HVAC-related issues. Next steps include further optimizing for energy performance and adding more facilities to the BAS network.

Top projects identified or already started include:

- ***Schedule optimization***
- ***Air balancing***
- ***Improved BAS fault diagnostics***
- ***Sensor-based HVAC control***
- ***Identification and response protocol for high energy use***
- ***Additional sites added to the BAS network***

5.1.2 Efficiency Improvements

In partnership with the Operations team and departments occupying the spaces, there are many projects that get at the "root cause" of energy waste. For example, a project that uses new technologies to refine the accuracy of chemical dosing in pools will improve the experience for swimmers, save costs of chemicals purchased by the Town, while also reducing the outside air required to achieve indoor air quality and therefore save energy.

Top projects identified or already started include:

- ***Pool filtration and chemical dosing efficiency***
- ***Rink ice laser-level system***
- ***Space use optimization***

- ***Conversion to electric Zambonis and ice edgers***
- ***Small building HVAC renewals with heat pumps or hybrid systems***

5.1.3 Recommissioning of Select Systems

The experience of the town has shown that recommissioning is most effective when considering specific high-value building systems rather than trying to 'cast too wide a net'. With a limited budget for such studies, town staff are usually able to narrow down which, systems are having issues and which, are consuming the most energy. A recommissioning study can help reduce regular maintenance issues that operators are dealing with in addition to optimizing for energy efficiency.

Top projects identified or already started include:

- ***Heat recovery wheels***
- ***Rink and pool dehumidification systems***
- ***Chiller and boiler plants***

5.2 Capital Projects

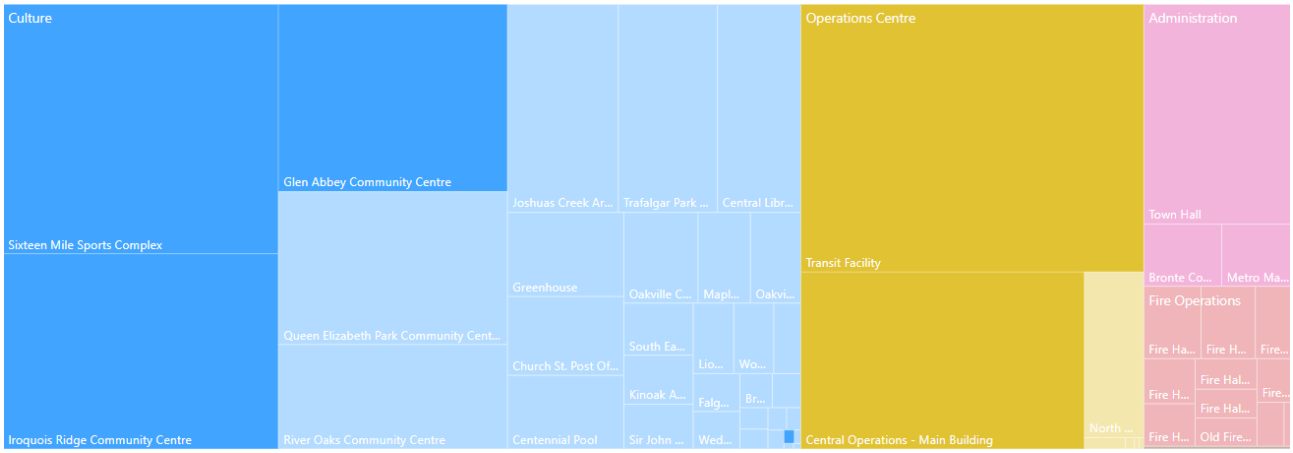
As equipment and entire buildings reach end of life, it is vital that the town chooses design options that will ensure the lowest energy and carbon emissions within reasonable budget constraints. This new building equipment and materials will last up to or beyond the timeline of the town's 2050 carbon targets. Therefore, it is most cost-effective to implement these changes now rather than later when equipment will still be within the period of their useful lifecycle.

5.2.1 Retrofits

Looking ahead at the next 5 years of the Town's Asset Management plan there will be retrofits relevant to energy management at the five top-emissions sites. Planning these renewals to be the most energy efficient and as low carbon as possible could be the most impactful action the Town can take to reduce our impact on the environment.

Figure 9 shows the facilities at which these planned renewals are taking place make up 53% of the entire GHG emissions from all town buildings. If we can reduce emissions by half, through these retrofit projects, we will be able to nearly reach the Town's 2040 target of 30% through this activity alone.

Figure 9: GHG Emissions from Facilities Planned for Relevant Equipment Renewals



Top initiatives identified or already started include:

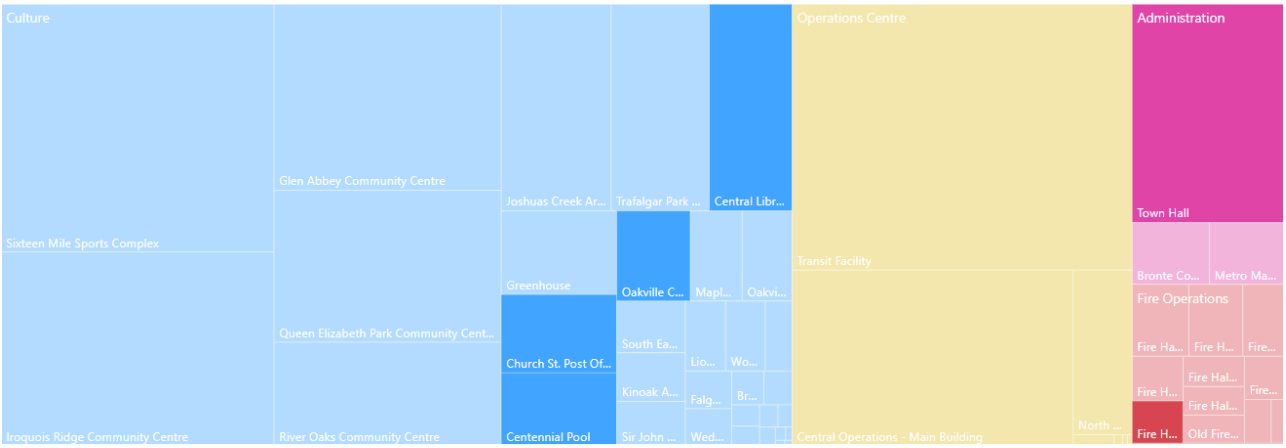
- ***Aligning with Asset Renewal Planning, focusing on HVAC and envelope***
- ***Feasibility Studies in advance of Detailed Design***
- ***Requesting more sustainable options from consultants during Design Phase***
- ***Continued conversion to LEDs***

5.2.2 New Buildings

The buildings currently scheduled for, or under consideration for, replacement make up 13% of the Town's GHG emissions. Considering that the emissions for Oakville Trafalgar Community Centre (one of the Town's most aggressively sustainable new buildings) achieved a 90% reduction in GHG emissions as compared to similar buildings in the town's portfolio, this provides a very promising indicator for the positive impact that new building construction could have on lowering the town's GHG emissions. If we can achieve the same results with future new builds, the town could see an over 10% reduction in GHG emissions (providing a significant contribution towards the town's 30% reduction target).

In addition, efforts to keep newly constructed building emissions as low as possible is even more important (when considering the town's future growth needs) since overall growth in the number of facilities that the town operates, will add to our overall GHG footprint. This will require further conservation efforts to mitigate against the impact of this growth. Each additional facility must add as little carbon as possible to the Town's emissions if we are to reach the stated targets.

Figure 10: GHG Emissions from Facilities Planned or Considered for Replacement



Top initiatives identified or already started include:

- ***Updating Sustainable Design Standards***
- ***Evaluating feasibility of using CaGBC's Zero Carbon Building Standard as a minimum requirement***
- ***Prioritizing high performance envelopes***
- ***Designing for gas to be used for heating only below -10C***
- ***Evaluating embodied carbon impacts of new builds***

5.3 Renewable Energy Generation

The primary renewable energy generation source available for the Town is solar photovoltaic (PV) systems. The Town has experience with such systems, the prime example being the system at OTCC which utilizes both the main community centre building and the neighbouring parkade structure rooftop to achieve 42% electricity reduction. While this is significant, grid electricity is already very low carbon in Ontario, so the overall impact of replacing grid electricity with solar is minimal.

The Town will continue to explore solar while prioritizing the cost-benefit analysis of potential solar PV projects. Dependent on market conditions, there could be a substantial financial incentive to these projects, while contributing somewhat to GHG reduction targets. To this end, new buildings will be built with the electrical and structural capacity to add solar PV when the time is right. Innovative financing structures could also enable further deployment. Solar hot water applications will be explored in more depth, as this offsets natural gas used for heating and could potentially lead to significant GHG reductions.

Top initiatives identified or already started include:

- ***Solar-ready new buildings***
- ***Explore solar parking lot applications***
- ***Explore building integrated solar applications for new buildings***
- ***Explore solar hot water applications***
- ***Explore financing options.***

5.4 Creating a Sustainable Mindset

The value of building capacity for a wide range of staff roles to drive energy efficiency and low-carbon projects forwards cannot be understated. As more staff understand the types of projects that make sense from a cost-efficiency point of view, to reduce energy and carbon, the more they will be able to identify and carry out such projects as standard practice. In addition, benefits to operations will be identified as energy and carbon projects are implemented, allowing them to be more accepted and more easily replicated.

Top initiatives identified or already started include:

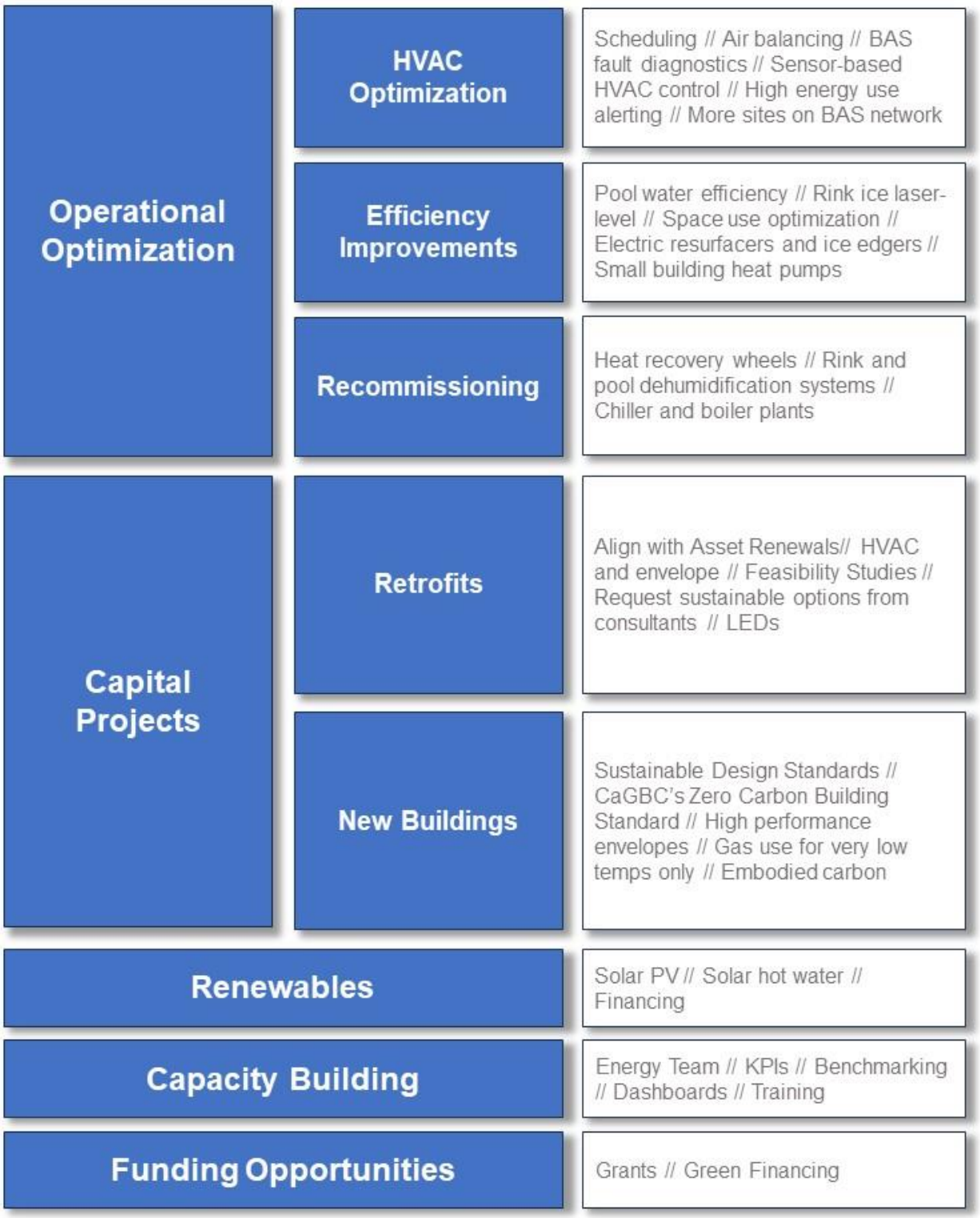
- ***Grow the Energy Team with operators and building occupant departments***
- ***Align reporting and KPIs with the Town's Climate Committee and Council Dashboard***
- ***Create operator and management energy and carbon dashboards***
- ***Continue to install submetering***
- ***Identify relevant benchmarks for facilities***
- ***Continued operator BAS training***
- ***Education and awareness initiatives for general staff.***

5.5 Explore New Funding Opportunities

The Town will continue to participate in funding programs offered by Federal and Provincial governments to accelerate toward achieving set targets. Other opportunities will be explored such securing preferred financing for ESG (Environmental, Social, Governance) projects through private capital markets or participating in carbon credit programs.

- ***Participate in Government grant programs***
- ***Evaluate other opportunities like ESG financing and carbon credit programs***

Appendix A: Planned Projects and Initiatives



REPORT

Council

Meeting Date: October 21, 2024

FROM: Oakville Transit

DATE: October 8, 2024

SUBJECT: **Oakville Transit 2025 – 2029 Five-Year Business Plan**

LOCATION: Town-wide
WARD: Town-wide

RECOMMENDATION:

That the Oakville Transit 2025-2029 Business Plan be adopted in principle and used to guide transit service planning and operations over the next five years, subject to annual budget review.

KEY FACTS:

The following are key points for consideration with respect to this report:

- Oakville Transit operates diverse transit services (Family of Services) includes fixed route conventional services and On-Demand Services.
- Oakville Transit is on a trajectory of growth and requires a plan to guide the department forward.
- A Five-Year Business Plan has been completed with the consultant HDR Corporation to guide the planning and operation of Oakville Transit over the next five years 2025-2029.
- The Five-Year Business Plan is highly responsive to the needs of customers identified through public consultation.
- The Plan is aligned with Provincial, Regional and Local planning initiatives, including the Town's Strategic Plan, and will be an incorporated into the Transportation Master Plan.
- The Plan identified service and bus stop guidelines, a Frequent Transit Network (FTN), a future route network including expanded On-Demand service, programming, staffing needs and fare strategies.

- A service frequency review was completed identifying three possible service scenarios with staff recommending Scenario 1 - Base Service, that will increase service level from 60 minutes to 30 minutes.
- Implementation of staff recommendations will be considered through the Annual Planning and Budget processes.

BACKGROUND:

Oakville Transit provides a Family of Services transit system to Oakville residents.

Oakville Transit has been operating as the Town's public transit provider since 1972. The department is responsible for all aspects of transit service delivery, including transit operations, planning and support services, fleet maintenance, and On-Demand services.

The Family of Services includes fixed route conventional services and On-Demand Services. On-Demand service is a shared ride service that includes specialized transit for persons with disabilities, curb to curb, and point to hub travel within designated neighbourhoods.

Oakville Transit operates a conventional fleet of 102 buses and provides service on 22 fixed routes. On-Demand services are provided using 28 small capacity, accessible buses.

Annually, Oakville Transit reviews how the system is operating, identifies areas for improvements, reviews customer feedback, and recommends changes to transit services for the upcoming year based on operating and capital requirements. In 2024, key improvements were made in North Oakville with the implementation of fixed Route 37 – Glenorchy, increased school special services with the return to school, the introduction of Ride On-Demand services in Falgarwood, Palermo West Bronte, and Late-Night Service, and expansion of Ride On-Demand services in South East Oakville. The fixed route conventional services and Ride On-Demand maps are identified in **Appendix A: Oakville Transit 2024 System Route Maps**.

Oakville Transit is in a period of ridership growth.

Ridership on the Oakville Transit system is reported primarily using revenue ridership statistics. Revenue ridership identifies the number of passengers who initially tap to board transit vehicles, regardless of whether they are paying and does not count transfers to other routes during a trip. For the purposes of this report, it is referred to as "tap boarding".

In 2019, Oakville Transit had 3.1 million tap boardings on the system. However, the COVID-19 pandemic and subsequent lockdowns significantly impacted ridership, reducing it to 1.3 million tap boardings in 2020 and 2021. Ridership began returning to the system with tap boardings reaching 2.2 million and 3 million in 2022 and 2023 respectively. Staff are estimating tap boardings in 2024 will reach 3.2 million, the highest tap boardings ever seen on Oakville Transit services. Additional information regarding current Oakville Transit ridership can be found in **Appendix B: Oakville Transit Ridership Statistics** of this report.

Coming out of the pandemic, ridership increases and changes in travel patterns from post pandemic travel behaviour changes (for example, work from home) have been realized, but ridership has also increased through the introduction of free fares for Youth and Seniors introduced in May 2023.

To help staff identify the overall impacts on the transit system based on travel pattern and fare changes, total boarding statistics are used to monitor specifically how much the system is being used. This statistic includes tap boardings and transfers to other routes during a trip. Staff use this statistic to identify the increased movements on the system and the impact it has on service. Staff are estimating total boardings in 2024 will reach 4.7 million as ridership from all fare categories continue to increase. This represents an approximate 15% increase in transit total boardings when compared to 4 million total boardings in 2023.

The last Five-Year plan was created in 2015.

In 2015, Oakville Transit completed a Transit Service Review which included a review of all conventional / specialized transit services, administration / support services, and identified recommendations for new transit services. A financial analysis based on ridership and revenue forecasts was also prepared for transit services from 2015 to 2019. The COVID pandemic and subsequent recovery years delayed the preparation of the next Five-Year Business Plan.

The purpose of this report is to provide a summary of 2025 – 2029 Oakville Transit Five-Year Business Plan, and staff's recommendation for implementation.

COMMENT/OPTIONS:

The Town of Oakville is on a growth trajectory and requires a transit plan to support that growth.

Oakville is experiencing robust growth, with its population expanding by 13.6% between 2016 and 2021, and with projections suggesting further increases in the range of 388,000 to 442,000 by 2051. Growth nodes and urban centres such as

Midtown and North Oakville are planned to create vibrant, transit supportive urban environments and foster economic prosperity within Oakville's growing community.

To support future growth, the Oakville Transit Five-Year Business plan was developed to encourage ridership growth in an efficient manner, improving access, reliability and frequency to the town's residents, and setting the foundation of the future Frequent Transit Network (FTN).

The Oakville Transit Five-Year Business Plan is complete and provides Oakville Transit a roadmap for future implementation.

Oakville Transit hired consultant HDR Corporation to prepare the Oakville Transit Five-Year Business Plan (**Appendix C: 2025 – 2029 Oakville Transit Five-Year Business Plan**), with the following objectives:

- Align with Council's Strategic priorities, as well as other key plans and studies throughout the 2025 to 2029 period, and beyond
- Further develop the Family of Services transit network
- Support ridership growth, post pandemic
- Guide the implementation of Oakville Transit's strategies, policies, and guidelines
- Accommodate future growth
- Address the ever-changing needs of the community

To meet the above objectives, the Five-Year Business Plan provides recommendations specifically on the following throughout the 2025 to 2029 period:

- New and updated service guidelines
- Proposed future network of transit services
- Service frequency changes
- Fare and non-fare strategies
- Programming and staffing recommendations

The Business Plan recommendations will be reviewed through Oakville Transit annual service plan and town's budget processes over the 2025 to 2029 period. The implementation of this comprehensive plan is significant for Oakville Transit's future, ensuring a resilient, efficient, and adaptable system that meets the community's evolving needs and financial resources.

The Five-Year Business Plan conducted comprehensive public consultation and is customer focused.

Public transit exists for the *public*, and therefore it was critical that the plan include consultation of our customers and stakeholders. Two phases of public consultation were conducted for the Plan, including online and in-person formats at over 11 locations throughout the Town, with approximately 1,000 citizens observing the

drop-in session. A total of 110 attendees provided direct feedback and 241 completed online surveys.

Key Themes from the Consultation Process:

- Schedule frequency: a desire for increased service frequency, particularly during off-peak periods. The existing 30-minute or one-hour intervals for most routes were deemed insufficient.
- On-time performance: Service delays and poor punctuality were prominent concerns, deemed crucial for meeting customer expectations.
- Driver interactions: Interaction issues with transit drivers were raised, with friendliness below expectations.
- Bus stops and shelters: Concerns regarding the condition and functionality of stops and shelters, and access in new development areas.
- Integration with GO Trains and more direct service: Better connections with GO Trains and more direct routes to key destinations like downtown Oakville.
- Emphasis on reliability and accessibility: Emphasis on improving service reliability and enhancing accessibility for riders with disabilities.
- Supportive infrastructure and information: Improvements in supportive infrastructure, including more complete schedule and route information at bus stops.
- Specific route suggestions: Specific route suggestions reflecting residents' preferences for neighbourhood connections and access to key destinations like GO Stations and downtown Oakville.

The proposed recommendations in the 2025 – 2029 Oakville Transit Five-Year Business Plan have been developed to improve access and transit travel opportunities for customers, with the customer at the centre. Key recommendations from the Business Plan are highlighted in the sections below.

Service and Design Guidelines

Service Guidelines were developed and updated to inform network planning and service level decisions.

Service Guidelines assist in managing performance and informing planning and operations decisions by setting minimum data requirements and facilitating efficient performance monitoring. The following service guidelines are examples of guidelines that have been updated in the Five-Year Business Plan:

- Route Guidelines – Directness / Hierarchy /Service areas
- Route Performance – Demand for service / Minimum boarding standards
- On Time Performance – Reliability of service
- System Guidelines – Hours of service per capita / Revenue to cost

A full list and description of the updated Service Guidelines can be found in Appendix C of the 2025 – 2029 Oakville Transit Business Plan. These guidelines will be used to make decisions through annual planning process regarding route changes (frequency, routing etc.) and on-demand service areas.

Bus Stop Design Guidelines were developed to ensure provision of safe and accessible space for transit riders.

The Bus Stop Design Guidelines provide a comprehensive review of best practices and recommend guidelines for Oakville Transit to enhance accessibility, safety, and comfort at transit stops. The Bus Stops Design Guidelines include references to walkway clearances and access to the active transportation network to accommodate all transit users. The following Bus Stop Design Guidelines are examples of guidelines that have been updated:

- Stop Placement – far side of intersections
- Stop Spacing – 400m for local services and 800m for School Specials and Industrial/Express Routes.

It is also recommended that Active Transportation access to and from all bus stops be considered in the bus stop planning. The principles of 5A (Always Available for All Ages & Abilities) Network Guiding Principles and Universal Design Standards are useful guides for assessing Active Transportation access.

The complete details of the Bus Stop Design Guidelines can be found in Appendix D of the 2025 – 2029 Oakville Transit Business Plan. These guidelines will be adopted through asset renewal activities (bus stop replacement program) and for new stops.

Expansion of Family of Services and Proposed Future Transit Network

To ensure Oakville Transit supports the growth of the Town of Oakville and provides transit services which are coordinated and connected within Halton Region and in the Greater Golden Horseshoe, it was imperative that the Business Plan align with the numerous local, Regional and Provincial initiatives and growth plans, in addition to aligning with Council's Strategic Plan and the currently on-going Town's Transportation Master Plan.

A proposed Frequent Transit Network (FTN) is identified to be implemented long-term and incorporated as part of the Town's Transportation Master Plan

The Frequent Transit Network, **Appendix D: Oakville Transit Frequent Transit Network,** identifies a grid network of transit routes planned to operate 10-to-15-minute frequencies all day. Routes would operate in the transit priority corridors

outlined in Provincial, Regional, and Metrolinx Transit Priority Corridors, along with major corridors and growth nodes identified in Oakville's Urban Structure Plan.

The Frequent Transit Network has been identified as a longer-term goal for Oakville Transit to achieve. The recommendation is incorporated as part of the Transportation Master Plan, as the implementation of the network is beyond the 5-year timeframe of the 2025 – 2029 Oakville Transit Five-Year Business Plan.

Realignment of routes and increased service frequencies are planned to increase ridership throughout the Oakville Transit system.

The Family of Services 2025 – 2029 route network for Oakville Transit will form a coherent, interconnected system with two FTN routes operating on Trafalgar and Dundas, operating at 10–15-minute frequencies. The recommended network incorporates two service types under the Family of Services that include:

- Fixed routes - planned to be bi-directional, straight, and direct, avoiding large one-way loops and route overlaps within corridors where possible and will anchor routes at major destinations, enhancing efficiency and reliability. Routes have been planned to operate in a grid-like manner, where possible, to allow for more transferability between transit routes in the system. The following classification of routes have been identified within the Fixed routes category:

    - FTN: Major corridor routes that operate at a frequency of 15 minutes or better every day from at least 7:00 a.m. to 9:00 p.m. and may be less frequent at other times.
    - Primary Route: Major corridor routes that operate at a frequency of 15 minutes or better during the weekday rush hours and less frequent at other times depending on demand. These routes may develop into future FTN routes.
    - Base Route: Local routes that connect with and serve the areas between the FTN and Primary Routes. These services may operate at a frequency of 15 minutes or less during weekday rush hours and less frequent at other times.
    - Special Purpose Routes: School Specials, Industrial and Express Routes. Frequency and hours of operation would vary depending on demand.

- On-Demand - Low-performing or more remote neighborhoods areas will be served by On-Demand transit services which will feed into the fixed route system.

The future proposed 2025 – 2029 Network identified in **Appendix E: 2025-2029 Family of Services Transit Map,** focuses on developing fully connected major north-south and east-west corridors, emphasizing Primary and Base routes over extensive service coverage, and number of areas complimented with On-Demand service. A few recommended route changes include increased transit services operating into the Downtown area, expanded Ride On-Demand services throughout the Town, and more gridding of transit routes throughout the network.

The proposed network could be implemented over 5-year period and includes enhancement to the service through the increase in frequencies, subject to annual budget approval.

Service Frequency Review

With the proposed network (2025-2029 Family of Services Transit Map) established and updated service guidelines recommended, the consultant reviewed opportunities to increase service frequencies to improve overall service levels. Currently, many Oakville Transit routes are operating with 30 – 60 minute frequencies throughout the day. Based on public feedback, there is a desire to have more frequent transit service available throughout the day to make transit a viable and accessible service as opposed using cars.

Service scenarios were prepared in the Five-Year Business Plan, all intended to improve the bus service frequencies.

Three service scenarios are identified in the 2025 – 2025 Oakville Transit Five – Year Business Plan and are described below:

- Scenario 1 — Base Case Scenario:
  Identifies service level increases where most routes operate at a frequency of 30 minutes (from the current 30 – 60 minutes), with key routes such as Trafalgar and Dundas having more frequent service at 15 minutes.

- Scenario 2 — Mid-Range:
  The Mid-Range scenario identifies modest improvements over the base case scenario. Service frequencies improve to 20 minutes for several routes, while key routes maintain a 15-minute frequency, providing more frequent service compared to service operating today.

- Scenario 3 — Recommended (by consultant):
  Identifies the most significant frequency improvements across most routes, with many routes operating at 10-to-20-minute frequencies. Key routes have the most frequent service, with frequency improved to 10 minutes on routes such as Trafalgar, Third Line, and Dundas.

Table 1 below Identifies the service scenarios associated impacts over the 5-year period for revenue, annual hours of operation, peak bus fleet requirements, additional annual operating costs, and includes the recommended staffing increases. Each of the service scenarios utilized the proposed future network, but with scalable levels of service (frequencies).

Table 1: Comparison of service scenarios

Service Scenario	Estimated Tap Ridership/boardings (2025-2029)	Total Operating Hours required (2025-2029)	Total Additional Vehicles required for service (2025-2029)	Total Additional Service Operating Cost (2025-2029)
Base Case (staff recommended)	**20.4M**	**71K**	**19**	**$10M**
Mid-Range	**22.4M**	**133K**	**33**	**$15M**
Recommended (consultant)	**25.7M**	**216K**	**52**	**$23M**

When reviewing the service scenarios, all three scenarios identify an increase in tap boardings based on the number of operating hours required. With the increase in operating hours, the number of vehicles to implement the scenarios is also increased.

Staff recommends adoption of the Based Case Service Scenario as the roadmap to increase service over the next 5 years and implemented through the annual planning and budget process.

The three scenarios analyzed by the consultant provide Oakville Transit a range of options in providing increasing level of service. The recommended option by the consultant is a long-term vision for Oakville Transit, and staff recognize it will take many years to achieve, well beyond the 5-year time frame.

Staff recommends the adoption of the Base Case Service Scenario, which will require approximately $10M in additional operating budget, 71K of additional service hours, and 19 additional buses to implement.

The proposed future network, along with a more moderate service enhancement strategy will meet the needs of customers, and enhance the current transit network and service by:

- Creating a FTN to support movement through the town and future growth
- Implementing a new route network including more direct and gridded routes
- Expanding On-Demand services to new neighbourhoods or areas of low transit demand
- Increasing schedule frequency from 60 to 30-minute frequencies on most routes
- Improving on-time performance and reliability

- Improving transit amenities such as bus stops and shelters to be more accessible for users
- Increasing integration with GO Trains and other municipal transit partners
- Incorporating specific route suggestions provided through public consultation making transit services more attractive

Implementation of the proposed 2025 – 2029 Family of Services network and the Scenario 1 - Base Case service frequencies will be coordinated through the Annual Transit Service Planning process. Staff, as part of the 2025 Annual Service Plan, are recommending beginning implementing service frequency changes and route restructuring, specifically on Route 5 – Dundas and Route 1 – Trafalgar. Changes to the network and service frequencies may begin in the spring 2025, pending a final review of the 2024 fall services, subject to budget approvals.

Fare and non-fare strategies

Fare and non-fare revenue opportunities were explored to enhance the financial sustainability of Oakville Transit.

During the preparation of the Oakville Transit Five-Year Business Plan, both fare and non-fare revenue strategies were explored to enhance the financial sustainability and support the expansion of transit services.

The consultant suggested fare revenue strategies for consideration that included:

- Explore the Town covering the remaining 50% of SPLIT fares for eligible low-income individuals.
- Re-evaluate the provision of free transit for Youth and Seniors to ensure that investments in transit deliver maximum community benefit.
- Review the implementation of the Monthly Fare Cap program to remove the up-front cost of monthly transit passes.
- Explore future opportunities to implement a U-Pass program for post-secondary students at Sheridan College, as well as considering similar transit pass programs for employees through discounted monthly pass programs with major employers within the Town.
- Phase out the current PRESTO Discount over three years, with a $0.40 discount in 2025, $0.20 discount in 2026 and no discount in 2027.
- Evolve into a Flat Fare System wherein all fares, with the exception of Child fares, are the same and there are no discounts

Non-fare revenue strategies focus on leveraging alternative sources of funding to augment traditional fare revenue and government subsidies. The traditional initiatives of advertising on transit vehicles and property, vehicle charters, and sponsorships of transit property or events should continue to be developed.

The following initiatives are examples of revenue streams which may assist to increase non-fare revenue at the Town:

- Expanded additional on-street digital advertising (Oakville Transit began implementing digital advertising at bus shelters in 2024).
- Sale of on-bus digital advertising
- Retail at terminal locations
- Sponsorship opportunities
- Monetizing benefits of electrification

Staff will further review the applicability of the fare and non-fare revenue strategies proposed by the consultant and bring forward the opportunities to council as required.

Programming and staffing recommendations

Programming such as travel training and education/marketing of transit further enhances town's strategic goal of enhancing mobility through improvements to diverse and more sustainable modes of travel.

To support the overall operation of Oakville Transit, the department consists of four sections: Transit Operations, Planning and Administrative services, Fleet Maintenance, and On-Demand services. Apart from operating transit buses, program support in a number of areas is recommended which include:

- Increased promotion and education activities such as implementing travel training to students and creating partnership with school boards
- Utilization of technology to increase on-time performance
- Modernization of transit fleet maintenance activities

These recommendations will be implemented by the department through a continuous improvement process with the objective to gain operational efficiencies and enhance customer experience.

A staffing plan was prepared to support Oakville Transit Five Year Transit Plan

Higher customer expectations for service performance and infrastructure maintenance increases the requirements for systems support, additional transit programming such as travel training and marketing, and a more robust transit staffing presence in the community. It should be noted that some positions (bus operators, mechanics, utility service persons for example) are required as the transit fleet size increases.

To achieve the Business Plan at Base Case Service, Oakville Transit would need to add staff over the next five years as identified in **Table 2.**

Table 2: Recommended staff FTEs for 2025-2029

Staffing identified in the 2025 – 2029 Five-Year Business Plan (Base Case)*						
Position	2025	2026	2027	2028	2029	Total
Operational Planner	1.0					1.0
Revenue Clerk Analyst	0.5					0.5
Transit Supervisor (On-Demand)		1.0			1.0	2.0
Transit Supervisor (Operations)		1.0	1.0	1.0		3.0
Marketing and Communications		1.0				1.0
Electronics Technician		1.0				1.0
Electrification Program Manager			1.0			1.0
Infrastructure Coordinator		1.0				1.0
Travel Trainer		1.0				1.0
Dispatch/Administrative Clerk			1.0			1.0
Mechanic		1.0		1.0		2.0
Control Room Supervisor			1.0		1.0	2.0
Transit Driver Trainer			1.0			1.0
Utility Service Person		1.0	1.0			2.0
On-Demand Call Centre Supervisor				1.0		1.0
Transit Operators		6.0	6.0	6.0	6.0	24.0
Total FTE's	1.5	14.0	12.0	9.0	8.0	44.5
*Staffing to be requested by year during the budget planning process.						

Additional staff support enhances customer service by implementing transit specific programs, maintaining existing operational service level legislative requirements, and support the operation of on-street customers and transit services. Future request for staffing will be based on the pace of the 2025-2029 Oakville Transit Five-Year Business plan implementation, annual service review, and subject to the annual budget process.

CONCLUSION

The 2025 – 2029 Oakville Transit Five-Year Business plan provides a road map to guide future Oakville Transit decisions

The 2025 – 2029 Oakville Transit Five-Year Business Plan aligns with and supports Council's Strategic goals, as well as the planned transportation, transit and growth plans at the local, Regional and Provincial levels.

Staff recommends the following:

- Adoption of the Transit Five-Year Business Plan in principle
- Adoption of the service and design guidelines

- Incorporation of the Frequent Transit Network into the Transportation Master Plan
- Adoption of the 2025-2029 Family of Services Transit Map
- Implementing Scenario 1- Base Case Scenario to enhance service levels
- Continue to improve programming and support efficient operations of Oakville Transit through the staffing plan
- Further review of fare and non-fare revenue strategies to help increase the revenues to the Town offsetting the cost to operate transit services

The above will establish a foundation for enhancing the transit Family of Services provided by Oakville Transit. The realignment of transit routes, the increases in service frequency, the focus on programming such as travel training, and the adoption of service and bus stop design guidelines will all bring tangible improvements and enhancements to transit riders and Town residents. Further, the implementation of this Business Plan will encourage ridership growth in an efficient manner, improving access, reliability and frequency to the town's residents, and setting foundation of the future FTN.

The implementation of staff recommendations will require the full five years to implement and is planned to be phased in through the Annual Planning and Budget process.

CONSIDERATIONS:

(A) PUBLIC

Oakville residents and transit customers will realize several benefits associated with an improved transit network and subsequent increased use of transit as a viable mobility option. These include:

- A reduction in vehicular congestion
- Improved air quality
- Improved social connectivity and sense of community and belonging
- Improved road safety
- Greater access to employment opportunities
- Improved ability to attract new businesses

(B) FINANCIAL

The recommendations contained in the Oakville Transit Five-Year Business Plan have financial impacts and will need to be considered through the Annual Planning and Budget processes and weighed against other corporate priorities.

Some components of the Base Case identified in this staff report are already included in the 10-year capital forecast, while other components increase the town's level of service and will result in additional budget pressures. The

annual budget process will consider these pressures, along with other corporate priorities.

(C) IMPACT ON OTHER DEPARTMENTS & USERS

The Oakville Transit Five-Year Business Plan has been developed in coordination with the Finance and Transportation and Engineering teams as ensuring transit services can be implemented efficiently, and in coordination with future transportation planning initiatives.

(D) COUNCIL STRATEGIC PRIORITIES

This report addresses the corporate strategic goal(s) to:

- Manage growth for a vibrant local economy, meeting infrastructure needs and ensuring we have complete communities and efficient mobility across the town
- Enhance community belonging, by providing a mechanism for residents to stay connected to employment, recreation and social activities in the town.
- Ensure environmental sustainability to meet future needs related to greenspaces and natural areas, and act on climate change mitigation and adaptation.
- Be accountable, by recommending a transit network that promotes efficiency and fiscal responsibility of assets and services.

(E) CLIMATE CHANGE/ACTION

The implementation of the staff recommendations identified in the Oakville Transit Five-Year Business Plan have a direct effect on our climate by encouraging transit usage and reducing the reliance on vehicles and promoting active transportation, as all transit customers begin their journeys as pedestrians.

APPENDICES:

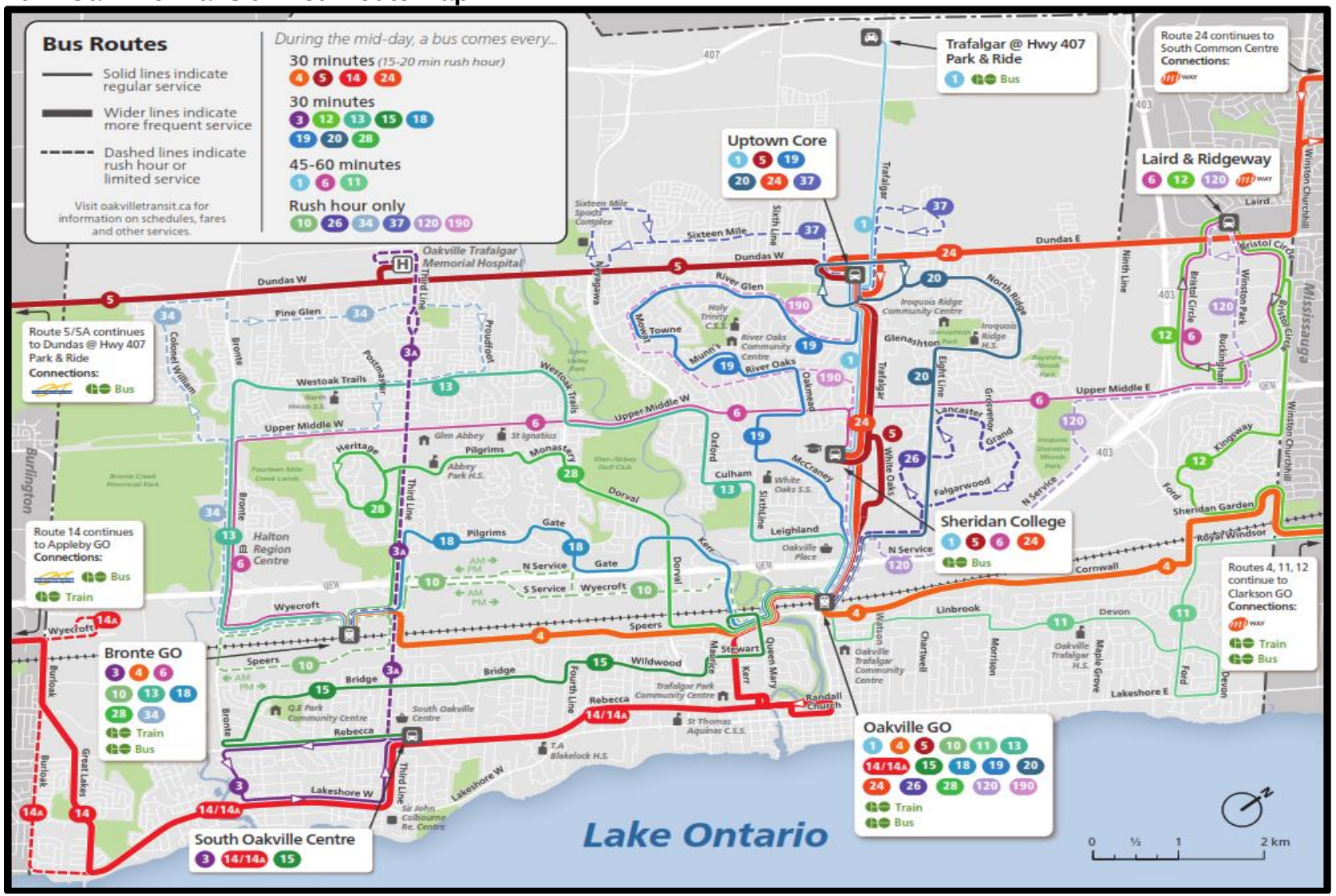
Appendix A: Oakville Transit 2024 System Route Maps
Appendix B: Oakville Transit Ridership Statistics
Appendix C: 2025 – 2029 Oakville Transit Five-Year Business Plan
Appendix D: Oakville Transit Frequent Transit Network
Appendix E: 2025-2029 Family of Services Transit Map

Prepared by:
Joanne Phoenix, Manager, Service Planning and Administration, Oakville Transit
Adrian Kawun, Director, Oakville Transit

Submitted by:
Adrian Kawun, Director, Oakville Transit

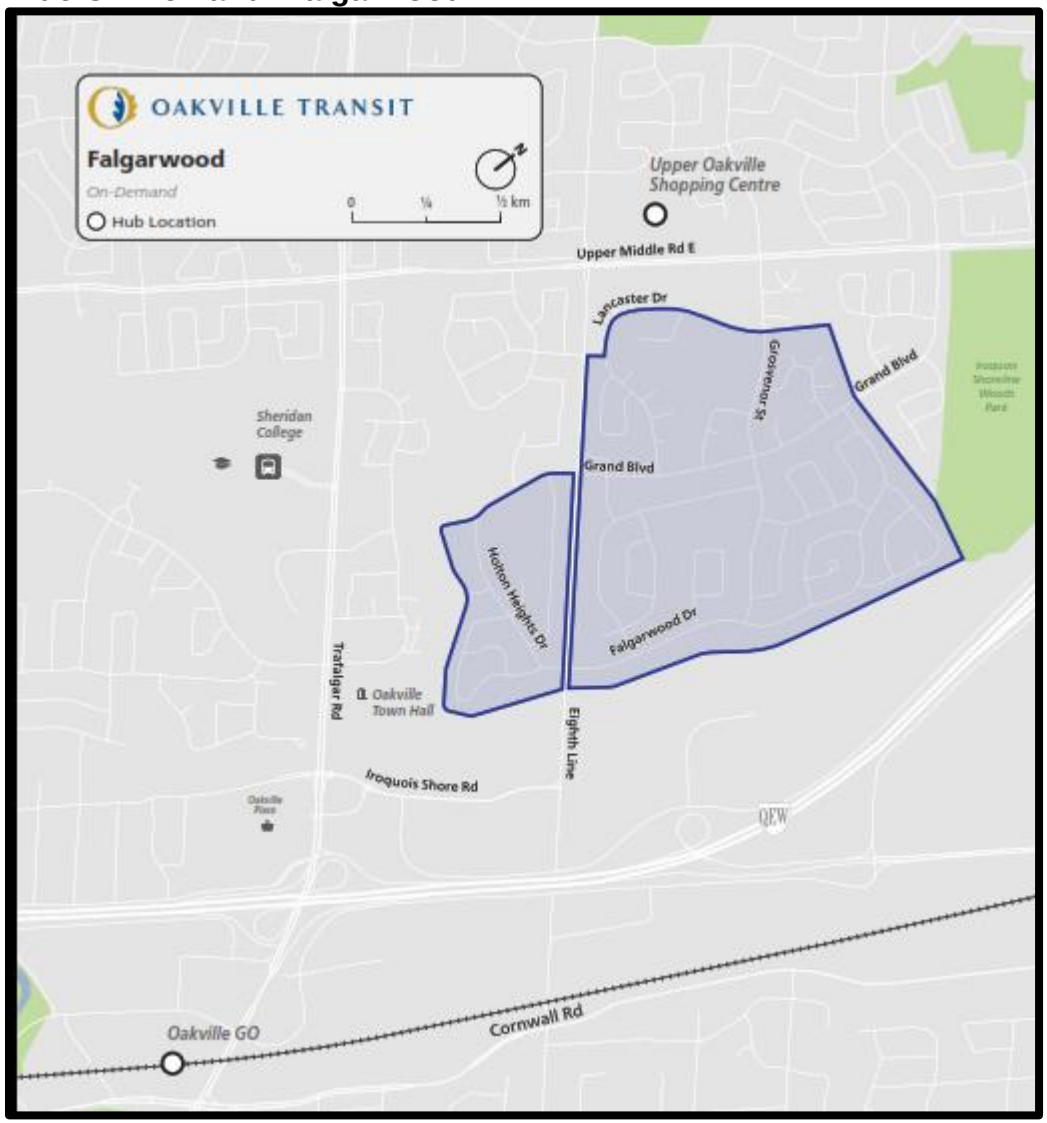
Appendix A: 2024 Oakville Transit System Route Maps

2024 Oakville Transit Fixed Route Map

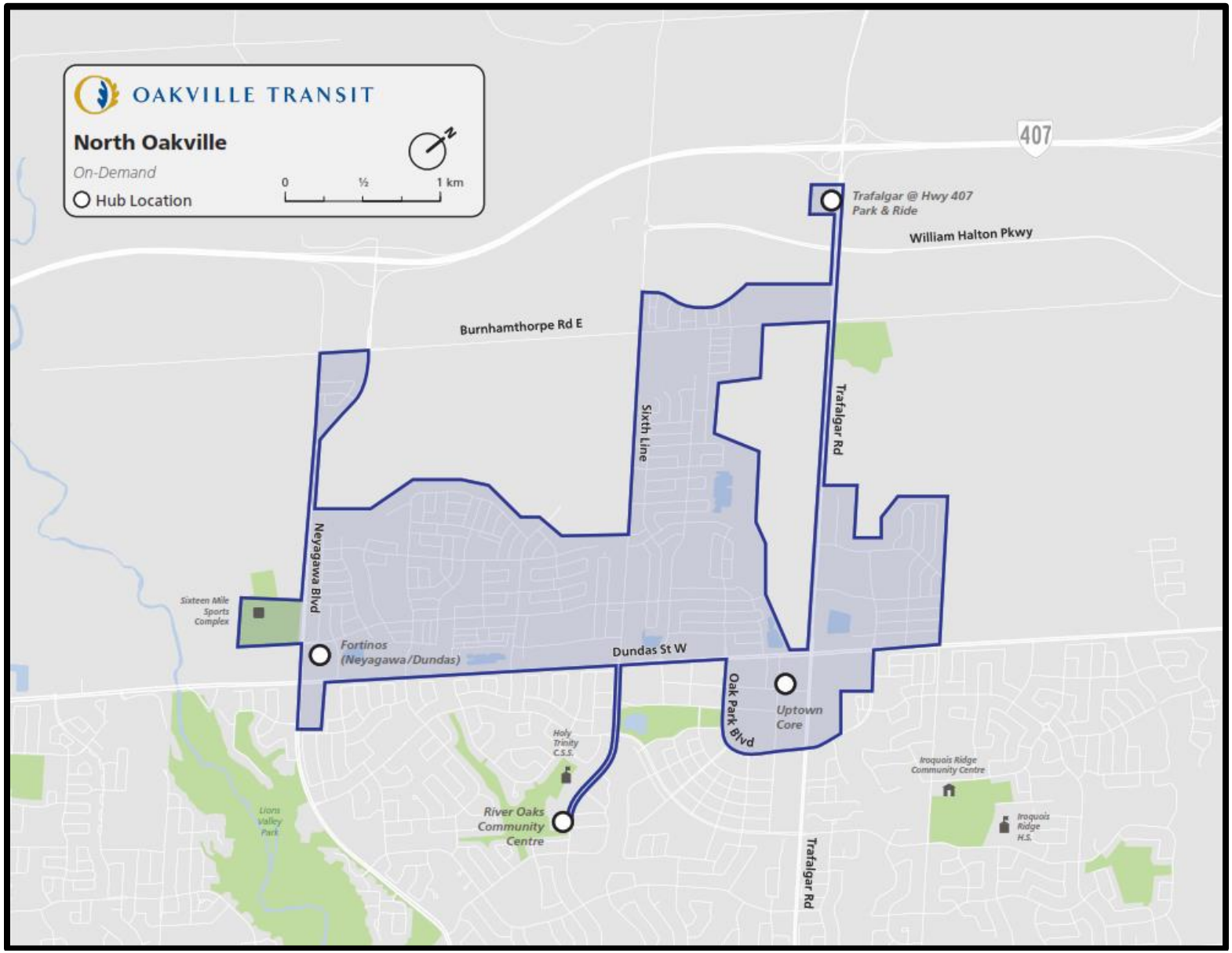


2024 Oakville Transit Ride On-Demand Maps

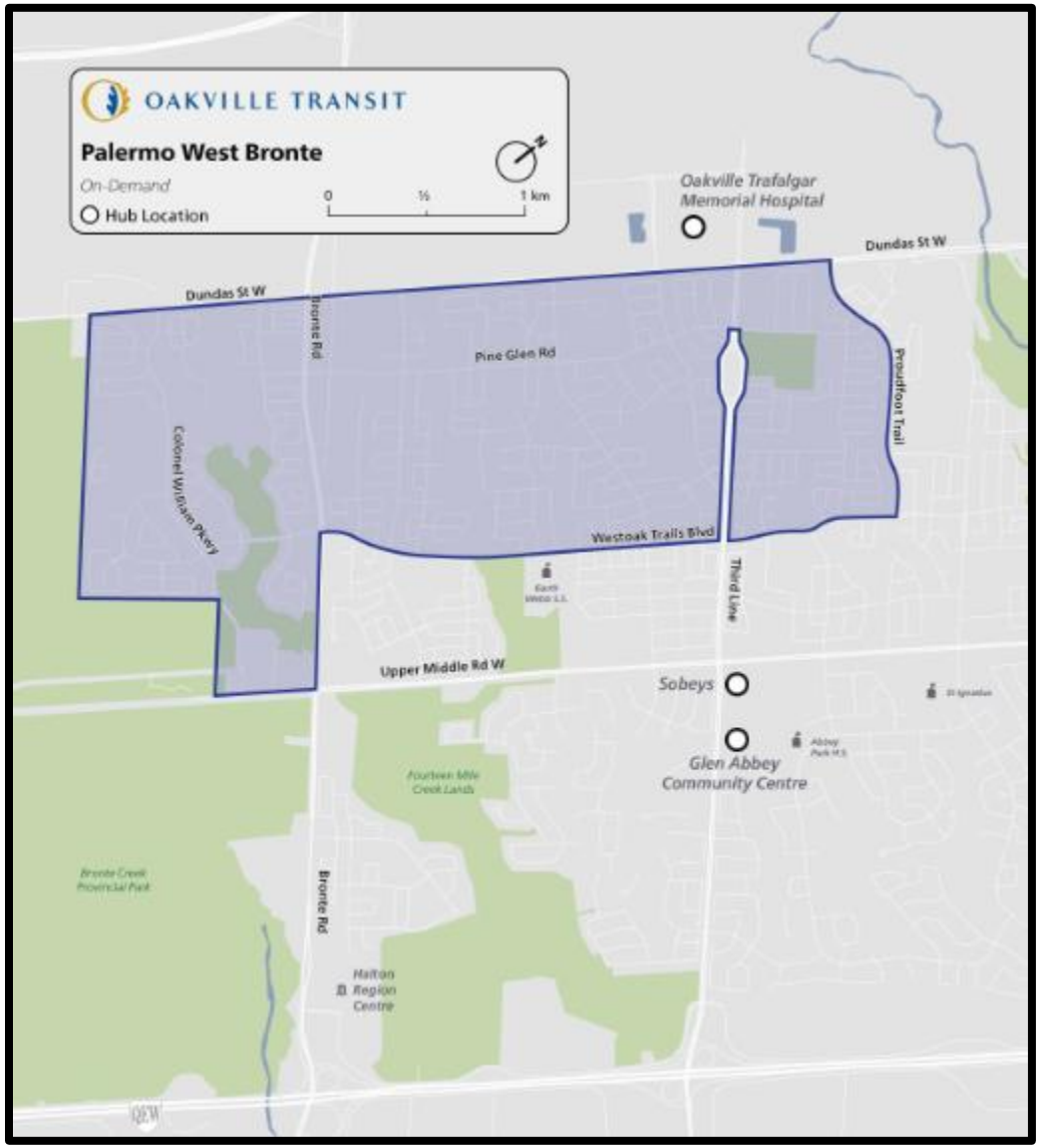
Ride On-Demand: Falgarwood



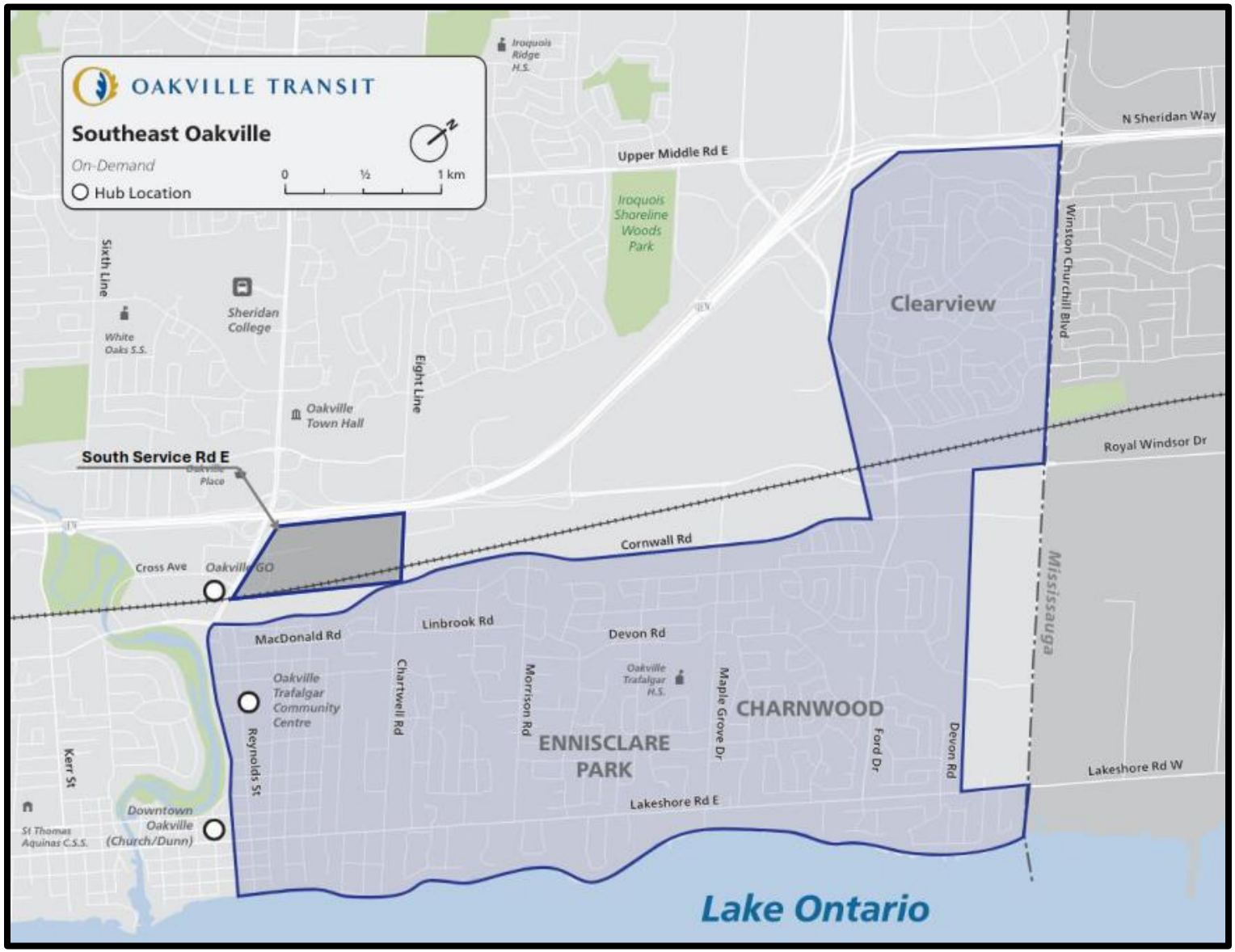
Ride On-Demand: North Oakville



Ride On-Demand: Palermo West Bronte

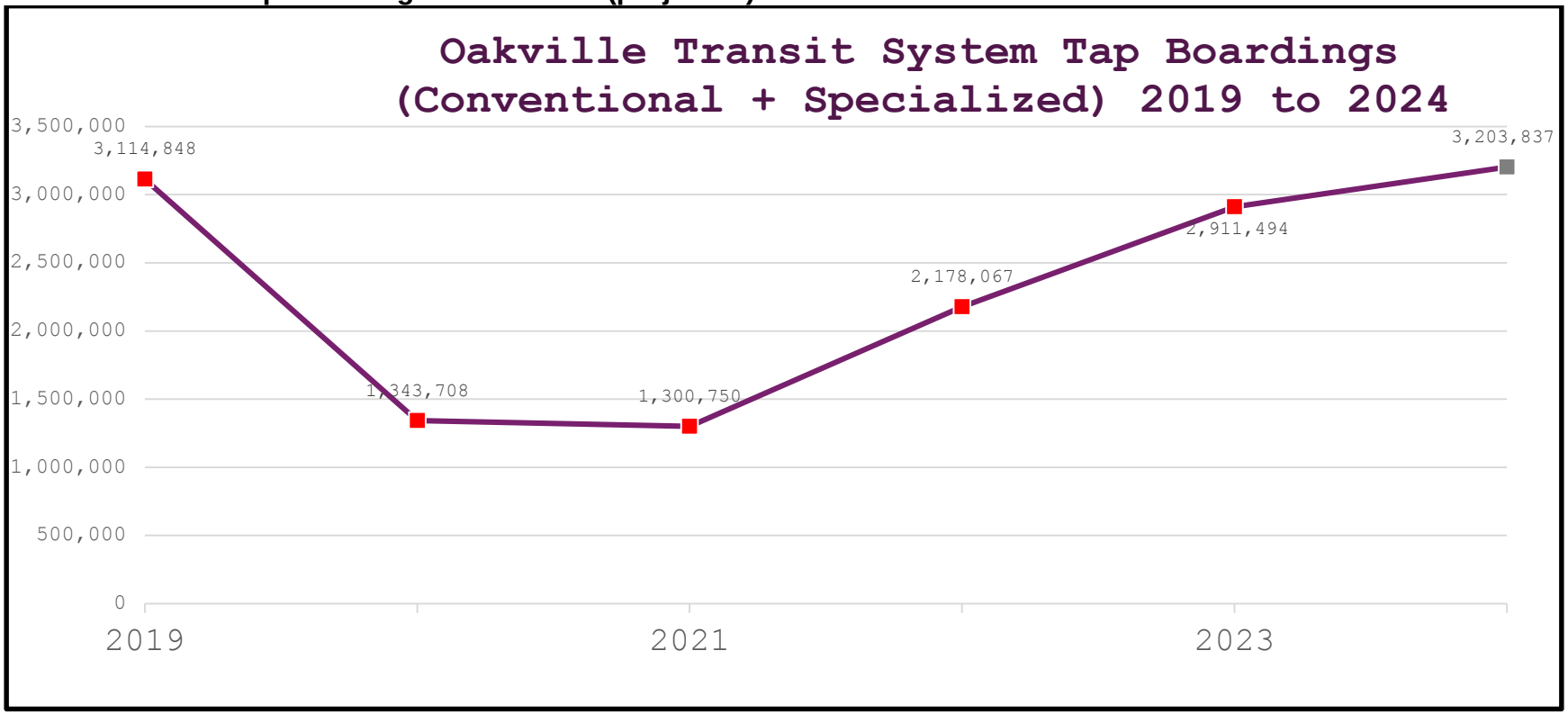


Ride On-Demand: Southeast Oakville



Appendix B – Oakville Transit Ridership Statistics

Oakville Transit Tap Boardings 2019 – 2024 (projected)



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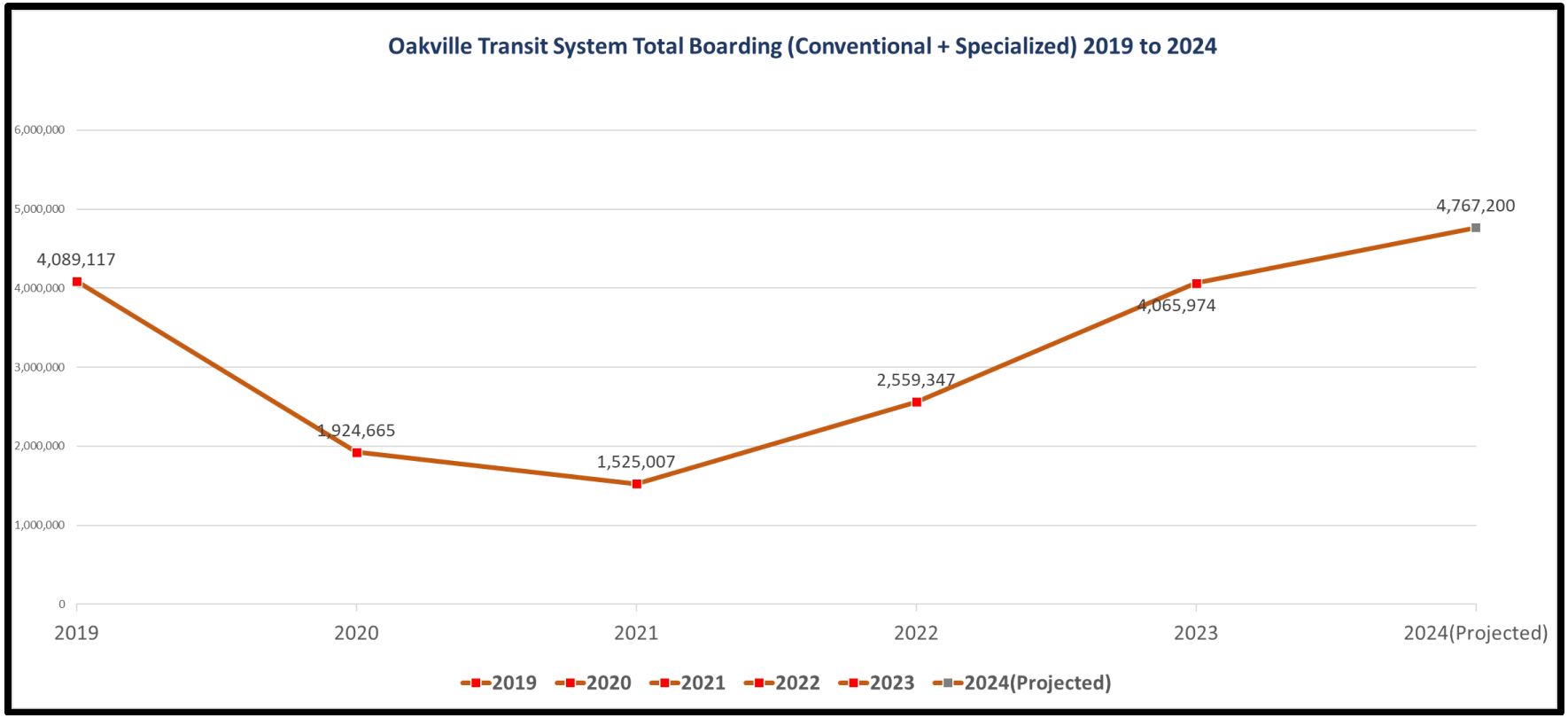
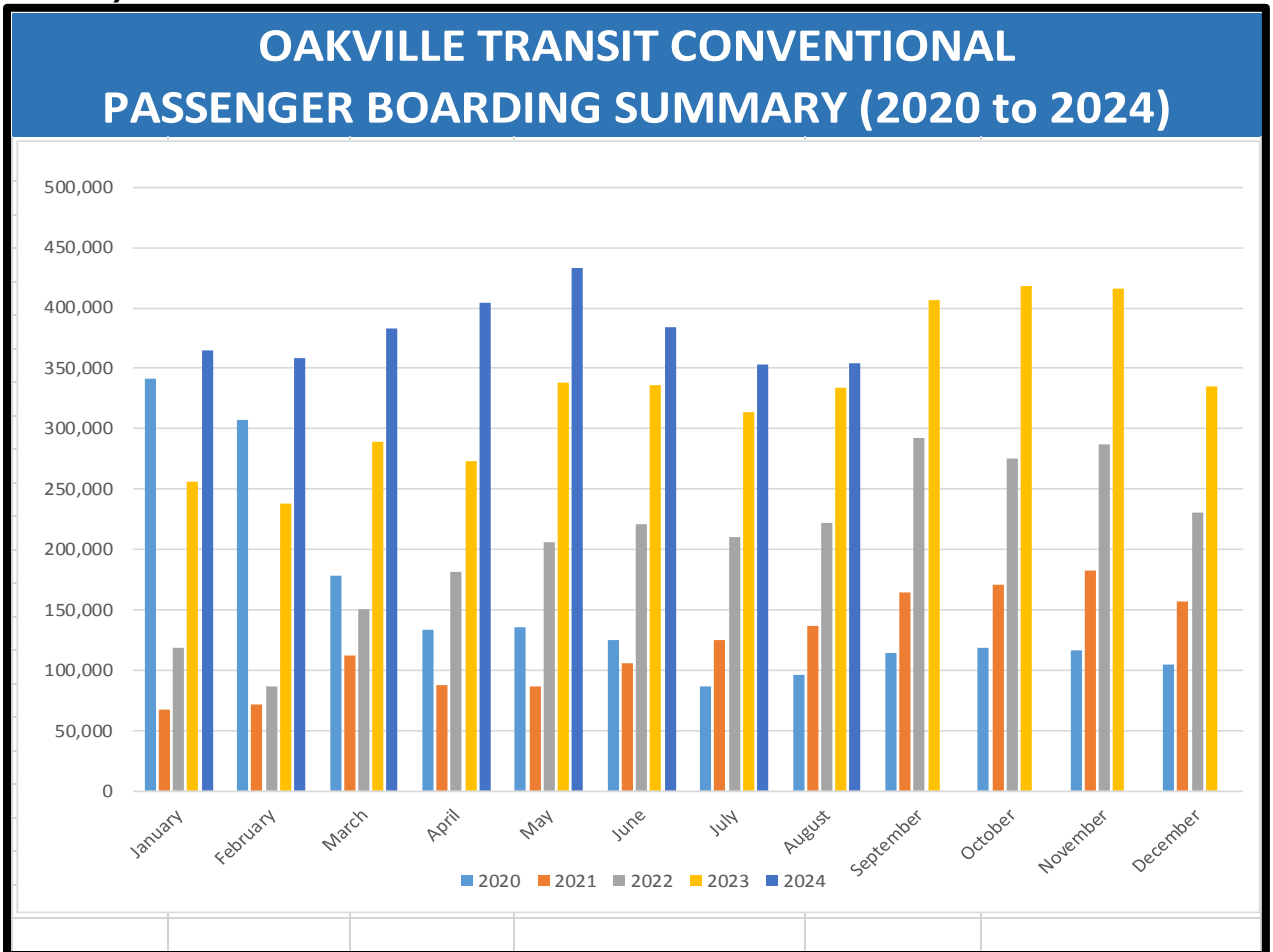
Oakville Transit Total Boardings 2019 – 2024 (projected)

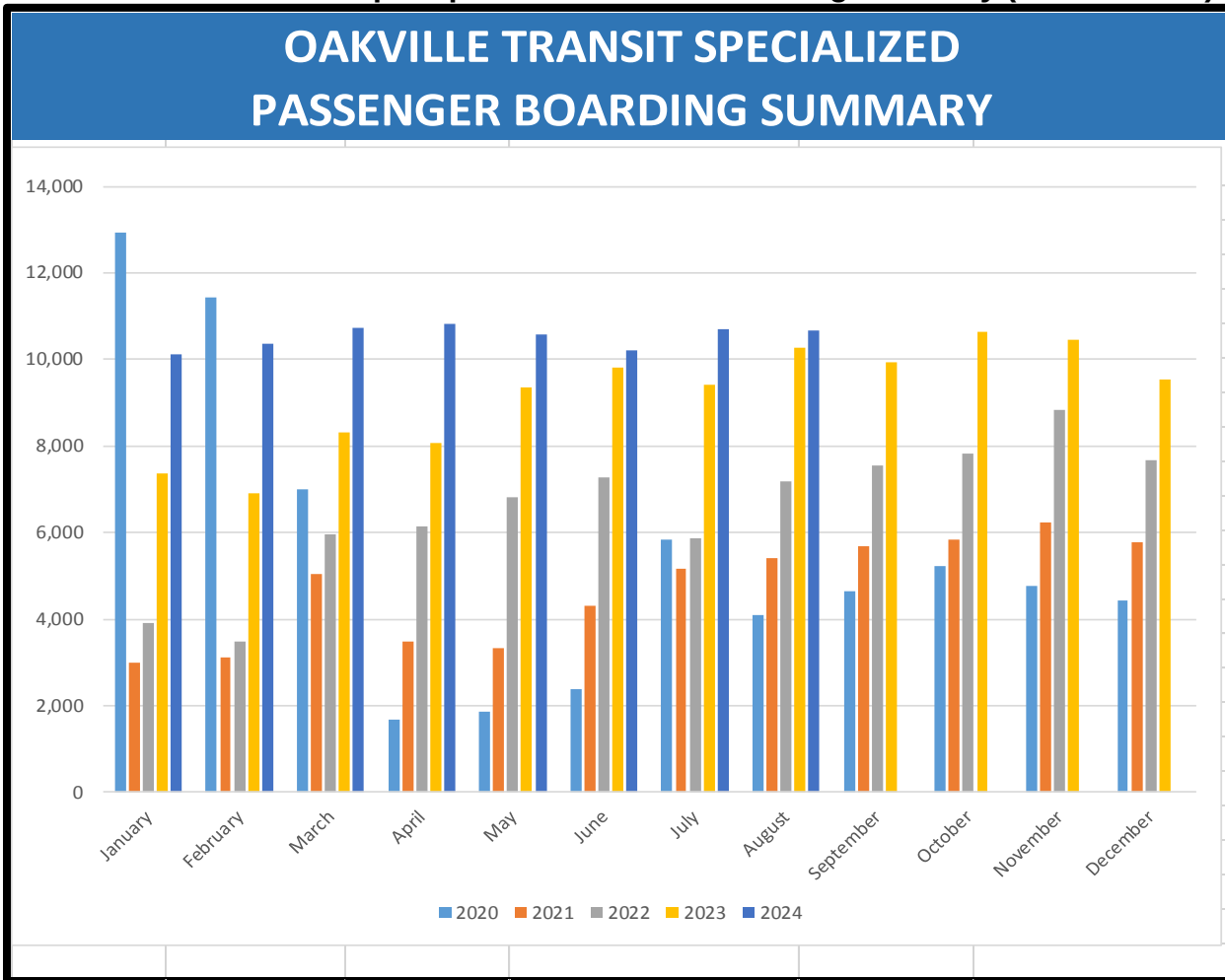


Oakville Transit Ridership – Conventional transit Total Boarding summary (2020 to 2024)



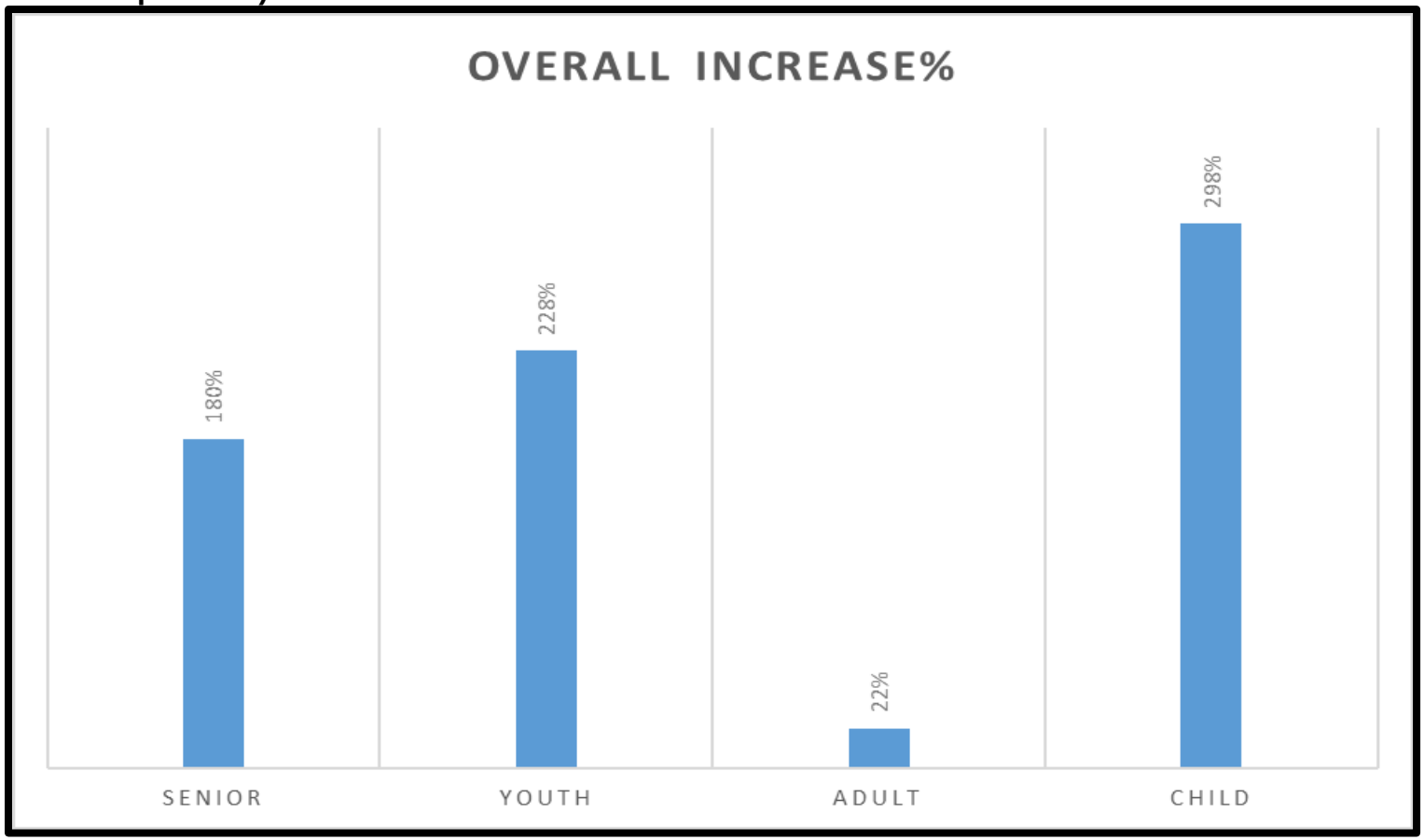
Month	2023 Boardings	2024 Boardings	Monthly Change 2024 vs 2023	YTD Change	2024 Average Weekday Boardings
January	256,732	364,448	42.0%	42.0%	14,553
February	238,342	358,801	50.5%	46.1%	15,595
March	289,615	383,186	32.3%	41.0%	14,733
April	273,049	403,939	47.9%	42.8%	16,193
May	338,682	433,255	27.9%	39.2%	17,353
June	336,543	384,546	14.3%	34.3%	16,104
July	313,660	352,942	12.5%	31.0%	13,127
August	334,490	354,540	6.0%	27.5%	13,989
September	406,404				
October	417,667				
November	415,606				
December	335,104				

Oakville Transit Ridership – Specialized transit boarding summary (2020 to 2024)



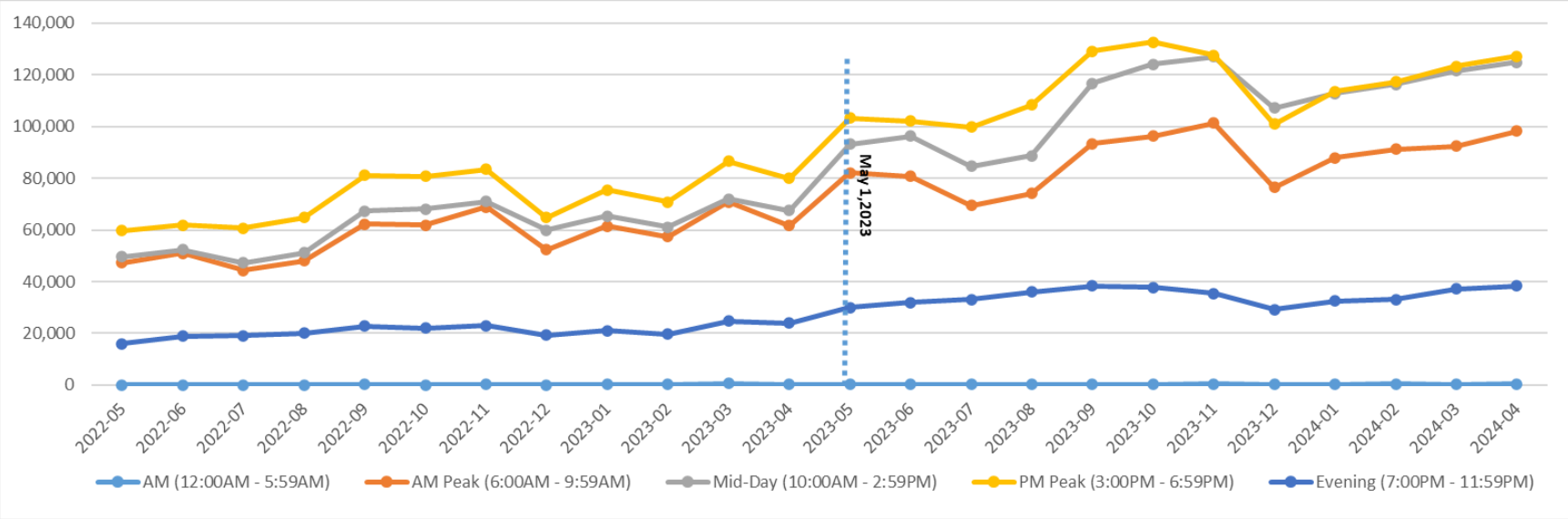
Month	2023 Boardings	2024 Boardings	Monthly Change 2024 vs. 2023	YTD Change	2024 Average Weekday Trips
January	7,369	10,114	37.3%	37.3%	397
February	6,898	10,354	50.1%	43.5%	438
March	8,318	10,716	28.8%	38.1%	449
April	8,082	10,812	33.8%	36.9%	424
May	9,350	10,575	13.1%	31.4%	414
June	9,827	10,217	4.0%	26.0%	418
July	9,404	10,701	13.8%	24.0%	399
August	10,277	10,666	3.8%	21.0%	424
September	9,934				
October	10,623				
November	10,448				
December	9,550				
YTD	**69,525**	**84,155**	**21.0%**	**21.0%**	**421**

Oakville Transit Ridership – Total Boarding increases by fare type post free transit for youth and seniors (May 2023 to April 2024)



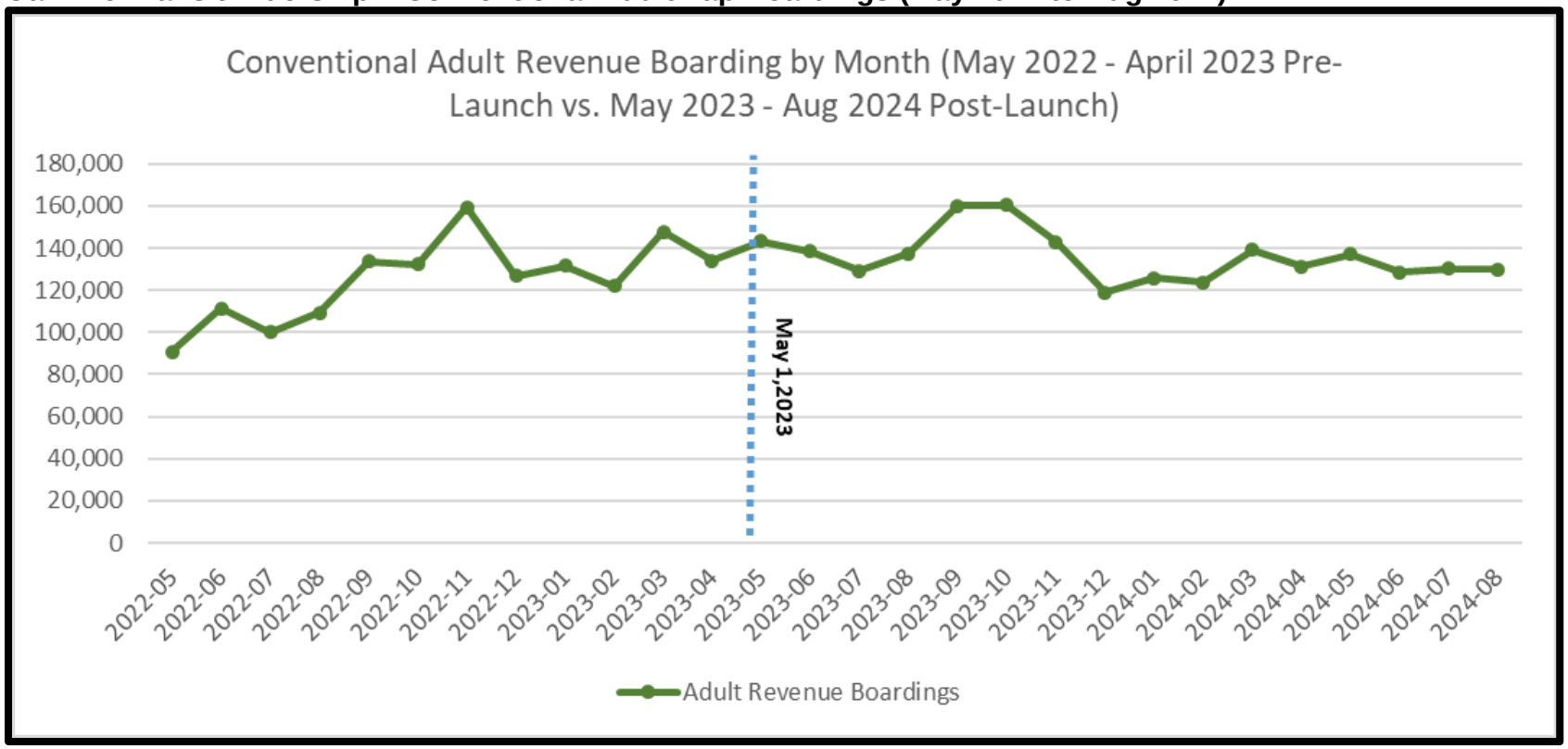
- There were 1,615,005 new rides in total comparing ridership pre and post launch of the free transit for youth and seniors

Oakville Transit Ridership –Boarding increases by time of day – pre/post free transit for youth and seniors (May 2022 to April 2024)



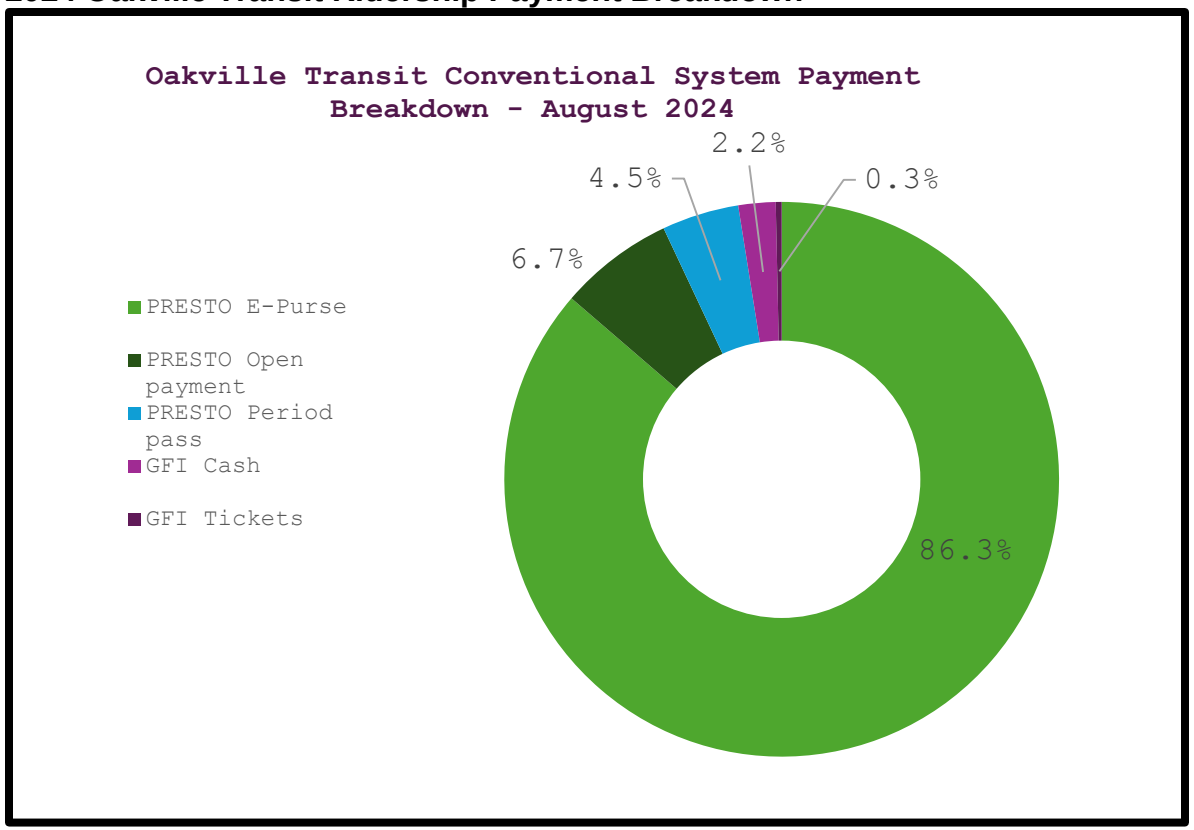
- Free transit for youth and seniors was implemented May 2023
- All time periods throughout the day experienced ridership increases system wide after the implementation of free transit for youth and seniors
- Majority of system ridership increased between 6:00 a.m. and 7:00 p.m. post implementation of the free service

Oakville Transit Ridership – Conventional Adult Tap Boardings (May 2022 to Aug 2024)



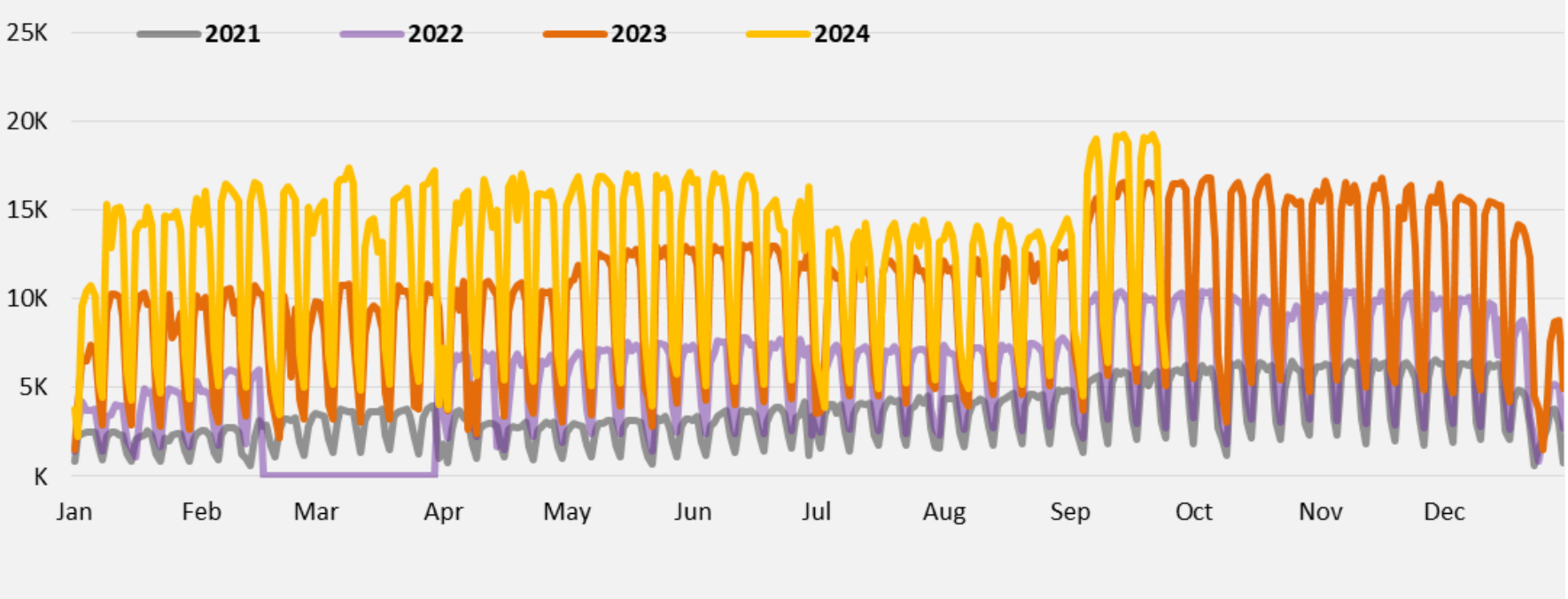
- Adult tap ridership has increased by and average of 8.4% by month when comparing to pre free transit for youth and seniors
- There was an increase of approximately 290K adult tap ridership trips when comparing ridership one year before and one year after the implementation of free youth and seniors transit

2024 Oakville Transit Ridership Payment Breakdown



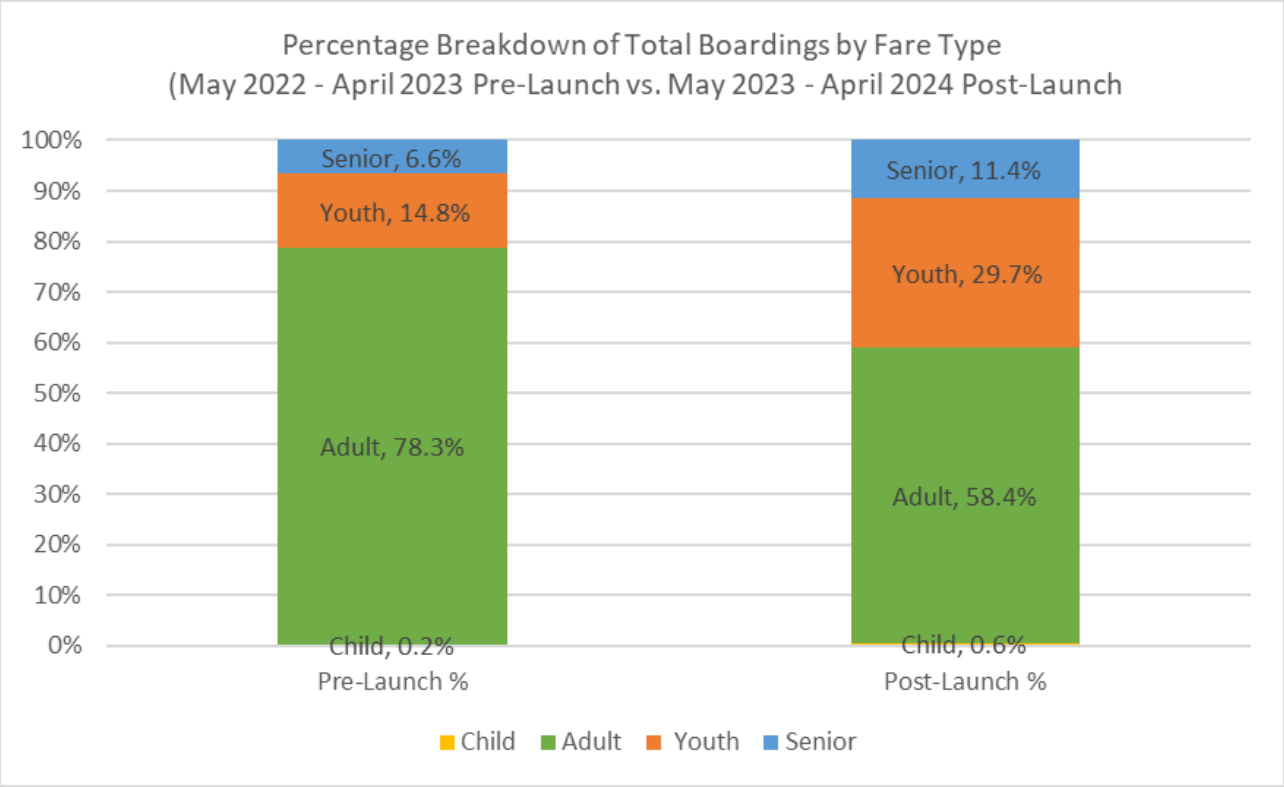
- 98% of all Oakville Transit ridership is now paying with the use of PRESTO
- PRESTO E-Purse is the most commonly way customers are paying for transit
- 6.7% of all fare transactions are processed by Open Payments which represents the use of a transaction other than a PRESTO card.

Oakville Transit Ridership – Average Daily Ridership (PRESTO data)



- Oakville Transit daily system ridership has reached over 18,500 passengers on the system in one day representing the highest ridership ever recorded on the system in one day.
- PRESTO ridership in 2024 is averaging an additional 20K trips per week when compared to PRESTO ridership in 2019.

Oakville Transit Ridership – Percentage Breakdown of Total Boardings by Fare Type



- The percentage breakdown of passengers who use the Oakville Transit system has changed since the implementation of free transit for youth and seniors
    - The Adult breakdown has decreased from 78% to 58%
    - Youth ridership has doubled from 14% to 29%
    - Senior ridership has also increased since the implementation of free transit for youth and seniors with and increase in the passenger breakdown from 6% to 11%
    - Child ridership has seen a modest increase in the ridership breakdown with an overall increase of 0.4% when compared to the ridership before the free transit initiative

Oakville Transit

Five-Year Business Plan (2025-2029)

Final Report

September 2024

OAKVILLE TRANSIT

Honouring the Land and Territory

Oakville, as we know it today, is rich in the history and modern traditions of many First Nations. From the lands of the Anishinaabe, to the Attawandaron and Haudenosaunee, these lands surrounding the Great Lakes are steeped in First Nations history. As we gather today on the sacred lands of Treaties 14 and 22, we are in solidarity with Indigenous brothers and sisters to honour and respect Mother Earth, the original nations of the trees and plants, the four legged, the flyers, the finned and the crawlers as the original stewards of Mother Earth.

We acknowledge and give gratitude to the waters as being life and being sacred and to the carriers of those water teachings, the females. We acknowledge and give gratitude for the wisdom of the Grandfathers and the four winds that carry the spirits of our ancestors that walked this land before us.

The Town of Oakville is located on the Treaty Lands and Territory of the Mississaugas of the Credit. We acknowledge and thank the Mississaugas of the Credit First Nation, the Treaty holders, for being stewards of this traditional territory.

Acknowledgements

Town of Oakville Council (2022-26)

Mayor Rob Burton
Ward 1 Councillors Sean O'Meara and Jonathan McNeice
Ward 2 Councillors Cathy Duddeck and Ray Chisholm
Ward 3 Councillors Janet Haslett-Theall and Dave Gittings
Ward 4 Councillors Allan Elgar and Peter Longo
Ward 5 Councillors Jeff Knoll and Marc Grant
Ward 6 Councillors Tom Adams and Natalia Lishchyna
Ward 7 Councillors Nav Nanda and Scott Xie

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1 Overview

Oakville Transit, with the assistance of HDR Corporation, has completed a Five-Year Business Plan (2025 – 2029) to prepare Oakville Transit for a new era of growth. The plan will guide Oakville Transit through the next five years, in alignment with Local, Regional and Provincial plans.

The primary objective of the Five-Year Business Plan is to develop strategies and policies to guide Oakville Transit's development of a "Family of Services" to overcome the residual impacts of the pandemic, accommodate growth, address changing needs, and align with key plans and studies throughout the 2025 to 2029 period, and beyond.

The Business Plan initiatives will be further developed and implemented over the 2025 to 2029 period as part of the Annual Service Plan process.

The Five-Year Business Plan will:

- Examine the higher-order policy framework and alignment for planning a new Oakville Transit route network.
- Develop a network of long-term major transit routes, the "Frequent Transit Network", that aligns with regional plans and the Oakville Transportation Master Plan and establishes the framework for the Oakville Transit route network.
- Develop a "Family of Services" route network and On Demand service areas to serve Oakville during the 2025 to 2029 period.
- Assess the staffing needs to plan, operate, and manage the transit systems.
- Evaluate the infrastructure and fleet required to support the service.
- Analyze the transit operations needed to provide customer services.
- Determine the operating and capital budgets necessary to implement the Plan.

The implementation of this comprehensive plan is important for Oakville Transit's future, ensuring a resilient, efficient, and adaptable system that meets the community's evolving needs.

It's important to note that the development of the Oakville Transit Five-Year Business Plan relied on the 2023 Best Planning Estimates for population data, the Canadian Urban Transit Association (CUTA) for industry data up to 2022, and Oakville Transit for community and transit data up to 2023 and early 2024. These data elements will evolve over time, and future analyses and conclusions may differ from those in the current report. The Five-Year Business Plan will feed into the Town's 2025 Transportation Master Plan.

Note: A separate study, the Electric Bus Needs Assessment, has been conducted to address the integration of electric buses and charging infrastructure. Bus electrification is not covered within the scope of this business plan.

2 Strategic Priorities and Goals

Oakville is a vibrant and livable community for all. A key part of that livability is providing a robust and efficient transit system to enhance the town's livability and mobility options. Transit services also support other community priorities and the public realm, such as transportation, active transportation, climate change, social equity, economic growth, access to jobs, tourism, environmental health, and accessibility. This Five-Year Business Plan is aligned with Council's Strategic Plan 2023-2026, with the priorities and the recommendations of the Business Plan complementing Council's overarching goals:

Strategic Priority 1 – Growth Management

- The Oakville Transit Five-Year Business Plan will help maintain an efficient and effective transportation system that encourages and supports residents' access to jobs, social, and recreational activities.
- The plan will facilitate a robust transit system, once which provides residents with a viable mobility choice which is frequent and reliable.
- The plan is adaptable and flexible, based on changing demand and community needs.
- The plan continues to ensure the goals of accessibility and equity are addressed within the transit services offered to residents.

Strategic Priority 2 – Community Belonging

- The Oakville Transit Five-Year Business Plan will enhance residents' access to frequent reliable transit services, thereby increasing the opportunities to access social, and recreational activities, as well as jobs.

Strategic Priority 3 – Environmental Sustainability

- The Oakville Transit Five-Year Business Plan, in its goal to attract additional ridership and act as a viable mobility alternative, will help enhance the Town's goals of environmental sustainability by helping to reduce greenhouse gas emissions.
- While not a direct element of this plan, the transition to an electric bus fleet further supports the environmental goal of reducing greenhouse gas emissions.

Strategic Priority 4 – Accountable Government

- The Oakville Transit Five-Year Business Plan recommends a transit route network that promotes efficiency and fiscal responsibility of assets and services.
- The plan recommends some alternatives to non-fare revenue initiatives, which provide an additional consideration to increase revenues.
- The plan outlines service guidelines to assist Oakville Transit with measuring the success of its transit routes, network, and services. Measures that are found lacking can then be acted upon.
- The plan assists in ensuring good governance through high-quality customer service, coordinated service delivery, and equity and accessibility.

3 What is driving the need for a new Transit Business Plan?

3.1 Community Growth

Oakville's community is experiencing robust growth, with its population expanded by 13.6% between 2016 and 2021, surpassing the rates observed in Halton Region and Ontario. In 2021, Oakville had a population of 220,140, an increase of 26,308 residents since 2016. Projections suggest a further increase to 296,160 by 2031 and a significant jump to 378,050 by 2041.

Oakville's employment landscape experienced notable shifts amidst the challenges of the COVID-19 pandemic. Prior to the pandemic, the Town experienced relatively stable employment growth. However, the economic disruptions brought about by COVID-19 led to a downturn in local job numbers, with a subsequent partial recovery in 2021. Employment reached 120,616 in 2021, reflecting a 5% increase over 2020 figures, yet down by 3% compared to pre-pandemic levels in 2019. Oakville's growth presents opportunities to recapture employment currently leaving the town for other major business centers in the GTA.

This demographic growth lays the groundwork for various development initiatives and plans within the Town.

The Town of Oakville has multiple plans focused on community growth. Midtown Oakville is positioned for significant growth as a key Urban Growth Centre in Ontario, attracting businesses and supporting population growth. North Oakville is expected to absorb more than half of the overall population increase, positioning it as a key area for future growth. Plans include expanding residential areas and enhancing infrastructure to support the increasing population. These initiatives aim to create vibrant, transit supportive urban environments and foster economic prosperity within Oakville's growing community.

Oakville Transit recorded 2,832,847 revenue riders in 2023 (first post-Covid service year). This translates to 12.3 revenue passengers per capita, indicating a recovery from the COVID years, though still below the pre-COVID levels of 15 to 17 revenue passengers per capita. This ridership figure includes all riders, including Children, Youth and Seniors who ride fare-free as of May 1, 2023.

3.2 Community Feedback

Engaging the public, key stakeholders, and transit customers was a fundamental aspect of developing the Oakville Transit Five-Year Business Plan. Two public consultation phases were conducted for the Plan in both online and in-person formats. The in-person consultations took place at over 11 locations throughout the Town of Oakville, including community centers, GO stations, Sheridan College, Trafalgar Memorial Hospital, and Oakville Public Library.

Approximately 1,000 citizens observed the drop-in sessions. A total of 110 attendees provided direct feedback during these in-person sessions, while 241 participants completed online surveys during both rounds of consultation.

3.2.1 Initial Round of Consultations (November 2023 - December 2023)

During the initial round of consultations, the public, key stakeholders, and transit customers provided feedback on the current state of the transit system to Oakville Transit. This consultation included various sources such as an Online Survey and five Drop-In Transit Talk events. Additionally, an analysis of Oakville Transit's Customer Service Feedback data from January 2022 to October 2023, and insights from the Annual Plan survey conducted in July 2023, were incorporated, with a specific focus on feedback related to existing conditions.

3.2.2 Second Round of Consultations (March 2024 – April 2024)

Building on the initial round, the second phase of consultations involved a deeper exploration of residents' needs through the development of detailed survey questions and feedback on the Draft Oakville Transit Five-Year Business Plan. This phase included six advertised drop-in events in the community, an online survey, a drop-in session with Oakville Town Council members, a meeting with the Accessibility Advisory Committee, and a Town Hall meeting with Oakville Transit staff to discuss and gather feedback.

3.2.3 Key Themes from the Consultation Process:

- **Schedule frequency:** Users expressed a desire for increased service frequency, particularly during off-peak periods. The existing 30-minute or one-hour intervals for most routes were deemed insufficient.
- **On-time performance:** Service delays and poor punctuality were prominent concerns, deemed crucial for meeting user expectations.
- **Driver behavior:** Interaction issues with transit drivers were raised, with friendliness below expectations, discussed across various feedback channels.
- **Bus stops and shelters:** Highlighted issues included the condition and functionality of stops and shelters, with concerns about access in new development areas.
- **Integration with GO Trains:** Users emphasized the need for better connections with GO Trains and more direct routes to key destinations like downtown Oakville.
- **Emphasis on reliability and accessibility:** There is a renewed emphasis on improving service reliability and enhancing accessibility for riders with disabilities.
- **Supportive infrastructure:** Residents sought improvements in supportive infrastructure, including more complete schedule and route information at bus stops.

- **Specific route suggestions:** Specific route suggestions were made during the second round of consultations, reflecting residents' preferences for neighbourhood connections and access to key destinations like GO Stations and downtown Oakville.

The findings from both rounds of consultation provide a comprehensive understanding of the community's priorities and serve as a roadmap for the Oakville Transit Five-Year Business Plan over the 2025 to 2029 period and beyond.

For detailed insights, the Consultation Summary Report is provided in **Appendix B – Consultation Summary Report.**

3.3 Alignment with Provincial, Regional and Local Initiatives and Plans

Building on a strong policy foundation, the Oakville Transit Five-Year Business Plan aims to integrate Transit Oriented Development (“TOD”) initiatives with provincially mandated Growth Plans, local municipal plans, and regional/municipal Transportation Master Plans.

Considering the limitations on road capacity highlighted in the 2017 Transportation Master Plan (TMP), the ongoing TMP update emphasizes the need for sustainable transportation solutions beyond reliance on private automobiles.

The following section provides a high-level overview of plans in the Ontario, Greater Toronto and Hamilton Area, Halton Region, adjacent municipalities, and the Town of Oakville that influenced the development of Oakville Transit Five-Year Business Plan.

3.3.1 Provincial and Greater Toronto and Hamilton Area Initiatives

The provincial transportation plans and initiatives, including the Greater Golden Horseshoe Transportation Plan, the proposed 407 Transitway, Fare & Service Integration, grade separations, and the Dundas BRT, collectively underscore a key theme: connectivity and accessibility. The overarching goal is to develop a well-connected and accessible transit system that enhances the overall mobility experience for Greater Golden Horseshoe residents. These plans emphasize the importance of seamless travel, improved connections, and transit-friendly communities, all contributing to a more integrated and efficient transit network.

3.3.2 Halton Initiatives

Halton Region's mobility initiatives, encompassing the "Mobility Management Strategy for Halton (2017)" and "Defining Major Transit Requirements (DMTR) in Halton (2019)," share a key theme: integrated, multi-modal transportation planning. The "Mobility Management Strategy" advocates for "Mobility-as-a-Service," presenting a region-wide network of Transit Priority Corridors and Mobility Links for enhanced connectivity. The subsequent "DMTR" study refines this network, proposing a mix of transit infrastructure for 2031 and 2041.

The “Transit Priority Corridor Operationalization Study” explores the evolution of transit priority corridors within Halton Region with a focus on governance structure. In addition, Halton Region’s Integrated Mobility Plan highlights the importance of prioritizing transit and active transportation across the Region.

Together, these initiatives underscore the overarching vision of a seamless, interconnected transit system within Halton Region that adapts to evolving urban mobility needs for the future.

Figure 1 shows the location of different types of strategic growth areas within Halton Region.

Figure 1: Regional Urban Structure

3.3.3 Adjacent Local Municipalities

The transit plans and initiatives in adjacent municipalities reflect a common emphasis on enhancing efficiency, sustainability, and strategic development, as follows:

- Burlington Transit is transitioning to a grid-based system, prioritizing 15-minute headways on key routes, exploring alternative service delivery, and collaborating with regional plans.
- In Halton Hills, the Transit Service Strategy recommends more fixed-route services in high-demand areas, along with planning for a mobility hub near Steeles Avenue and Trafalgar/Ninth Line.
- Milton Transit is focusing on streamlined routes, increased frequency, support for regional corridors, and the introduction of alternative transportation models.
- The City of Mississauga is leveraging its robust employment base and collaborating with neighbouring municipalities, concentrating efforts on multimodal transit hubs, and developing a Higher Order Transit integrated network. This network includes the Hurontario LRT, Lakeshore, and Dundas BRT, as well as expansions into neighbouring cities.

3.3.4 Town of Oakville

Oakville's official plans include the Livable Oakville Plan and the North Oakville Secondary Plans. These outline the Council's policies for land use and long-term growth management, including projections for population and employment to 2051. Currently, the Official Plan is undergoing review to ensure alignment with provincial and regional policies and to integrate the North Oakville areas into the Livable Oakville Plan.

In addition to the official plan, ongoing planning projects and studies are implemented through official plan policies or zoning by-law regulations. One of these studies, which informs the Oakville Transit Five-Year Business Plan, is the Urban Structure Review. This review determines the best approach for managing development within the town's existing boundaries. As shown in **Figure 2,** it assesses population projections, potential development zones such as Trafalgar Corridor, Palermo Village, Midtown Oakville, and the vicinity of Oakville GO and Bronte GO Stations —relevant to the transit plan— preservation of residential stability and natural heritage, infrastructure delivery, and criteria for identifying new growth areas.

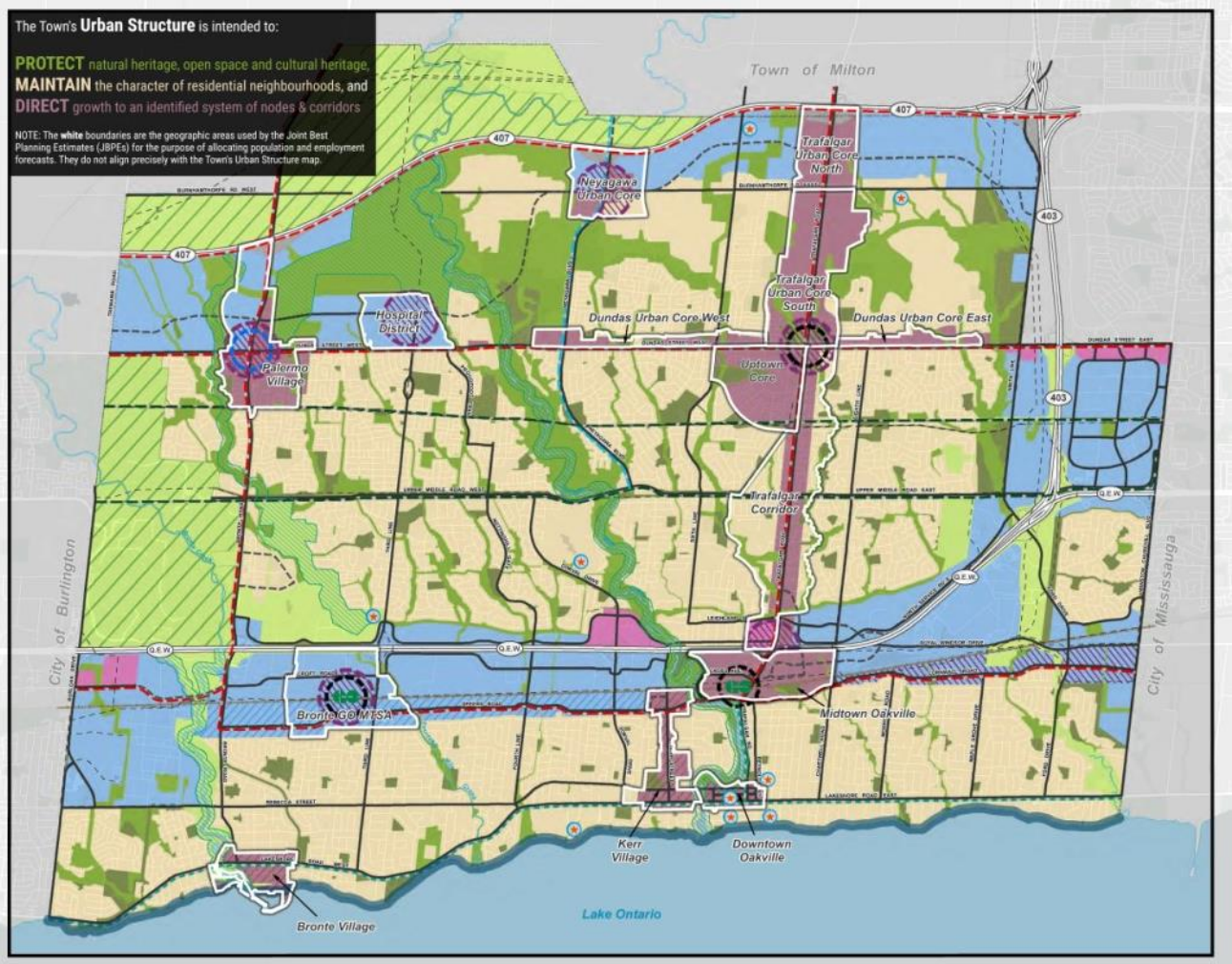

Figure 2: Town of Oakville's Urban Structure

The town also is undertaking a Transportation Master Plan update to the 2018 Transportation Master Plan and 2017 Active Transportation Master Plan. The process will utilize the Urban Mobility and Transportation Study to develop a new plan accommodating growth up to 2051. The TMP is expected to be completed by the end of 2024. The planning teams for both the Oakville Transportation Master Plan and the Oakville Transit Five-Year Business Plan have worked collaboratively to ensure the planning approach and outcomes of the two projects are closely aligned.

The updated TMP is focusing on walkable, cycle/transit-friendly neighbourhoods with integrated and accessible transportation choices for all residents. It will recommend a comprehensive set of guidelines to enhance the town's transportation system, addressing the needs of all stakeholders and supporting Oakville's vision of being a vibrant and livable community for all. These measures will enhance the efficiency and effectiveness of Oakville's transit services.

Furthermore, the Town of Oakville is advancing the development of its transit network with key initiatives aimed at sustainability, efficiency, and strategic development. The following are endorsed as the Town of Oakville's priority transit initiatives:

1. **Trafalgar Bus Rapid Transit (BRT):**
    - Strategic alignment with regional plans and The Big Move.
    - Advocacy for High Occupancy Vehicle (HOV) lanes to expedite BRT adoption.
2. **Dundas Bus Rapid Transit:**
    - Integration into Metrolinx's regional transportation plan.
    - Collaboration with Metrolinx for the phased implementation of Dundas BRT.
3. **Palermo Transit Terminal:**
    - Identification of Palermo as a major transit hub.
    - Strategic importance for connecting with future developments and higher-order transit services.
    - Need for optimal site location to accommodate local and regional transportation plans.
4. **Midtown including Oakville GO modifications:**
    - Positioned as the Urban Growth Center, Midtown's development centres on Trafalgar Road as a priority, emphasizing strategic growth and infrastructure modifications.
5. **Enhanced and Expanded On-Demand Transit Services:**
    - Potential applications include early transit introduction to new communities, replacing conventional fixed route service in off-peak times, serving historically low-demand areas, and acting as feeder service for high frequency conventional service.
6. **Regional Express Rail on the Lakeshore West line:**
    - GO Rail Expansion aims to transform the transportation network in the Greater Toronto and Hamilton Area, with Metrolinx planning a comprehensive upgrade for two-way, all-day service every 15 minutes. However, realizing the full benefits of Regional Express Rail (RER) poses challenges for local transit providers like Oakville Transit, as matching the 15-minute frequency for trips back to Oakville may be difficult. Increased service levels on routes connecting to GO Stations are essential for efficient and reliable connectivity with the rail line.

4 Oakville Transit Today

The Town of Oakville has been providing public transportation through Oakville Transit since 1972. Oakville Transit operates as a department of the Town of Oakville and offers a range of services including transit operations, planning and support services, fleet maintenance, and on-demand scheduling.

In 2019, Oakville Transit experienced 4 million total boardings on the system, and 3,1 million revenue rides. However, the COVID-19 pandemic and subsequent lockdowns significantly impacted ridership, reducing it to 1.6 million in 2020. This decline was further exacerbated by a two-week transit strike in February 2022. To restore customer confidence and encourage ridership, Oakville Transit implemented a strategy of offering free rides throughout March 2022.

With the gradual easing of pandemic-related measures and an increase in public confidence, citizens became more active in utilizing public transportation. In addition, Oakville Transit introduced free fares for Youth and Seniors effective May 2023 (in addition to Children who already rode free). These factors contributed to Oakville Transit's rise in ridership (conventional and specialized), reaching a total of 2,911,493 in 2023.

The residual impacts of the COVID pandemic have also impacted ridership patterns. While initially there was little commuter train travel in the early COVID recovery, connections to GO Rail stations has increased in the last two years, leading up to 2024. Ridership trends are showing more activity during midday, and free service for Youth and Seniors has also increased midday ridership. Oakville Transit will continue to monitor and evaluate changes in travel patterns.

Below is a summary of key statistics for Oakville Transit in 2024. Please note that all ridership figures include all riders (including free Children, Youth and Seniors).

Table 1: Oakville Transit Fact and Figures

Oakville Transit Facts and Figures	
Population Served	240,680
Service Area	104 sq. km
Conventional Revenue Ridership (2023)	2,832,847
Specialized Transit Ridership (2023)	78,646
Conventional Fleet	102
Specialized Transit Fleet	28
Annual Revenue Trips Per Capita	14

4.1 Administration

Oakville Transit’s mission is to provide a safe, reliable, convenient, and efficient public transit service through our Family of Service model (conventional and On-Demand service including specialized and Ride On-Demand). To accomplish this mission, Oakville Transit is organized into four divisions under the overall management of the Director of Transit:

- **Transit Operations** – Delivery of scheduled fixed route conventional transit services, Late Night Zone, School Specials and special event services. As of 2024, the Transit Operations division has 161.9 FTEs and an operating budget of $9,147,000.
- **Transit Planning and Support Services** – Planning and scheduling of all conventional accessible fixed route services including School Specials and Charter Services. The division also oversees marketing and communications, analysis, stop infrastructure, and customer service (including social media). As of 2024, the Transit Planning and Support Services division has 8.4 FTEs and an operating budget of $1,222,400.
- **Transit Fleet and Maintenance** – Maintenance of transit vehicle assets through the provision of scheduled and unscheduled servicing of all transit vehicles. As of 2024, the Transit Fleet and Maintenance division has 34.1 FTEs and an operating budget of $24,178,500.
- **Transit On-Demand** – Scheduling, delivery, and customer service of all Specialized and On-Demand Services. As of 2024, the Transit On-Demand division has 40.6 FTEs and an operating budget of $4,402,600.

4.2 Operating Budget

The Oakville Transit 2024 Operating Budget includes 244.9 FTEs, which is also supported by approximately 20 seasonal staff per year. Details of the annual expenditures, revenue and recoveries, and the net operating budget are noted below.

Table 2: Oakville Transit Operating Budget

Item	Amount
Total Expenditures	$47,661,000
Total Revenue and Recoveries	($8,711,500)
Net Operating Budget	$38,950,500

4.3 Capital Budget

The Capital Budget ensures that the transit fleet and infrastructure are maintained in a state of good repair, with funds allocated to refurbishment, replacement, and growth items. The detailed 2024 allocations are as follows:

Table 3: Oakville Transit Capital Budget

Item	Amount
Replacement Shelters	$221,500
New Shelters	$65,600
Capital Lease for Charging Infrastructure	$4,305,100
Transit Facility Capital Repairs and Replacement	$201,400
Transit Facility Equipment Replacement	$1,063,300
Bus Stop Accessibility Improvements	$70,500

Item	Amount
Electric Replacement Buses (1)	$4,480,000
Electric Replacement Buses (2)	$9,638,400
Specialized Electric Vehicle Expansion	$519,000
Supervisory & Maintenance Vehicle Replacement	$201,400
Major Vehicle Refurbishment	$2,012,000
Total Capital Budget	**$22,778,200**

4.4 Existing Transit Service (Network)

Oakville Transit operates a comprehensive route network throughout Oakville, including local fixed routes, express routes, school specials, and On-Demand services. Several routes extend into Mississauga, facilitating connections between Oakville Transit and MiWay, Mississauga's transit agency, at key locations such as the Clarkson GO Station, Laird and Ridgeway and South Common Centre. Similarly, several Oakville routes extend into Burlington, making connections between Oakville Transit and Burlington Transit at Appleby GO and the Dundas Highway 407 Park and Ride (see the Oakville Transit Weekday Route Map in **Figure 3**).

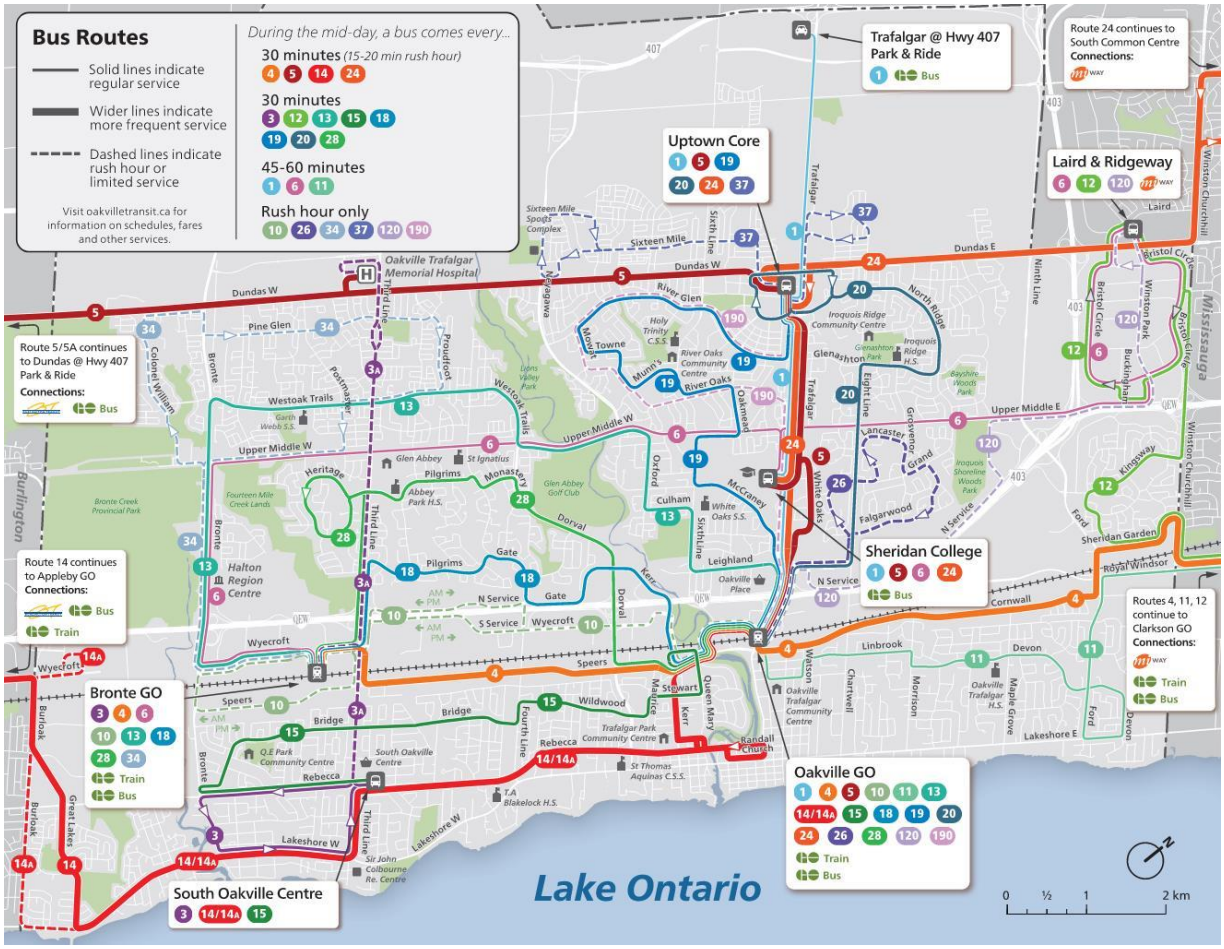

Figure 3: Oakville Transit Weekday Route Map

4.4.1 Local Fixed Routes

Oakville Transit operates twenty regular fixed routes and eight school specials as part of its conventional service.

4.4.2 Express Routes

Oakville Transit currently operates one express route. The 190 River Oaks Express connects Oakville GO with the River Oaks community. It does not make any stops as it travels along Trafalgar Road and makes a large one-way loop through River Oaks.

4.4.3 Late Night Service

The Late-Night Service transitioned to Ride On-Demand starting July 2024, departing Oakville GO station at 11:40 p.m., Monday to Friday (except holidays), allowing customers to book trips home via the Oakville Transit On-Demand mobile app.

4.4.4 School Routes

There are eight specialized school routes that operate based on the school's known start and finish times. These routes do not operate on holidays, during March break, or during the summer.

4.4.5 On-Demand Transit Service

Oakville Transit offers two types of services under the umbrella of On-Demand Service: Specialized Service and Ride On-Demand.

4.4.5.1 Specialized Service

Oakville Transit offers a specialized door-to-door transit service called care-A-van for persons with disabilities which operates seven days a week, has 4,108 active registered clients and provided 146,072 boardings in 2019. This service uses 24 specialized accessible low floor buses. It operates between 6:00 am and 12:00 pm Monday to Friday, from 7:00 am to midnight on Saturday, and from 8:00 am to 8:00 pm on Sunday and statutory holidays. Passengers can use a self-service booking system online, by automated phone, by telephone with a Mobility Coordinator or use the Oakville Transit On-Demand app to book a trip during the service's operating hours. Rides are shared between passengers, with a maximum travel time of one hour for each passenger to get to their destination.

4.4.5.2 Ride On-Demand

Oakville Transit currently operates shared ride, curb to curb bus services through Ride On-Demand. The service may comingle passengers between specialized service and Ride On Demand within the same bus. Trip requests may be booked through an online app, online or automated interactive voice response (IVR) or telephone.

Ride On-Demand services offer a cost-effective alternative to fixed-route services in communities with low transit demand. Building on the success of the Ride On-Demand (ROD)

pilot program in north and southeast Oakville, the new Oakville Transit On-Demand mobile app for ROD was implemented in April 2024. The expansion of ROD for Routes 26 (Falgarwood) and 34 (Palermo West/Bronte Creek) became effective on July 2, 2024. These routes, which previously offered rush hour fixed-route service, now include Ride On-Demand options with service hours from Monday to Friday, 6 a.m. to 9 p.m. Some fixed-route services remain for express connections during rush hours.

Additionally, the Ride On-Demand service in north and southeast Oakville became permanent, running Monday to Friday from 7 a.m. to 7 p.m., Saturday from 10 a.m. to 5:30 p.m., and Sunday from 10 a.m. to 5 p.m., replacing the previous Home to Hub service.

4.5 Service Summary

Table 4 notes the frequency of Oakville Transit bus routes throughout the weekday peak, detailing cycle time* peak fleet, and annual revenue hours. Most routes operate with a 30-minute frequency during peak hours, while Routes 5, 14, and 24 offer higher frequency, running every 15-20 minutes during weekday peak hours. Additionally, the table includes On-Demand service covering 3 zones and school routes service, providing supplementary trips on eight school routes.

**Cycle time is the duration it takes for the bus to complete a full trip, including both outbound and inbound trips.*

Table 4: 2024 Oakville Transit Route Frequency

Route Number	Name	Weekday Peak	Cycle Time (min)	Peak Fleet	Annual Revenue Hours
1	Trafalgar	60	60	1	4,680
3	Third Line	30	60	2	9,256
4	Speers – Cornwall	20	90	5	19,292
5	Dundas	15	90	6	20,124
6	Upper Middle	30	90	3	11,960
10	West Industrial	30	60	2	3,120
11	Linbrook	60	60	1	3,900
12	Winston Park	30	60	2	3,120
13	Westoak Trails	30	90	3	15,860
14	Lakeshore West	15	120	8	27,976
15	Bridge	30	60	2	8,320
18/28	Glen Abbey	30	120	4	16,640
19	River Oaks	30	60	2	9,880
20	Northridge	30	60	2	9,880
24	South Common	15	90	6	22,152
26	Falgarwood	30	30	1	1,560
34	Palermo/Pine Glen	30	60	2	3,120
120	East Industrial	30	60	2	3,120
190	River Oaks Express	30	60	1	3,120

Route Number	Name	Weekday Peak	Cycle Time (min)	Peak Fleet	Annual Revenue Hours
OD	On-Demand	2 zones		3	18,408
SCH	School Specials	1 trip X 8 Routes		8	10,400
	TOTAL			67	230,782

The school specials shown in **Table 4** include the following routes:

- 19/71 White Oaks S. S.
- 80 Holy Trinity S. S.
- 81 Abbey Park H. S. / Loyola S. S. South
- 82 Loyola S. S. North
- 83 T. A. Blakelock H. S.
- 84 Oakville Trafalgar H. S.
- 13/86 Garth Webb S. S.

4.6 Peer Comparison

Comparing Oakville Transit's system metrics with other Ontario transit agencies and the Canada Population Group 3 (150K to 400K population) provides valuable insights into its performance relative to its peers. The system metrics are from the Canadian Urban Transit Association 2023 database.

In 2022, Oakville provided fewer Hours of Operation Per Capita (0.9) than peer agencies (1.0 to 1.8), carried fewer passengers per operating hour (12.8) than most (11.0 to 26.8) peer agencies, and had lower passengers per capita (9.5) than other agencies (12.2 to 46.5). As well, Oakville's revenue to cost ratio (20%) is lower than peer agencies (23% to 43%).

Overall, these metrics highlight that Oakville Transit underperforms in several key areas compared to other agencies, pointing towards significant opportunities for improvement in service provision, system performance, ridership, and financial sustainability.

A peer comparison of 2022 system performance metrics is provided in **Appendix A -Table 1.**

4.7 Regional Transit Connections

Regional transit connections are significant for the future planning of Oakville Transit, as they support movement across Halton Region, as well as across the Greater Golden Horseshoe. It is essential for Oakville Transit to integrate and coordinate with transit agency partners across municipal boundaries to foster service and service integration initiatives, to meet customer needs for seamless travel across the Greater Toronto and Hamilton area. This coordination also ensures connectivity across regional boundaries, supporting further goals identified in Halton Region plans as well as the town's update to the Transportation Master Plan.

The following will provide a synopsis of transit connections as they exist today.

4.7.1 GO Transit

Oakville Transit connects with GO Transit's Lakeshore West regional rail line at four stations: Bronte, Oakville, Clarkson (Mississauga), and Appleby (Burlington). The Lakeshore West line operates daily in both directions, facilitating travel eastbound towards Toronto and westbound towards Hamilton and Niagara Falls.

Figure 4: Oakville GO Station

Passengers can access GO Transit's bus services at GO Transit Carpool lots at Dundas Street and Highway 407, Trafalgar Road and Highway 407, in addition to the four GO Rail stations.

Below are the GO Bus routes accessible in Oakville:

- **Route 12:** Follows a similar route to the Lakeshore West GO Rail line between Burlington and Niagara Falls, with alternative stops at St. Catharine Fairview Mall and Niagara College. The route stops near Oakville at Highway 407/Dundas Park and Ride.
- **Route 18:** Follows the route of the Lakeshore West GO Rail line in both directions with additional stops between the GO Rail stations. The route stops at multiple locations along the southern border of Oakville.
- **Route 22:** Directly links Milton and Oakville with stops at Sheridan College and Highway 407/Trafalgar Park and Ride. The route begins at Oakville GO.
- **Route 40:** Links Hamilton and Richmond Hill with stops in Burlington, Oakville, Mississauga, Pearson Airport, and Vaughan. The route stops in Oakville at Highway 407/Trafalgar Park and Ride.

- **Route 41:** Connects Hamilton and Pickering, with stops in Burlington, Oakville, Mississauga, Brampton, Vaughan, Richmond Hill, and Scarborough. The route stops in Oakville at the Highway 407/Trafalgar Road Park and Ride.
- **Route 47:** Services Hamilton and Vaughan, with stops in Burlington, Oakville, Mississauga, and Brampton. The route stops in Oakville at the Highway 407/Trafalgar Road Park and Ride.
- **Route 56:** Operates on weekdays between Oakville and Oshawa, with stops in Mississauga, Brampton, Vaughan, Richmond Hill, Markham, and Northern Durham. Local stops in Oakville are along Trafalgar Road between Oakville GO and Highway 407.

4.7.2 MiWay

MiWay services within the Town of Oakville are limited, with the small sections of two routes (MiWay Route 71 and MiWay Route 45) operating in the Winston Park business area.

Passengers can connect to MiWay services at Clarkson GO, South Common Centre and at Laird and Ridgeway in Mississauga.

4.7.3 Milton/Halton Hills

Direct connections between Oakville Transit routes and fixed routes in Milton or Halton Hills are not currently available.

4.7.4 Burlington Transit

Burlington Transit does not operate within the Town of Oakville. Passengers can access Burlington Transit services at Appleby GO Station and at the Dundas/Walkers 407 GO Carpool Lot.

4.7.5 Connecting Services and Cross-Boundary Routes

The following provides details of connecting services and cross-boundary routes, facilitating inter-municipal trips:

Mississauga Connections:

- **Oakville Route 4:** Connects Bronte GO to Clarkson GO in Mississauga.
- **Oakville Route 6:** Links Bronte GO to Laird and Ridgeway, connecting with MiWay Route 36.
- **Oakville Route 11:** Connects Oakville GO to Clarkson GO in Mississauga.
- **Oakville Route 12:** Forms a link around Winston Woods, intersects at Laird and Ridgeway with MiWay Route 36, and connects to Clarkson GO in Mississauga.
- **Oakville Route 24:** Connects Oakville GO to South Common Centre in Mississauga.
- **Oakville Route 120:** Links Oakville GO to Laird and Ridgeway, connecting with MiWay Route 36.

Burlington Connections:

- **Oakville Route 5:** Connects Oakville GO to the Dundas/Walkers 407 Park & Ride in Burlington.
- **Oakville Route 14/14A:** Links Oakville GO to Appleby GO in Burlington.

5 Components of a Transit Business Plan

5.1 Policy Foundation

5.1.1 Route Network Design Principles

The development of the Oakville Transit route network follows best practice by applying the following design criteria. Following these criteria as closely as possible will create a route network that is direct, minimizes the need for transfers and will provide clear and effective customer service:

- Routes should form part of a coherent interconnected grid network.
- Develop a fully connected grid network on major north-south and east-west continuous corridors aligning with Regional and Local Initiatives and Plans.
- Focus service on core routes or corridors, rather than on service coverage.
- Routes should be bi-directional, and as straight and direct as possible. Avoid large, one-way open loops.
- Avoid overlapping routes within a corridor.
- Connect routes along the full length of a corridor, eliminating mid-route transfers.
- Anchor both ends of a route at a major land use, destination, or community activity node.
- Operate on collector or arterial streets that permit reasonable travel speeds.
- Place routes with adequate pedestrian catchment on both sides of the route.
- Ninety percent of the urban area should be within 400 metres of walking distance to transit.
- Replace low performing routes/areas and isolated areas with On-Demand service.

5.1.2 Service Guidelines

The Transit Service Guidelines outlined below draw upon the expertise of peer transit agencies and data from the Canadian Urban Transit Association (CUTA). These guidelines, structured into various categories, assist in managing performance, and informing planning and operations decisions by setting minimum data requirements and facilitating efficient performance monitoring.

The Service Guidelines encompass metrics for planning and managing Oakville Transit, addressing system guidelines, route guidelines, planning criteria, operational criteria, and other aspects such as safety and security.

5.1.2.1 Route Guidelines

Bus services may be classified based on the type of corridor that they serve, and the type of service provided. Classifying routes helps to set route-specific standards and guidelines that

are most appropriate for the locations that they serve and their contribution to the route network. The following service types are defined for Oakville Transit Five-Year Plan:

- **Frequent Transit Network (FTN)**: Major corridor routes that operate at a frequency of 15 minutes or better every day from at least 0700 to 2100 and may be less frequent at other times.
- **Primary Transit Network**: Major corridor routes that operate at a frequency of 15 minutes or better during weekday peak periods and less frequent at other times depending on demand. May develop into future FTN routes.
- **Base Transit Network**: Local routes and On Demand Service that connect with and serve the areas between the FTN and Primary Transit Networks. These services may operate at a frequency of 15 minutes or less during weekday peaks and less frequent at other times.
- **Special Purpose Routes**: School Specials, Industrial and Express Routes. Frequency and hours of operation would vary depending on demand.

5.1.2.2 Route Performance

- **Boarding Passengers (unlinked trips) per Operating Hour: This defines as Boarding passengers (unlinked trips) per route divided by route operating hours reported monthly):**
  - Minimum 25 on a Frequent Transit Network and Primary Network route.
  - Minimum 15 on a Local route.
  - Minimum 20 on Express and Industrial routes.
  - Minimum 10 on a School Special route.
  - Minimum 2.5 trips per hour on On-Demand services.

5.1.2.3 On Time Performance

- Target: 90% of trips depart time points within 0 to -3 minutes of schedule reported monthly.

5.1.2.4 System Guidelines

The System Guidelines outline key targets and criteria for improving transit services over the 2025 to 2029 period.

- **Hours of Operation Per Capita** (Revenue vehicle hours divided by service area population, reported annually)
- **Passengers Per Operating Hour** (Regular service passengers (linked trips) divided by revenue vehicle hours reported annually)
- **Passengers Per Capita** (Regular service passengers (linked trips) divided by service area population reported annually)
- **Revenue to Cost Ratio** (Total operating revenues divided by total direct operating expenses reported annually)

For detailed insights, Planning Criteria, Operational Criteria, and other criteria such as safety and security refer to the Service Design Guidelines outlined in

Appendix C – Service Design Guidelines**.**

5.1.3 Bus Stop Design Guidelines

Bus stops are the initial point where transit customers interact with transit. Therefore, it is crucial that the design of bus stops facilitates efficient pedestrian flow to and through the stop area, enabling passengers to board and alight from buses seamlessly. Additionally, ensuring a safe and comfortable waiting environment is essential to enhance the overall experience for transit users.

The Bus Stop Design Guidelines in **Appendix D – Bus Stop Design Guidelines** provide a comprehensive review of best practices and recommend bus stop design guidelines for Oakville Transit. The guidelines aim to enhance accessibility, safety, and comfort at transit stops, with standards reflecting proven strategies from other agencies. Below is the summary of recommendations for critical components:

5.1.3.1 Stop Placement

- Farside bus stop locations are preferred unless there are unique safety, operating or other concerns. For existing bus stops, farside locations should be prioritized in cases where retrofitting becomes possible through road reconstruction or route realignment.
- In-line bus stop bulbs are preferred to bus bays (except at timing points and layby areas).

For detailed insights, refer to the Bus Stop Design Guidelines outlined in **Appendix D – Bus Stop Design Guidelines**

Figure 5 and **Figure 6** provide the recommended farside stop and standard pad layout, respectively. The noted dimensions vary based on the site conditions.

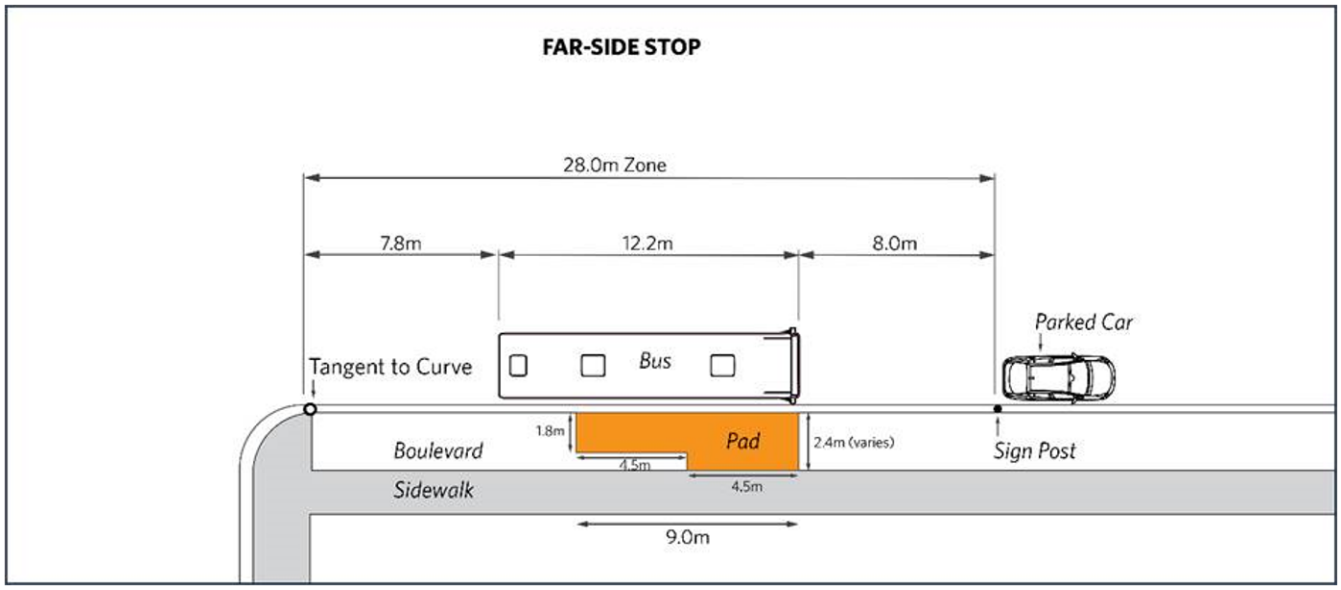

Figure 5: Farside Bus Stop

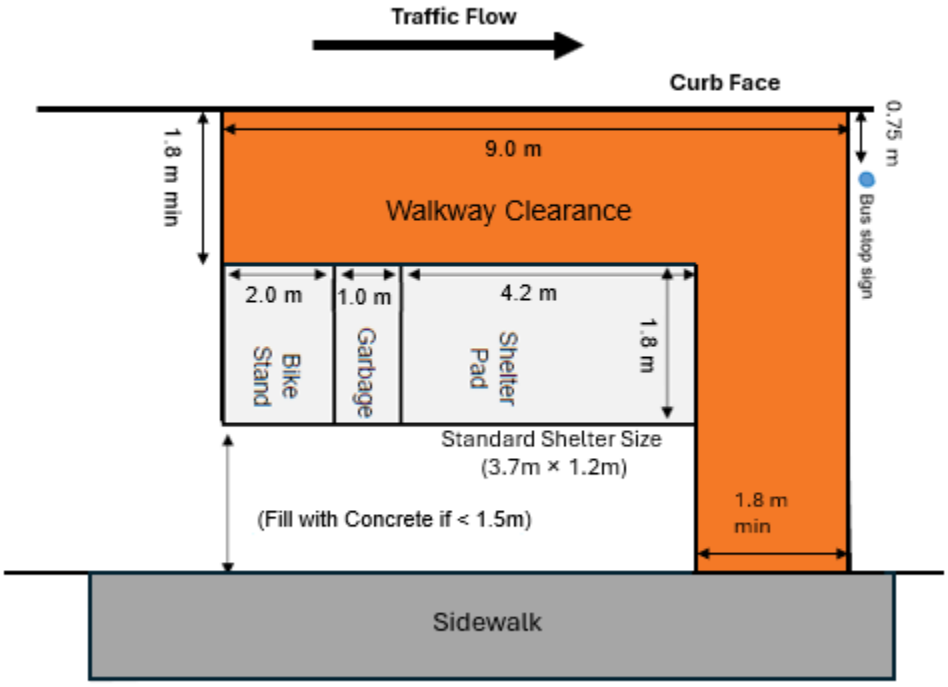

Figure 6: Standard Pad Layout

5.1.3.2 Stop Spacing

- Minimum stop spacing of 400m for major corridor routes and local fixed routes (Frequent Transit Network (FTN), Primary Transit Network, Base Transit Network).
- Minimum stop spacing of 800m for School Specials, Industrial and Express Routes. (Special Purpose Routes).
- When relocation of existing stops is feasible due to road reconstruction or route realignment, the spacing between stops should adhere to the minimum spacing requirements based on the route type.

For detailed insights, refer to the Bus Stop Design Guidelines outlined in **Appendix D – Bus Stop Design Guidelines.**

5.1.4 Accessibility Policies

The Town of Oakville is committed to eliminating barriers and providing accessible services. Directly related to transit services, Oakville Transit provides the care-A-van specialized transit service for individuals with disabilities who are unable to use conventional transit. These individuals must apply to determine their eligibility. In addition to the provision of specialized transit, Oakville Transit meets or exceeds the Accessibility for Ontarians with Disabilities Act (AODA) standards for buses and fixed assets (stations and bus stops). The recommended Bus Stops Design Guidelines (**Appendix D – Bus Stop Design Guidelines**) include references to walkway clearances and access to the active transportation network to accommodate all transit users.

5.1.5 Active Transportation Connections

All transit customers begin and end their transit journey as pedestrians, wheelers, or cyclists. As outlined in the Bus Stop Design Guidelines (**Appendix D – Bus Stop Design Guidelines),** it is recommended that Active Transportation access to and from all bus stops be considered in the bus stop planning process. The principles of 5A (Always Available for All Ages & Abilities) Network Guiding Principles and Universal Design Standards are useful guides for assessing Active Transportation access.

The current Transportation Master Plan update is reviewing community-wide active transportation network requirements which align closely with and support bus stop access needs.

5.2 Service Analysis

Effective management of a transit system requires current and accurate data on customer demographics, travel patterns, system functionality, and financial status.

Demographic data on the community and customers, along with their travel destinations, is essential for understanding community needs and planning services effectively.

Additionally, the implementation and use of General Transit Feed Specification (GTFS), Automatic Vehicle Location (AVL), and Automatic Passenger Counting (APC) system data provide crucial information on bus performance metrics, bus location and schedule adherence, as well as passenger loading and transfer activity. Utilizing these systems effectively is fundamental to the planning and management of today's transit systems.

Service analysis involves more than just gathering data; it requires a systems approach to organize and analyze the data to extract essential business intelligence. This necessitates a business intelligence system and dedicated staff to integrate, analyze, and learn from the basic system data inputs.

5.3 Network Planning

5.3.1 Key Corridors and Trip Attractions

Figure 7 highlights the location of key destinations in Oakville, including GO Train stations, institutions, major schools, shopping centers, prominent employment centres, the Oakville Trafalgar Memorial Hospital, community centres, and recreational centres. It also outlines important transportation corridors, featuring key roads extending from the central transit hubs to collectors and arterial roads spanning the town's boundaries. These corridors and destinations are crucial for supporting Oakville's economic, educational, healthcare, and recreational activities, forming the foundation for the development of the Oakville Transit network.

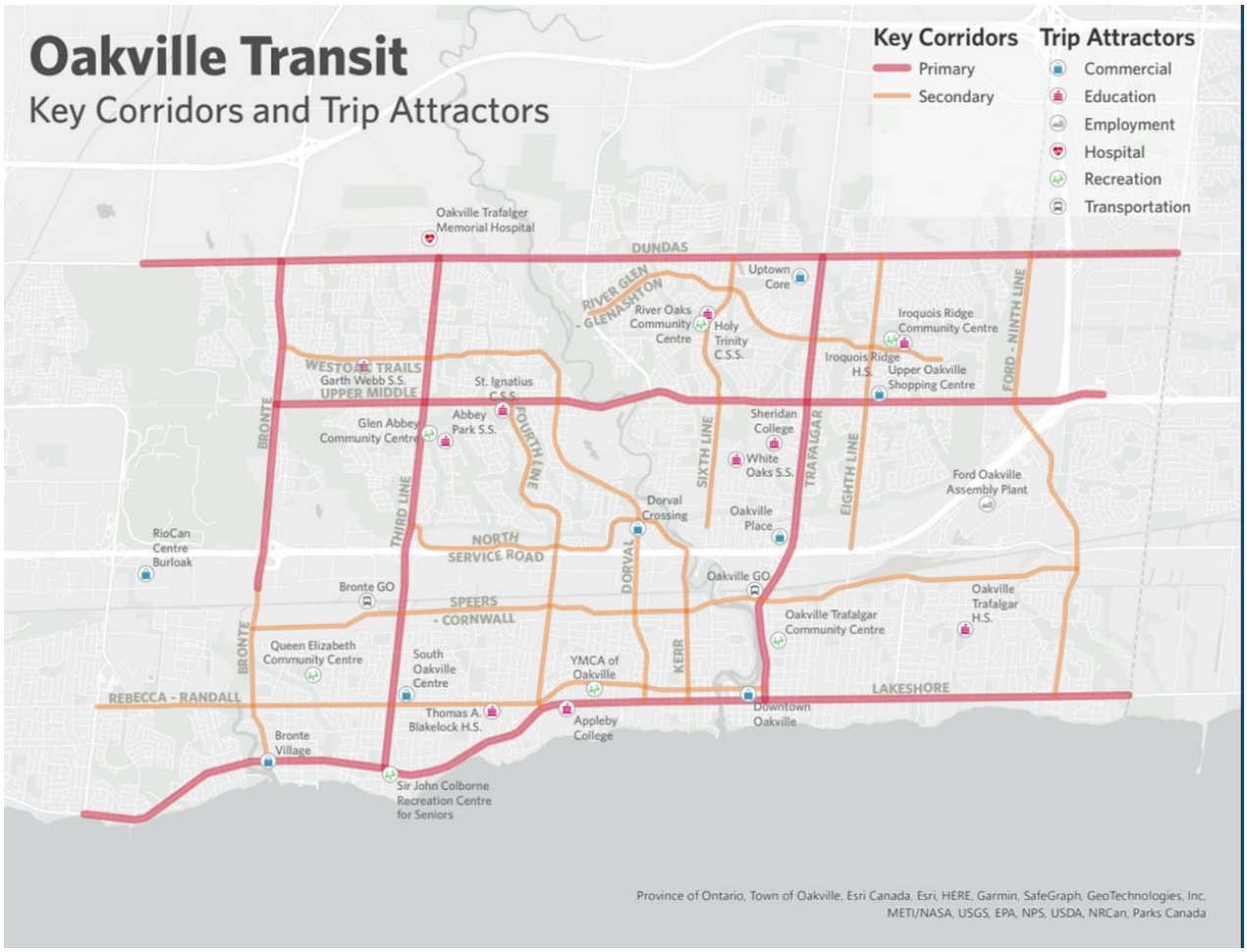

Figure 7: Oakville Key Corridors and Trip Attractors

5.3.2 Existing Population Density and Transit Ridership

Figure 8 provides a visual representation of population density across various neighbourhoods in Oakville. Higher population density areas typically signify increased demand for transit services due to the larger number of people living in proximity. As depicted in this map, the areas on Lakeshore Road West, Bronte Road South, Dundas Street and Trafalgar Road are among the highest-density areas. Most areas that are not on these major corridors are relatively low-density suburban neighbourhoods.

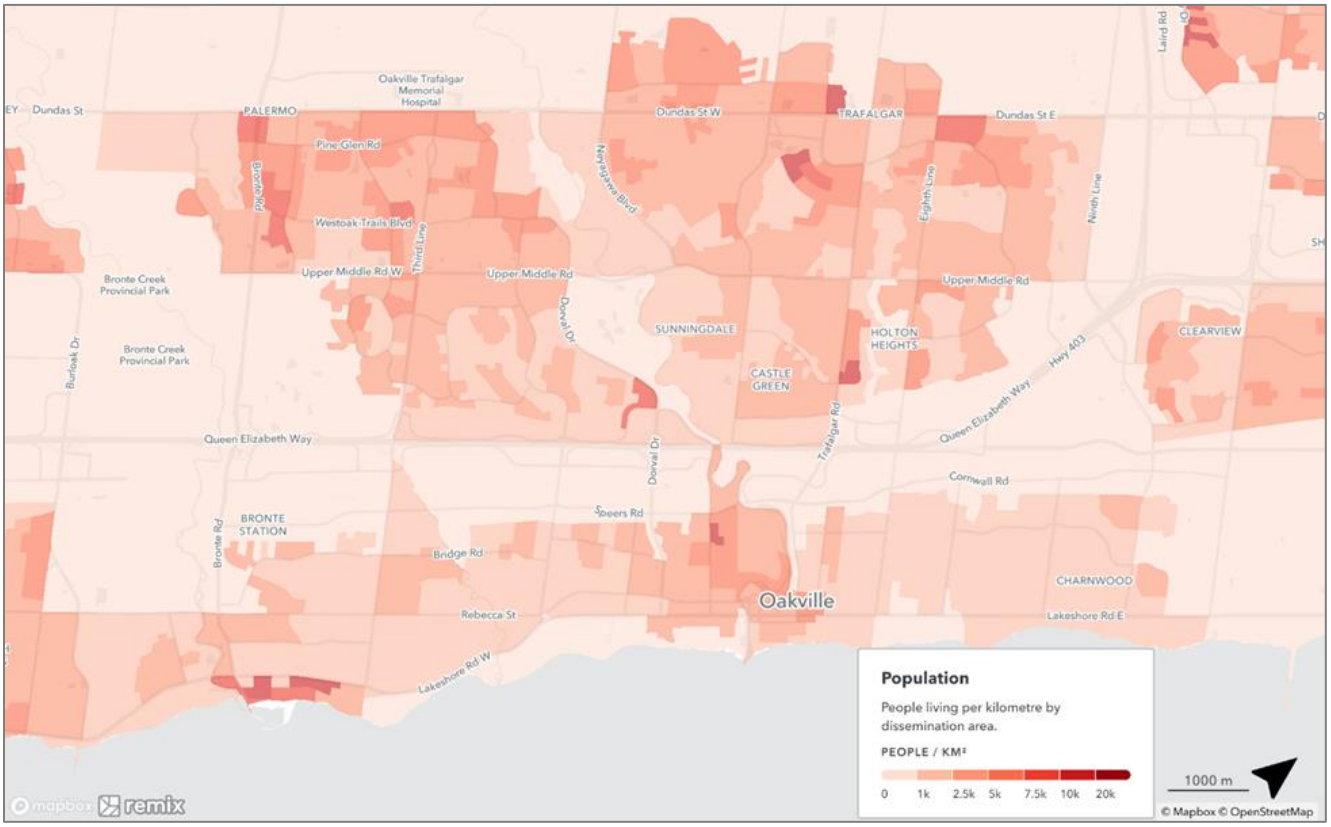

Figure 8: Population Density in the Town of Oakville (Source: remix-Census 2021)

Figure 9 depicts current transit usage patterns throughout the day, highlighting the routes that experience the highest levels of ridership. The map shows that Dundas Street, Trafalgar Road, and Rebecca Street, are the most heavily travelled corridors.

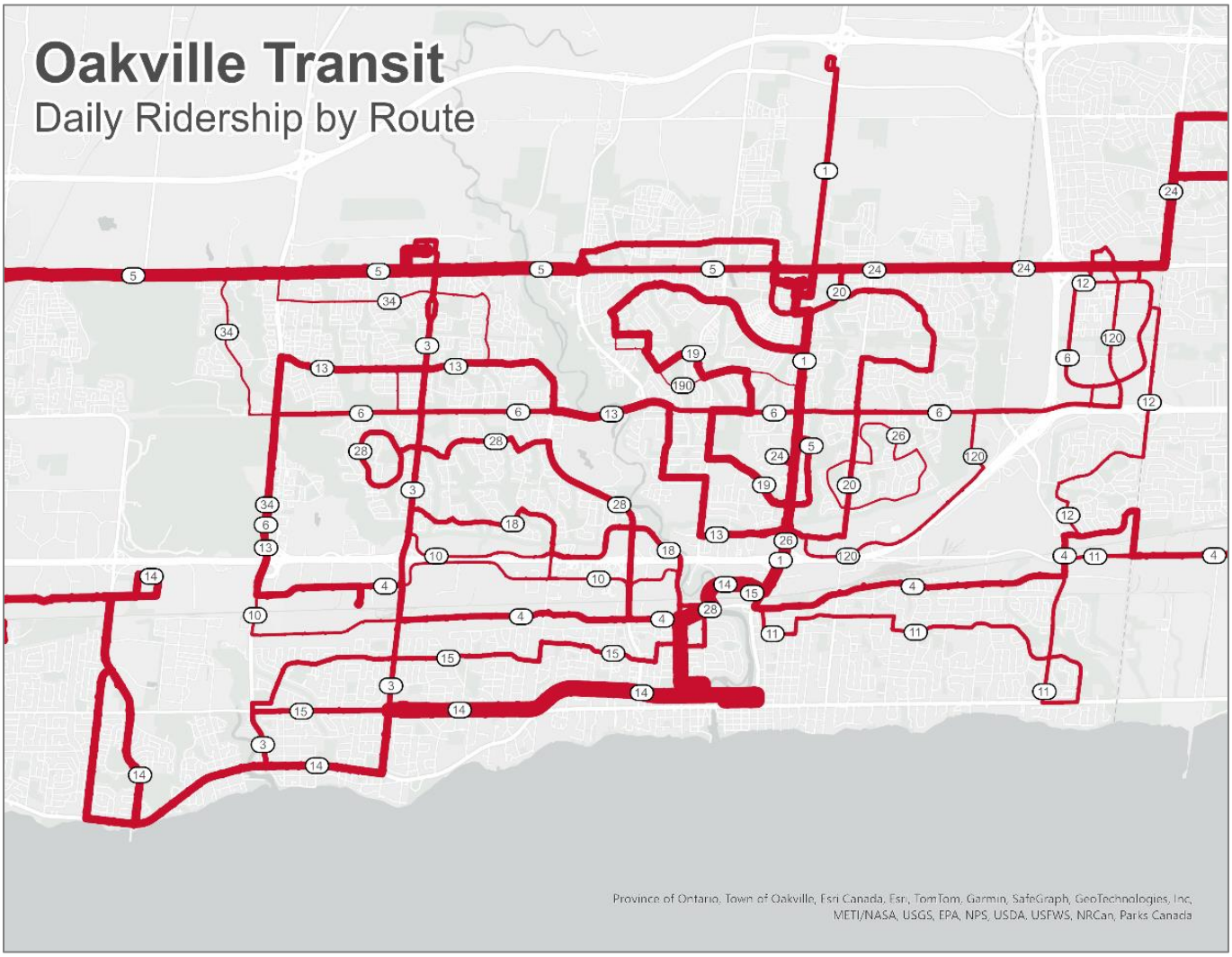

Figure 9: Heat Map of Daily Ridership

5.3.3 How People Travel Today

Utilizing data from the Transportation Tomorrow Survey (TTS) offers valuable insights into the mode choices of Oakville residents. As shown in **Figure 10**, the analysis of TTS 2016 findings reveals that motorized transportation remains the predominant choice among residents, particularly within the Town itself.

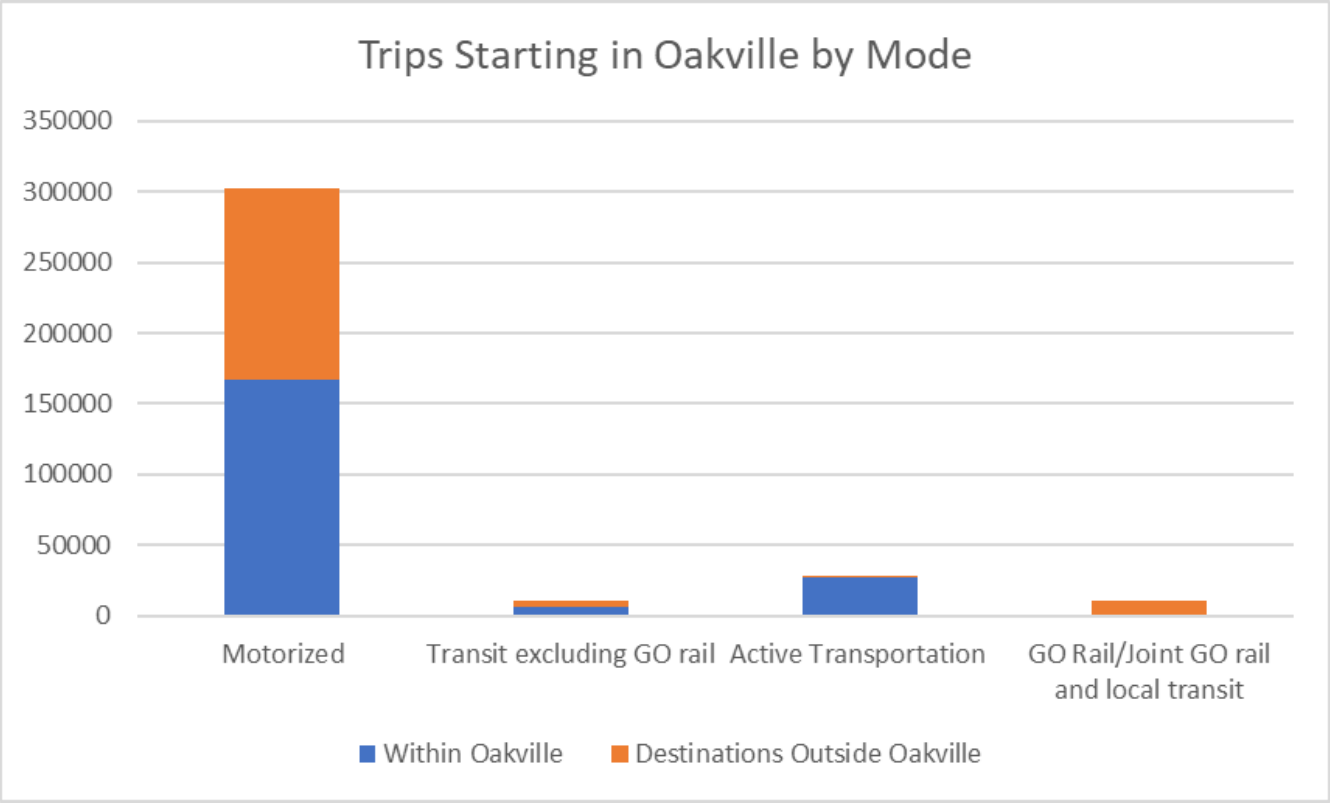

Figure 10: Trips Starting in Oakville by Mode (source: TTS 2016)

As shown in **Figure 11**, for transit trips destined outside of Oakville, Mississauga emerges as a major destination for local transit usage, while the City of Toronto stands out as the primary destination for GO Transit trips. Given the significant number of trips originating from Oakville and destined to Toronto by GO Transit, integration with GO Transit is crucial in developing the Oakville Transit Network. In addition, there is a recognized need for facilitating cross-boundary transit trips between Oakville and Mississauga.

Travel patterns emerging post COVID-19 have shown an increase in travel to make connections with GO Rail systems, as well as a rise in midday travel. The growth in midday travel may result from changes in travel patterns following COVID-19, and it may also be influenced by the increase in youth and senior travel since free fares were implemented for these cohorts.

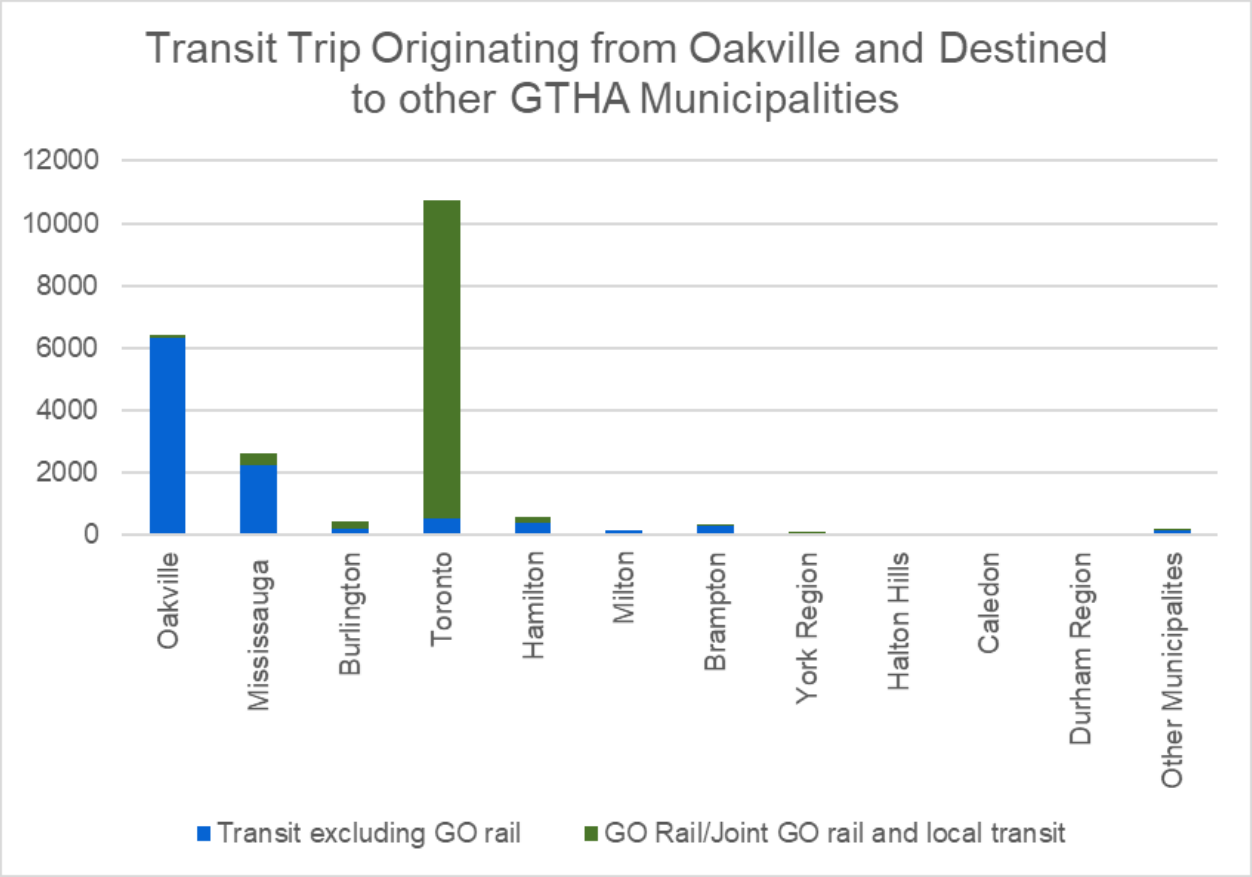

Figure 11: Transit Trips Originating from Oakville and Destined to other GTHA Municipalities

5.3.4 Understanding the Community

The Oakville Transit Five-Year Business Plan is informed by the engagement of the public, key stakeholders, and transit customers.

- **Increased schedule frequency:** Residents advocate for more frequent services, especially during peak periods, citing existing intervals as inadequate.
- **Improved on-time performance:** Concerns arise regarding service delays and reliability, impacting user satisfaction and overall experience.
- **Better bus stop and shelter conditions:** Residents emphasize the importance of enhancing the condition and functionality of bus stops and shelters across Oakville.
- **Seamless connections with GO Trains:** Seamless connectivity with GO Transit is essential for facilitating better connections and accessibility within the transit network.
- **Emphasis on reliability and accessibility:** There is a renewed emphasis on improving service reliability and enhancing accessibility for riders with disabilities.

- **Supportive infrastructure:** Residents sought improvements in supportive infrastructure, including more complete schedule and route information at bus stops.
- **Specific route suggestions**: Residents provide specific recommendations for route adjustments, emphasizing the significance of neighbourhood connections and advocating for services to Southeast and North Oakville.

These key themes steer the strategic development of the Oakville Transit Five-Year Business Plan, ensuring its responsiveness to the evolving needs and priorities of the community from 2025 to 2029 and beyond.

5.4 Ridership Growth

Oakville Transit recorded 2,832,847 revenue riders in 2023 (first post-Covid service year) including riders who travel fare-free. This translates to 12.3 revenue passengers per capita, indicating a recovery from the COVID years, though still below the pre-COVID levels of 15 to 17 revenue passengers per capita.

Building upon the demographic data from the 2021 Census and the 2023 Best Planning Estimate, projections estimate Oakville's population for the intervening years. It is anticipated that by 2025, 2027, and 2029, the population will reach 247,520, 262,730, and 279,440, respectively**.** Leveraging this foundational data, in **Table 6** and **Table 7**, projections are made for both population growth and its subsequent impact on transit service within the framework of the Five-Year Business Plan.

Considering a static revenue passengers per capita criterion of 12.3, and based on the aforementioned population estimates, Oakville Transit's ridership would rise to 2,984,841, 3,129,735, and 3,274,629 in 2025, 2027, and 2029, respectively. These estimates highlight the direct correlation between population growth and transit ridership, serving as a basis for strategic planning and resource allocation within the transit system.

Oakville Transit's ambitions extend beyond mere population-driven ridership growth projections. In alignment with the Town's developmental vision, plans and studies are underway to enhance transit services, as evidenced by the development of the Five-Year Business Plan.

Anticipating the implementation of these service improvements, projections suggest a corresponding increase in revenue passengers per capita to 16.5, 19.5, and 22.5 for the years 2025, 2027, and 2029, respectively. Coupled with the forecasted population growth and implementation of the recommended service scenario, Oakville Transit anticipates a substantial rise in annual revenue passengers, estimated at 4,084,080 in 2025, 5,123,235 in 2027, and 6,287,400 in 2029.

Note: For ridership data post-May 2023, all figures include all riders, including those who are fare-free

Table 5: Past Population and Revenue Passenger Data (2016-2023)

Year	Population	Revenue Passengers	Passengers Per Capita
2016	193,832	2,851,368	14.70
2017	194,000	2,945,877	15.20
2018	202,500	3,502,207	17.30
2019	211,000	3,376,070	16.00
2020	214,200	1,601,253	7.50
2021	220,143	1,245,304	5.65
2022	225,000	2,130,808	9.40
2023	230,890	2,832,847	12.10

Table 6: Projected Population and Revenue Passenger Data (2025-2029)

Year	Population	Revenue Passengers	Passengers Per Capita
2025	247,520	3,044,496	12.3
2027	262,730	3,231,579	12.3
2029	279,440	3,437,112	12.3

Table 7: Forecasted Population and Revenue Passenger Data with Recommended Service Enhancements (2025-2029)

Year	Population	Revenue Passengers	Passengers Per Capita
2025	247,520	4,084,080	16.5
2027	262,730	5,123,235	19.5
2029	279,440	6,287,400	22.5

Strategic programming initiatives to enhance transit ridership in the Town of Oakville are highlighted in **Appendix E – Ridership Growth Initiatives.**

5.5 Long-Term Major Transit Route Network

The base for the development of the future Oakville Transit Family of Services 2025 – 2029 transit network is a network of long-term major transit routes, the “Frequent Transit Network (FTN)” that align with regional and Town of Oakville plans. The FTN serves the corridors outlined in provincial, regional, Metrolinx, and Halton Region’s Transit Priority Corridors, along with major corridors and growth nodes identified in Oakville's Urban Structure Plan and the Transportation Master Plan 2024, currently under development.

Figure 12 shows the corridors and nodes identified in the Urban Structure Plan, along with the Metrolinx Rapid Transit Network and Halton Region’s Transit Priority corridors with an overlay of the future long-term Frequent Transit Network.

The development of this network will extend beyond 2029 and will ensure ongoing integration of the Family of Services 2025-2029 route network with the provincial, regional, and local planning efforts, aiming for consistency and alignment across all levels of transit network and infrastructure.

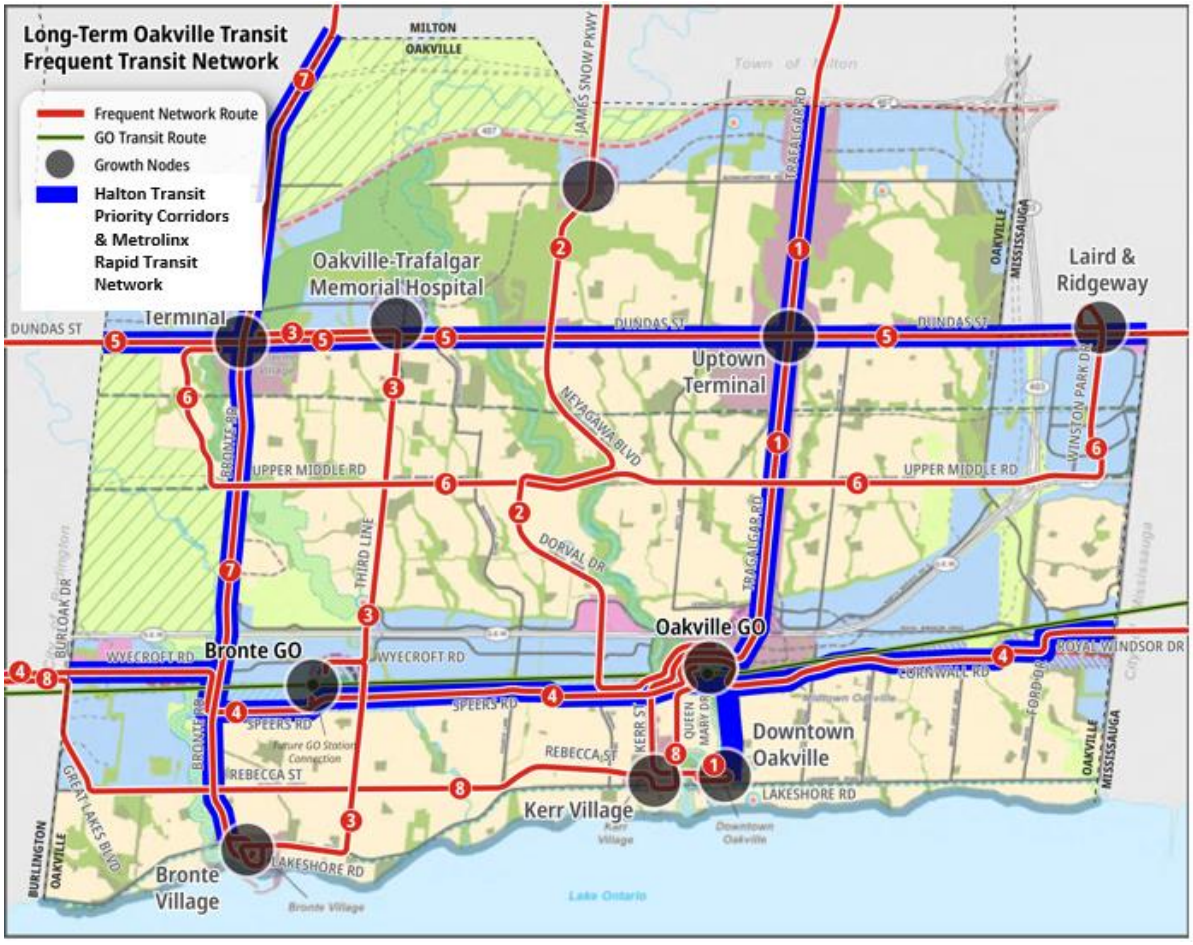

Figure 12: FTN Alignment with Oakville Growth Nodes & Corridors with Halton Transit & Metrolinx Network

Figure 13 illustrates the long-term future Frequent Transit Network that will form the base of Oakville's transit route network and connect with adjacent communities.

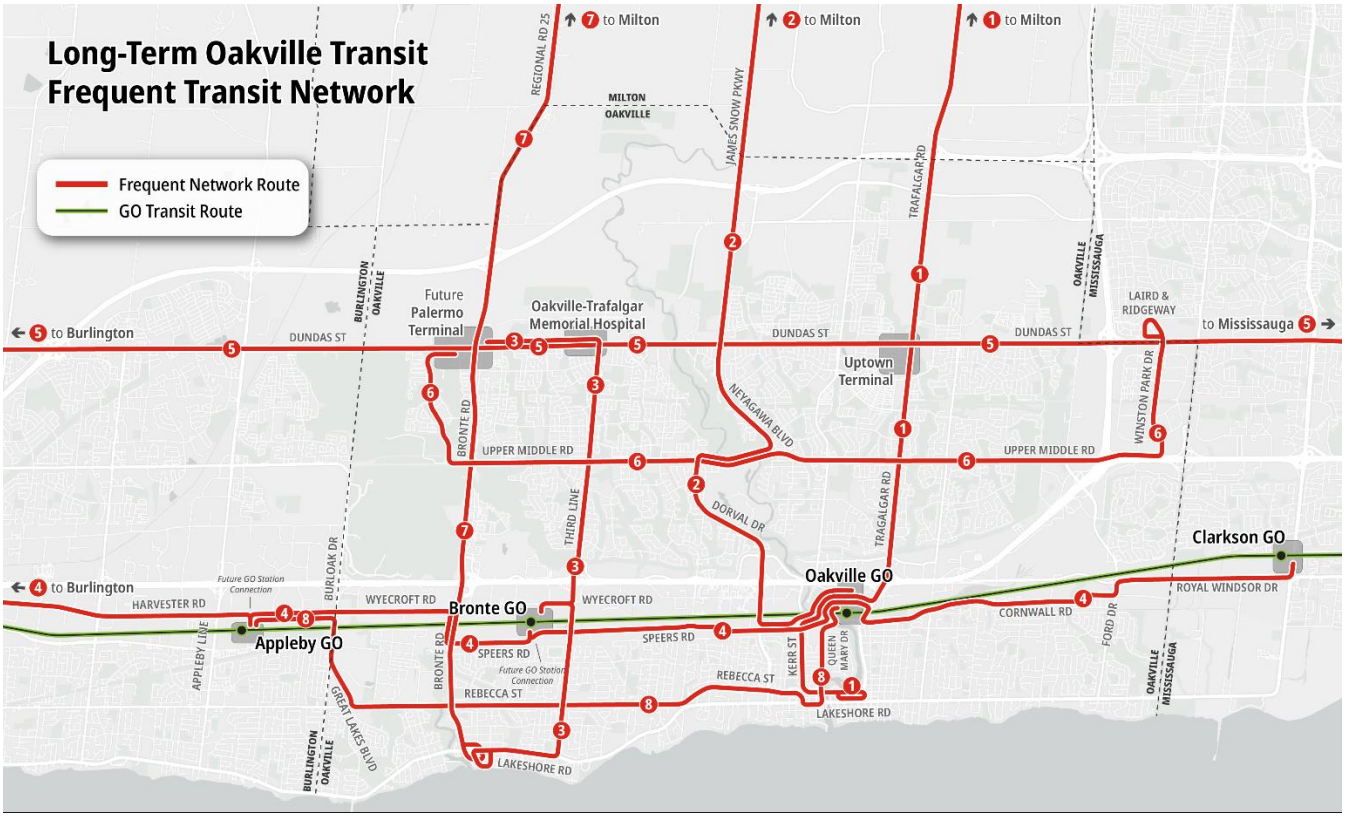

Figure 13: Oakville's Future Frequent Transit Network.

5.6 Family of Services 2025 - 2029

The Family of Services 2025 – 2029 network for Oakville Transit will form a coherent, interconnected system aligning with the long-term future Frequent Transit Network. This 2025 – 2029 Network (seen in**Figure 14**) focuses on developing fully connected major north-south and east-west corridors, emphasizing Primary and Base routes over extensive service coverage.

Route 1 (Dundas) and Route 5 (Trafalgar) are the inaugural routes within the Long-Term Future Frequent Transit Network, designed to offer enhanced service frequency (15 minutes or better) along Dundas Street and Trafalgar Road. These corridors are among the high-performance routes which are also recognized as higher-order transit corridors in the Greater Golden Horseshoe (GGH) Transportation Plan, Metrolinx 2041 Frequent Rapid Transit Network, Halton Region's 2031 and 2041 plans, as well as Oakville's official plan.

All conventional routes will be bi-directional, straight, and direct, avoiding large one-way loops and route overlaps within corridors where possible. By connecting routes along entire corridors, the network will eliminate mid-route transfers and anchor routes at major destinations, enhancing efficiency and reliability.

The On-Demand services in the town will be expanded, both as newer subdivisions come online, as well as through the conversion of low-performing conventional service (trips and/or routes), ensuring connections from the neighbourhood communities to the gridded routes.

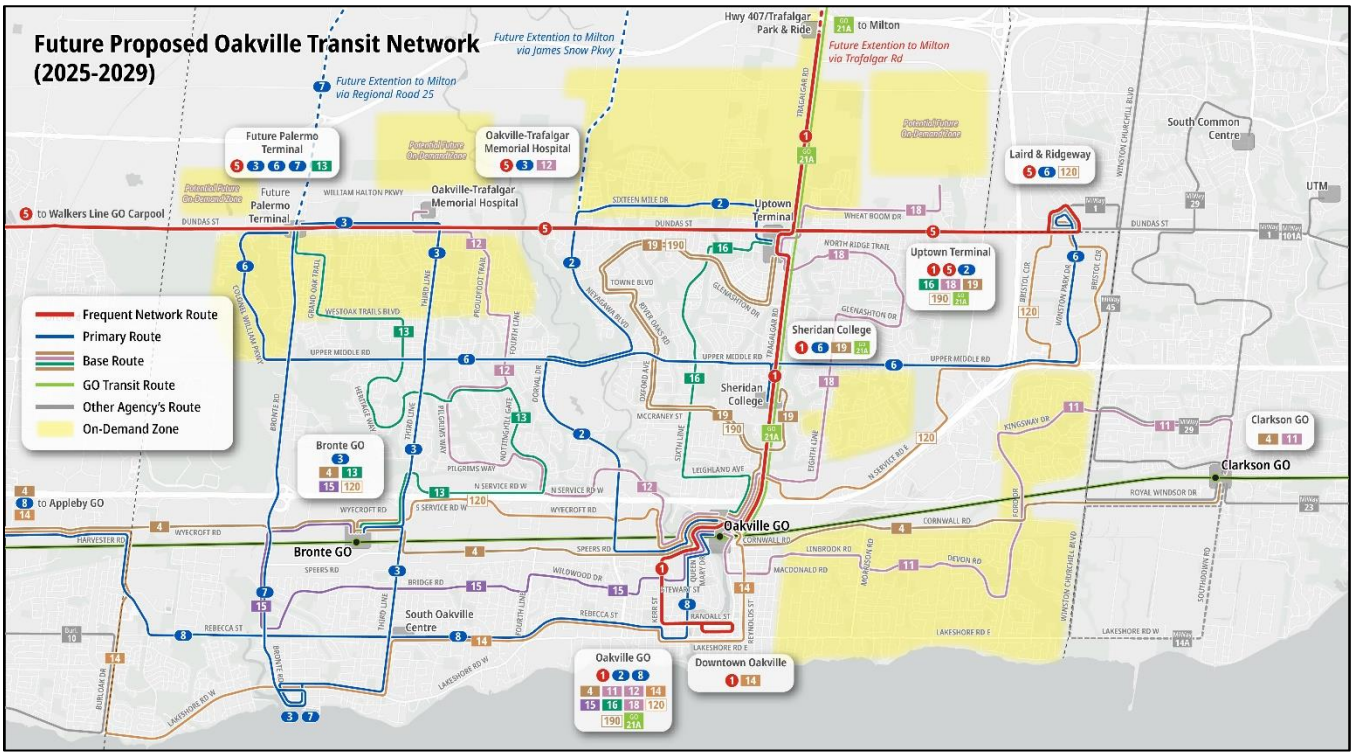

Figure 14: 2025 – 2029 Proposed Transit Network

5.7 Service Plan

The proposed Service Plan consists of a revised route network and phased service increases from 2025 to 2029.

The objective is to improve the bus network and service levels in response to increases in the Town's population and targeted increases in service hours per capita. Three service scenarios are presented to highlight the relationship between service frequency, annual hours of operation, peak bus fleet, and annual operating costs:

- **Scenario 1 — Base Case**: Maintains the current service levels without significant enhancements. Most routes operate at a frequency of 30 minutes, with key routes such as Trafalgar and Dundas having more frequent service at 15 minutes.
- **Scenario 2 — Mid-Range:** Generally, offers modest improvements over Base Case. Service frequencies improve to 20 minutes for several routes, while key routes maintain a 15-minute frequency, providing more frequent service compared to the Base Case scenario.
- **Scenario 3 — Recommended:** Shows the most significant frequency improvements across most routes, with many routes operating at 10 to 20-minute frequencies. Key routes have the most frequent service, with frequency improved to 10 minutes on routes such as Trafalgar, Third Line, and Dundas.

Table 8 presents the proposed routes and service summary for Oakville Transit's Family of Services 2025-2029 service plan. It compares the level of service for each scenario with the existing service, including details such as route number, name, type, and the cycle time of proposed routes.

Table 8: Family of Services 2025-2029 Service Summary

Route #	Name	Type	Cycle Time (min)*	Service Frequency (min)			
				Existing	Base Case	Mid-Range	Recommended
1	Trafalgar	Frequent	75	60	15	15	10
2	Dorval	Primary	90	-	30	20	15
3	Third Line	Primary	90	30	30	20	10
4	Speers - Cornwall	Primary	120	20	30	30	15
5	Dundas	Frequent	105	30	15	15	10
6	Upper Middle	Primary	120	30	30	20	15
7	Bronte	Primary	60	-	30	30	15
8	Rebecca	Primary	90	-	30	20	10
11	Linbrook	Base	90	60	30	30	20
12	Fourth Line (Winston Park in existing)	Base	90	60	30	20	20
13	Westoak Trails	Base	90	30	30	20	20
14	Lakeshore West	Base	90	15	30	20	20
15	Bridge	Base	80	30	30	20	20
16	Sixth Line	Base	60	-	30	30	20
18	Eighth Line (Glen Abbey North and South in Existing)	Base	80	30	30	20	20
19	River Oaks	Base	60	30	30	30	20
120	North Service (East Industrial in Existing)	Base	90	30	30	30	20
190	River Oaks Express	Base	60	1 Bus	30	30	20
OD1	On-Demand 1	On-Demand	-	1 Bus	1 Bus	2 Buses	2 Buses
OD2	On-Demand 2	On-Demand	-	1 Bus	1 Bus	2 Buses	2 Buses
OD3	On-Demand 3	On-Demand	-	1 Bus	1 Bus	1 Bus	1 Bus
OD4	On-Demand 4	On-Demand	-	-	1 Bus	1 Bus	1 Bus

Note: The cycle times presented in this table are specific to the proposed 2025-2029 network and do not apply to the existing routes. These times account for changes in route extensions and lengths in the updated network. Cycle times are the total amount of time to complete the trip, outbound and inbound.

5.7.1 2029 Recommended Service Plan

The proposed Service Plan for Oakville Transit outlines a gradual increase in service levels from 2025 to 2029. **Table 9** provides a summary of Oakville Transit's current peak fleet size and annual revenue hours for 2023, along with the target annual revenue hours for 2029 for the Recommended Service Plan. These targets are based on population projections and service hours per capita as detailed in **Table 7**.

Table 9: Summary of Recommended Service Plan for 2029

Year	Peak Fleet	Annual Revenue Hours	Target Annual Revenue Hours
2023	67	220,969	-
2029	111*		447,104*

* 2029 peak fleet does not include fleet required for school specials

Table 10 shows the proposed service frequencies for the Recommended Service Plan covering weekday midday, weekday evening, late evening, and Saturday and Sunday services.

Table 10: Recommended Route Frequencies in 2029

Route Number	Type	Weekday Peak	Weekday Midday	Weekday Evening	Late Evening	Saturday	Sunday
1	Frequent	15	10	15	10	15	30
2	Primary	30	15	30	15	30	30
3	Primary	30	10	15	10	20	15
4	Primary	30	15	30	15	20	30
5	Frequent	15	10	15	10	15	30
6	Primary	30	15	20	15	20	30
7	Primary	30	15	20	15	20	30
8	Primary	15	10	15	10	30	30
11	Base	45	20	45	20	45	0
12	Base	30	20	30	20	30	30
13	Base	30	20	30	20	30	30
14	Base	30	20	30	20	30	30
15	Base	40	20	40	20	40	40
16	Base	60	20	30	20	30	30

Route Number	Type	Weekday Peak	Weekday Midday	Weekday Evening	Late Evening	Saturday	Sunday
18	Base	40	20	40	20	40	40
19	Base	60	20	30	20	30	30
120	Base	60	20	60	20	60	60
190	Base	60	20	0	20	0	0

Implementation of new routes and headways will not start until September 2025 and will be phased in with progressive changes in implementing routes and increased frequencies. This phased implementation could occur in multiple steps. Two possible implementation phasing scenarios are outlined in **Section 7.1.**

5.7.2 Programming:

In addition to the route network and service frequency adjustments service scenarios, it is imperative that ancillary programming enhancements are developed in tandem. This includes improvements in the following areas:

Customer service: Ensuring comprehensive information is available to customers to help plan their trips, along with education on available services, and on-street customer service which is provided through On-Road Supervisors.

Marketing and communications: Tied to customer service, it is important for Oakville Transit to provide robust communications to customers, and have dedicated staff for targeted marketing and communications programs.

Travel training: Introducing a dedicated Travel Trainer and a travel training program to enhance understanding of how to use public transit; sharing information on how to obtain information, how to ride the bus safely, and how to tender a fare. Each of these elements can be confusing and/or intimidating for new customers, new residents, and persons with disabilities. A prescribed dedicated Travel Trainer can assist residents in effectively navigating the transit system without apprehension, thereby assisting to increase ridership.

Driver training: Ensuring that driving staff continue to undergo comprehensive training and re-training to enhance their operational skills, meet regulatory requirements, and develop soft skills.

5.8 Fleet

Oakville Transit currently operates a fleet of 130 buses, consisting of 102 conventional buses and 28 specialized buses. By 2029, the current fleet forecast is expected to grow to 156 buses, with 124 conventional buses and 32 specialized buses.

Table 11: Oakville Transit's current fleet forecast to 2029

Year	Total Buses	Conventional	Specialized
2024	130	102	28
2025	136	107	29
2026	141	111	30
2027	146	115	31
2028	152	120	32
2029	156	124	32

The Business Plan evaluates three scenarios for different intensities of weekday service to the Oakville community. Please note that fleet and service availability, as well as operational requirements, are subject to annual review through the annual budget process.

The following details the total number of additional conventional buses needed to implement each scenario:

- Base case: 19 additional buses
- Mid-Range: 33 additional buses
- Recommended: 52 additional buses

5.9 Staffing

Oakville Transit is evolving with the implementation of a new route network, increased hours of operation, higher customer expectations for service performance and infrastructure maintenance, increased requirements for technical systems support, and a need to develop a greater presence in the community. These needs require additional staff support. It is recommended that Oakville Transit add sixteen additional staff members over the next five years.

In addition to the recommended staff increases, the operator complement would increase in direct proportion to the increase in operating hours. Implementing the recommended service scenario requires nearly doubling the number of operators to approximately 300 by 2029. The current staff complement relative to total operating hours is approximately 1,100 total operating hours per employee, which is consistent with CUTA data for transit systems in the Canadian Population Group 3 (Population of 150,000 to 400,000). With the proposed staff increase and the additional bus operators for the increased hours of operation, the total operating hours per employee increases to 1,200. This represents a modest improvement in staff productivity.

Year of 2025

- **1 FTE – Operational Planner (Planning):** To improve service analysis and design. The Operational Planner will work in tandem with the Operations team to review day to day on-street schedule adherence and customer issues to action scheduling solutions through the Planning team. The Operational planner will oversee all detours, special event planning, preparation and implementation. ($150,000).
- **0.5 FTE – Revenue Clerk/Analyst (Planning):** Convert part-time Revenue Clerk to full time to improve data management, revenue and financial analysis and reporting ($39,000).

Year of 2026

- **1 FTE – Transit Supervisor (Ride On-Demand)**: To increase Ride On-Demand on road service supervision and improve service quality. Supervisors are required to provide constant on-street supervision throughout the entire daily service span. Supervisors also provide direct customer service on street, including education and assistance. ($150,000).
- **1 FTE – Transit Supervisor (Operations):** To increase conventional bus on-road supervision and improve service quality, supervisors are required to provide constant on-street supervision throughout the entire daily service span. Supervisors also provide direct customer service on street, including education and assistance. ($150,000).
- **1 FTE – Marketing and Communications Staff Person (Planning):** To improve community awareness of the benefits of transit, and to coordinate all customer service activities, in addition to marketing and promotional programs to encourage further growth of ridership. This will allow Oakville Transit staff to move beyond simply providing “information” to true marketing of services. ($119,000).
- **1 FTE – Electronics Technician (Maintenance)**: To address maintenance requirements for both vehicle and systems. The increases in electronic components on buses has created a need for more specialized electronics expertise. The current fleet size is outpacing the abilities of the one electronics technician on staff today. (119,000).
- **1 FTE – Infrastructure Coordinator (Maintenance):** To improve bus stop and shelter maintenance and snow and ice control, as well as capital planning for future transit amenities features, including shelters, stops, garbage cans, digital signage as well as assisting with terminal planning and maintenance. ($150,000).
- **1 FTE – Travel Trainer (Planning):** To initiate the Travel Training Program to educate and introduce new users to transit, as well as to assist in supporting

specialized transit customers in their use of conventional transit (where possible). The Travel Trainer will work to educate and support all groups (newcomers, persons with disabilities, seniors, youth, children) to learn how to use transit effectively. ($119,000).

- **Transit Travel Training Program**
    - Travel Trainer (Annual $80k plus benefits and 10% Overtime)
    - Cell phone, computer ($1000 + $1500)
    - Accessible van ($75K)
    - Conventional bus and operator (3 x per week, 24 weeks = 216 hours)
    - Print and promotional material ($5K)

Year of 2027

- **1 FTE – Dispatch / Administration Clerk (Operations):** To support all administrative functions of driver dispatch and payroll, including the collection and analysis of operator dispatch data ($94,000).
- **1 FTE - Transit Supervisor (Operations):** To increase on-road supervision of conventional buses and improve service quality. Supervisors are required to provide constant supervision on street throughout the entire daily service span. Supervisors also provide direct customer service on-street, including education and assistance ($150,000).
- **1 FTE – Control Room Supervisor (Operations):** To ensure sufficient capacity for the dispatch, control and support for conventional bus operators, and in alignment with the number of On-road Supervisors ($150,000).
- **1 FTE – Transit Driver Trainer (Operations):** To increase bus operator training capacity to ensure sufficient operators are available for service. As the system grows and the number of bus operators increases, the need for ongoing training and re-training in safety, systems, customer service, and all regulatory requirements also increases. ($150,000).
- **1 FTE – Utility Service Person (Maintenance**): To support increased vehicle maintenance requirements ($93,000).

Year of 2028

- **1 FTE – Call Centre Supervisor (Ride On-Demand):** To increase capacity to manage customer requests, to keep pace with increases in Ride On-Demand expansion. ($137,000).
- **1 FTE - Transit Supervisor (Operations):** To increase conventional bus on-road supervision and improve service quality, supervisors are required to provide constant supervision on street throughout the entire daily service span. Supervisors also provide direct customer service on street, including education and assistance ($150,000).

Year of 2029

- **1 FTE – On-road Supervisor (Ride On-Demand):** To improve service quality and management of customer issues. Supervisors are required to provide constant supervision on street through the entire daily service span. Supervisors also provide direct customer service on street, including education and assistance ($137,000).
- **1 FTE – Control Room Supervisor (Operations):** To ensure sufficient capacity for the dispatch, control and support for conventional bus operators, and in alignment with the number of On-road Supervisors ($150,000).

Note: staffing requirements for additional bus operators, mechanics and utility service personnel are increased on a per bus ratio.

6 Financial Plan

6.1 Revenue

A full discussion of the Revenue and Fare Strategy is included in **Appendix F – Revenue and Fare Strategy**. The highlights are noted below.

The amount of transit service provided to residents (hours of service per capita) is directly determined by the size of the agency's operating budget (fuel, parts, operating and maintenance labour, etc.), cost per operating hour, and population. Over time the cost and amount of service provided is impacted by inflation and population growth.

In 2023, Oakville Transit's operating budget received funding from passenger revenue (21%), miscellaneous revenue (3%), municipal contributions (71%), and provincial contributions (5%). Oakville Transit's current passenger revenue is solely from adult fares.

Oakville Transit fare categories are noted below:

- **Child (12 and under):** Ride free with a PRESTO card or when travelling with a parent/guardian.
- **Youth (13 to 19 years):** PRESTO single: Free with a valid PRESTO card, $4 per ride with exact cash fare.
- **Adults: Exact cash fare:** $4 per ride, PRESTO single: $3.40 per ride, PRESTO monthly pass: $143 per month. University, college, and adult education students 20 years and over must pay adult fare.
- **Seniors: PRESTO single:** Free with a valid PRESTO card, $4 per ride with exact cash fare.
- **Low Income:** Subsidized Passes for Low Income Transit (SPLIT) pass system, a Halton Region initiative, provides eligible low-income Halton residents with a 50% subsidy. Oakville Transit participants are responsible for the remaining 50%.

Based on the review of best practices and case studies a summary of key findings regarding fares and passenger revenue are noted:

- Transit should be priced appropriately at the "value of the service," relative to the cost of competitive and alternative transportation options.
- Based on empirical studies of fare increase and service expansion elasticities, transit customers value the provision and quality of service higher than the cost of service.
- Fare discounts should be equitable; however, they should not erode the ability to provide service.
- Fare subsidy programs should focus on user-side subsidies to target individuals, rather than system-wide supply-side subsidies. For example, pass programs for low-income individuals should be considered, rather than deep discounts for all seniors.

Currently, Oakville Transit relies on fare revenue from adult passengers, while seniors, youth and children travel for free. Oakville Transit also generates 3% of total revenues from charters and advertising.

Before the COVID-19 pandemic, Canadian transit agencies covered a more significant portion of their operating costs with passenger fare revenue. Post-pandemic, these numbers have declined significantly, with Oakville Transit experiencing a decrease in its revenue-to-cost ratio from 31% to 24% between 2016 and 2023, a 22.1% decline in the proportion of expenses covered by revenue. This decrease is attributed to structural changes in funding, including declines in passenger revenue due to COVID-19 and free fare initiatives.

Moreover, Oakville Transit faces additional challenges in maintaining its service levels due to inflation, population growth, and inconsistent operating contributions from the province. There has been a $2 million (56%) decrease in Provincial Operating Contribution from 2022 to 2023, further exacerbating the financial strain on municipal finances.

The status quo of relying on adult fares as the major revenue source may not be sustainable. To address this challenge Oakville Transit should move towards a multifaceted strategy of optimizing existing revenue streams while exploring new sources of non-passenger revenue. By enhancing its revenue generation efforts, Oakville Transit may improve its revenue-to-cost ratio and ensure long-term financial sustainability, thereby effectively meeting the community's transit needs.

Despite Oakville's affluent status, it faces significant income disparity, boasting the widest gap between the very rich and the very poor in the Halton Region. In response, Halton Region implemented the Subsidized Passes for Low Income Transit (SPLIT) pass system, in partnership with the local municipal transit systems, offering eligible low-income residents a 50% subsidy for their local transit expenses. However, Oakville Transit currently does not cover the remaining fare for SPLIT pass users. This implies that individuals categorized as low-income adults are obliged to cover 50% of the fare, whereas individuals in the youth or senior categories with higher income thresholds benefit from free transit services in Oakville.

The usage data for SPLIT passes and tickets in 2023 reveals relatively low monthly uptake, possibly due to the remaining 50% of the fare not being covered or insufficient awareness of the program. In alignment with the Town’s Equity and Accessibility policy, it is recommended to explore covering the remaining 50% of SPLIT fares for eligible low-income individuals. Such an initiative has the potential to stimulate ridership growth and ensure equitable access to transit services for all community members, regardless of financial constraints.

The current free fare program for Child, Youth and Senior is a post-COVID strategy to provide a community benefit and increase ridership during a time when the community was under significant stress.

In addition to subsidizing transit fares for low-income individuals through the SPLIT program, Oakville Transit should reevaluate the provision of free transit for Youth and Seniors to ensure that investments in transit deliver maximum community benefit.

Based on available data most seniors and youth do not require a fare subsidy. This is consistent with a focus on user-side subsidies to target low-income individuals rather than system-wide supply-side subsidies. Although offering free transit regardless of income has been a strategy to increase ridership, especially in the context of Oakville's recovery from COVID-19, it may not align with generating sufficient revenue to maximize transit service to the community.

Another strategy for Oakville Transit could be a Monthly Fare Cap program. This initiative would involve programming PRESTO to cap monthly fares at 40 times the regular fare, totaling $136 per month, which is designed to provide savings compared to the current Monthly Pass, priced at $143 as of July 2024. Once an individual reaches 40 trips in a month, any additional rides would be free. Fare capping is effective in removing the high up-front cost of monthly transit passes.

Notwithstanding the free fare program for Youth 19 and under, Oakville Transit should continue to explore future opportunities to implement a U-Pass program for post-secondary students at Sheridan College, as well as considering similar transit pass programs for employees through discounted monthly pass programs with major employers within the Town of Oakville. These initiatives have proven to be effective in increasing ridership in other jurisdictions.

6.2 Non-Fare Revenue Strategies for Oakville Transit

In addition to fare programs, Oakville Transit should explore non-fare revenue strategies to enhance its financial sustainability and support the expansion of transit services. These strategies focus on leveraging alternative sources of funding to supplement traditional fare revenue and government subsidies. The traditional initiatives of advertising on transit vehicles and property, vehicle charters, and sponsorships of transit property or events should continue to be developed.

The following initiatives are more challenging and would require further review to implement. Despite these challenges, they have the potential to significantly increase Town and Transit revenues. By implementing the following approaches, the Town of Oakville and Oakville Transit may diversify their revenue streams and ensure long-term viability while meeting the evolving needs of the community:

- Explore opportunities to increase digital shelter advertising beyond the current six advertising panels being developed with a current supplier. Additional capital investment would be required; however, the program has the potential to generate more revenue than static advertising displays.
- Explore opportunities for on-bus digital advertising (either geo-fenced or general) by using the new digital information screens being installed in the new Electric Bus fleet.
- Explore opportunities for space rental income by adding retail outlets (e.g., coffee kiosks) at terminal locations.

- Explore opportunities for sponsorship of special event services, such as the shuttle bus service on Canada Day to assist in offsetting the operating costs of the shuttle service.
- Explore monetization of the transit service electrification by the sale of Clean Fuel Regulation Credits as a result of using electricity and decreasing diesel fuel emissions.

6.2.1 Strategic Adaptations for Sustainable Revenue and Enhanced Service at Oakville Transit

The analysis of revenue and fare strategies for Oakville Transit presents an understanding of the challenges and opportunities facing Oakville Transit. Through the exploration of potential scenarios, including maintaining the status quo, implementing free transit for all, and introducing loyalty or incentive opportunities, it becomes evident that Oakville Transit must adapt to changing circumstances to ensure its long-term revenue sustainability and meet the evolving needs of the community.

Although each revenue strategy brings its own set of advantages and obstacles, adopting a gradual approach to reevaluating the current fare system and enhancing investments in increasing service and ridership, alongside identifying sustainable revenue sources, appears to offer the most promising way forward. The revenue and fare strategy entails optimizing current revenue channels, investigating novel non-passenger revenue streams, and carefully reviewing and adjusting fare policies to ensure a balance between increasing service, bolstering ridership, maintaining financial stability, and equity.

6.3 Operating Budget

6.3.1 Hours of Operation

The analysis of the benefits and costs of the recommended Service Plan can be understood by examining several key assumptions and relationships. The Service Plan covers the years 2025 to 2029; however, the last complete year of available service, ridership, and financial data is 2023. This requires several assumptions and projections to develop a service and financial plan for the planning period. The plan is developed using Oakville Transit pre-COVID and 2023 data, peer system comparison data, and assumptions based on Oakville Transit providing more and better transit service to the community. The growth forecasts are reasonable and achievable.

Appendix A -Table 3 summarizes key data and projections for Oakville Transit's service and financial data from 2016 to 2029. The table includes service and financial data from 2016 to 2023, a projection for 2024 based on Q1 data, and a projection for the 2025 to 2029 service planning period based on the noted performance criteria.

For additional details on operating and financial scenarios, and the capital budget forecast please see **Appendix A -Table 3.**

7 Implementation Plan

7.1 Service Implementation / Phasing

It is anticipated that the Oakville Transit Five-Year Business Plan will be approved by Council in November 2024 with initiatives to commence implementation in 2025.

The Business Plan initiatives will be refined and implemented over the 2025 to 2029 period as part of the Annual Service Plan process, and subject to budget approval. In this way, the plan is adaptive and flexible, allowing Oakville Transit to refine and tailor based on emerging conditions.

The implementation of a new transit route network will require significant community engagement and communication, route scheduling and new operator work assignments. Given the significant effort required it is anticipated that the network implementation would be staged over multiple board periods or phases. **Table 12** outlines two implementation scenarios. Scenario 1 anticipates five phases and Scenario 2 has three phases. These phases could be implemented in sequential board periods commencing September 2025. Although it would be very difficult to implement all new services at one time it is considered important to complete the implementation as quickly as feasible.

Table 12: Proposed Route Implementation Phasing

Line		Scenario 1 (5 Phases)					Scenario 2 (3 Phases)		
		1	2	3	4	5	1 & 2	3	4 & 5
1	Trafalgar								
2	Dorval								
3	Third Line								
4	Speers-Cornwall								
5	Dundas								
6	Upper Middle								
7	Bronte								
8	Rebecca								
11	Linbrook								
12	Fourth Line								
13	Westoak								
14	Lakeshore								
15	Bridge								
16	Sixth Line								
18	Eighth Line								
19	River Oaks								
120	North Service								
190	River Oaks Express								
OD	On-Demand	SE / North			WO	East	SE / North		WO/ East

7.2 Capital Budget

Appendix A -Table 5 outlines the budget projections and forecasted expenses for Oakville Transit from 2024 to 2033, covering various transit administration projects, facility rehabilitation initiatives, fleet upgrades, and equipment investments. Fleet enhancements, including electric replacement buses and specialized vehicle replacements, represent a substantial portion of the budget, totaling $203,743,400. Significant allocations include $9,414,500 for transit facilities, focusing on shelters and terminals, with notable investments in Palermo Terminal and shelter replacements. Additionally, $1,428,500 is designated for equipment, primarily for Presto equipment. Overall, the total capital expenses for Oakville Transit amount to $267,411,400, reflecting a comprehensive strategy to improve infrastructure and meet future operational needs.

Figure 15: Oakville Transit Facility

In **Section 5.8 Fleet**, it is noted that the Recommended Scenario requires a forecast of 144 conventional buses for the fleet. The current 2029 fleet forecast anticipates a total of 124 conventional buses, indicating a shortfall of 20 buses.

The specialized fleet is forecast to increase by four buses from 28 buses to a total of 32 specialized buses in 2029.

The purchase of 20 additional conventional buses should be programmed into the capital budget.

7.3 Infrastructure

The bulk of the 10-year capital plan is dedicated to fleet, facilities and electric charging infrastructure with a relatively modest amount dedicated to passenger shelters and bus stop accessibility improvements. Notably absent are provisions for digital information displays or transit signal priority measures.

The 2026 to 2029 capital budget should include funds to improve customer information displays, conduct a transit signal priority test program at a few key intersections, and purchase of a Business Intelligence Program.

8 Benefits of the Plan

The Five-Year Transit Business Plan (2025 – 2029) has been developed to guide Oakville Transit through a transformative period of growth and development. The plan outlines several key benefits aimed at enhancing the transit experience for the community, ensuring better accessibility, connectivity, and improved service quality. The Plan aligns with Council's Strategic Priorities 2023-2026 and will further support council's goals.

The following highlights the benefits of adapting the recommendations from the Five-Year Business Plan:

Alignment with Local, Regional and Provincial Plans and Initiatives

This plan aligns Oakville Transit with other plans and initiatives which are occurring at the Local, Regional and Provincial levels, including alignment with Council's Strategic Priorities.

Development of a Frequent Transit Network Along Higher-Order Transit Corridors

The development of a Frequent Transit Network (FTN) provides significant benefits by forming the core of the Oakville Transit Family of Services for 2025–2029. This network enhances connectivity by aligning with regional and Town of Oakville plans, serving key corridors identified in provincial, regional, and local transit initiatives, including Metrolinx and Halton Region's Transit Priority Corridors. It supports growth nodes in Oakville's Urban Structure Plan and the Transportation Master Plan 2024. The FTN's design ensures long-term integration with broader transit planning efforts, promoting consistency and alignment across all levels of transit network and infrastructure development, and extending its impact beyond 2029.

New, More Direct Route Network with Enhanced Connections to Major Destinations

The plan introduces an efficient route network for quicker travel and better connections to key destinations in Oakville. It forms a coherent grid, concentrates on core routes, eliminates mid-route transfers and anchors routes at major destinations. This aligns with the development of the long-term "Frequent Transit Network" that supports regional plans and the Oakville Transportation Master Plan.

New Service Standards with Increased Hours of Operation and Standards for Better On-Time Performance

To meet the evolving needs of transit users, the plan establishes new service standards with increased frequency and greater flexibility. Enhanced on-time performance standards will improve reliability, ensuring that buses adhere to their schedules more consistently. These improvements are crucial for developing a resilient, efficient, and adaptable transit system.

Enhancement of Bus Stop Standards with Larger Waiting Pads and Improved Pedestrian Connections

A key component of the plan is the enhancement of bus stop infrastructure. This involves installing larger waiting pads to meet accessibility needs and integrating bus stops with active

transportation. Improved pedestrian connections ensure safer and more convenient access to transit services, particularly for individuals with mobility needs.

Additional On-Demand and Base Transit Routes Throughout the Community

The introduction of additional On-Demand and Base transit routes is a key feature of the plan. On-Demand transit services offer flexible, responsive options that cater to passengers' specific travel needs, particularly in areas where traditional fixed-route services may not be as practical. Base transit routes will ensure consistent and reliable service across the community, filling in gaps and enhancing overall service coverage.

In summary, the Five-Year Transit Business Plan will deliver a comprehensive array of benefits that will transform the transit system. By focusing on direct routes, increasing service frequency, enhancing infrastructure, providing additional flexible transit options, and developing a high-frequency transit network, as well as enhancing education, travel training and marketing and promotions and customer service, the plan ensures a resilient, efficient, and adaptable system that meets the community's evolving needs and prepares Oakville Transit for a new era of growth.

9 Conclusion and Next Steps

The Oakville Transit Five-Year Business Plan and the Ridership Growth Plan provide a blueprint (initiatives) for the ongoing development of Oakville Transit. The following initiatives are recommended for adoption and implementation over the 2025 to 2029 period:

1. **Route Network Design Principles:** Adopt these principles to form the base for developing the Frequent Transit and Family of Services network.
2. **Long-Term Major Transit Route Network (Frequent Transit Network (FTN)):** Adopt Frequent Transit Network and incorporate the FTN strategy into the Transportation Master Plan update.
3. **Family of Services 2025 – 2029 Route Network:** Adopt the implementation of this network in three phases:
    - **Phase 1:** Route 1 Trafalgar, Route 5 Dundas, Route 8 Rebecca, Route 11 Linbrook, Route 14 Lakeshore, Route 15 Bridge, Route 120 North Service
    - **Phase 2:** Route 2 Dorval, Route 3 Third Line, Route 4 Speers-Cornwall, Route 6 Upper Middle, Route 7 Bronte, northeast Oakville On-Demand
    - **Phase 3:** Route 12 Fourth Line, Route 13 Westoak, Route 16 Sixth Line, Route 18 Eighth Line, Route 19 River Oaks, Route 190 River Oaks Express, northwest Oakville On-Demand
4. **Alignment with Provincial, Regional, and Local Plans:** Ensure that the Oakville Transit route network planning continues to be aligned with Provincial, Regional, and Local Plans including the Halton Region Integrated Master Plan and the Town of Oakville Transportation Master Plan.
5. **Service Design Guidelines:** Adopt these guidelines to guide the planning, scheduling, and management of Oakville Transit.
6. **Recommended Annual Revenue Hours of Operation for 2025 to 2029:**
    a. 2025 - 297,024 Hours
    b. 2026 - 330,681 Hours
    c. 2027 - 367,822 Hours
    d. 2028 - 406,635 Hours
    e. 2029 - 447,104 Hours

Note: Actual 2023 hours were 220,969 and 2024 hours are estimated at 230,782, and total hours would be 15% greater.

7. **Increase Schedule Frequencies:** Selectively increase schedule frequencies on the Family of Services 2025 – 2029 route network subject to budget availability and route guidelines.
8. **On-Time Performance and Transfer Assessment:** Develop a program of assessing on-time schedule and transfer performance and implement a program of root cause analysis and remedial action.
9. **Bus Stop Design Guidelines:** Adopt these guidelines to guide the planning and construction of new and upgraded bus stops.
10. **Transit Priority Measure Planning:** Continue coordinated Transit Priority Measure (TPM) planning on the Regional Roads (Dundas, Trafalgar, Upper Middle Road) with Halton Region, and develop a comprehensive TPM program for all Oakville Transit routes.
11. **Active Transportation Access:** Ensure that Active Transportation access to all bus stops is considered in the bus stop planning process.
12. **Operator Training:** Reinforce the importance of professional and courteous interaction between operators and customers. Prioritize operator training to ensure operators understand their responsibilities to deliver safe service, provide friendly customer service, and uphold commitments to schedule adherence and service excellence (Be Safe, Be Nice, Meet Your Commitments).
13. **Transit Charter:** Create a Transit Charter defining Oakville Transit's commitment to service excellence and transit customer rights and responsibilities.
14. **Transit Travel Training Program:** Initiate a program aimed at assisting Youth, Adults, and Seniors in becoming transit users (**Appendix G – Travel Training White Paper**).
15. **Staffing Increase:** It is recommended that Oakville Transit add sixteen staff members over the next five years.

2025

- Operational Planner (Planning)
- Revenue Clerk/Analyst -Full Time (Planning)

2026

- Transit Supervisor (Ride On-Demand)
- Transit Supervisor (Operations)
- Marketing and Communications Staff Person (Planning)
- Electronics Technician (Maintenance)
- Infrastructure Coordinator (Maintenance)
- Travel Trainer (Planning)

2027

- Dispatch / Administration Clerk (Operations)
- Transit Supervisor (Operation)

- Control Room Supervisor (Operations)
- Transit Driver Trainer (Operations)
- Utility Service Person (Maintenance)

2028

- Call Centre Supervisor (Ride On-Demand)
- Transit Supervisor (Operations)

2029

- On-road Supervisor (Ride On-Demand)
- Control Room Supervisor (Operations)

Note: In addition to the recommended staff increases, the transit operator complement would increase in direct proportion to the increase in operating hours. Implementing the recommended service scenario requires nearly doubling the number of operators to approximately 300 by 2029.

16. **Capital Budget:** It is recommended the 2026 to 2029 Capital Budget include funds to improve customer information displays, develop transit priority measures, purchase a Business Intelligence Program, and up to 20 conventional buses.
17. **Fare Strategy Recommendations:** The following fare strategy recommendations are proposed to enhance transit accessibility, stimulate ridership growth, and ensure financial sustainability for Oakville Transit. Each scenario is designed to address different customer segments, funding opportunities, and fare structures, aimed at making transit more equitable and sustainable. For projections and potential revenue impacts, refer to **Appendix H – Relationship Between Fare Increases and Passenger Revenue.**

    - **Subsidized Passes for Low Income Transit (SPLIT) Passes:** It is recommended that Oakville Transit implement a full subsidy for Subsidized Passes for Low-Income Transit (SPLIT) Passes (50% funding from Halton Region and 50% from Oakville) to further stimulate ridership growth and enhance equity. Additionally, marketing campaigns should be launched in collaboration with Halton Region to promote the promote the SPLIT Pass program.
    - **Monthly Fare Cap Program:** It is recommended that Oakville Transit implement a Monthly Fare Cap Program, wherein monthly fares are capped at 40 PRESTO regular fare taps per calendar month. All PRESTO taps beyond 40 per month are free. Monthly passes would be eliminated. This will eliminate the higher up-front costs, to increase equitable access to transit services.
    - **Universal Pass Program (U-Pass):** It is recommended that Oakville Transit continue to explore future opportunities to implement a Universal Pass Program (U-Pass) for post-secondary students at Sheridan College, as well as consider similar transit pass programs for employees through universal monthly pass programs with major employers, as both programs can be ridership generators.
    - **Phase Out PRESTO Discount:** It is recommended that the current $0.60 PRESTO discount be phased out over three years, with a $0.40 discount in

2025, $0.20 discount in 2026 and no discount in 2027 to generate additional revenues.

- **Free Transit for Youth and Seniors:** It is recommended that Oakville Transit evaluate the provision of free transit for Youth and Seniors to ensure that transit revenue generation is sufficient to deliver the required community benefits.
- **Flat Fare System:** It is recommended that Oakville Transit evolves into a Flat Fare System wherein all fares, apart from Child fares, are the same and there are no discounts.
- **Non-Fare Revenue Strategies:** It is recommended that the Town of Oakville explore non-fare revenue strategies to enhance its financial sustainability and support the expansion of transit services

The Oakville Transit Five-Year Business Plan 2025-2029 and its strategies and policies will guide the development of Oakville Transit's Family of Services over the next five years with the goal of overcoming any residual impacts of the COVID-19 pandemic, and any associated ongoing changing travel patterns, to accommodate and promote transit ridership growth, to continue to address changing customer needs, and to align with key plans and studies through the plan and set the foundation for beyond the plan years.

The plan is flexible and adaptable, allowing Oakville Transit to assess and react to changing conditions, and can be implemented in a manner outside of the prescribed phasing plan. Note that any of the proposals and recommendations within the plan are subject to budget approval.

The recommendations noted, and the path set for the department over the next five years will provide residents of Oakville with enhanced transit services, encourage ridership growth, and set a foundation for a more robust transit system for the future – one that will support council's strategic goals, which will align with Local, Regional and Provincial priorities, and which will support the Town's goals for enhanced mobility options through the updated Transportation Master Plan.

This Five-Year Business Plan is aimed to be a catalyst for ongoing growth of the transit system, the transit network, and all associated planning and programming.

Appendices

Appendix A – Detailed Tables

Appendix A -Table 1: Peer comparison of 2022 system performance metrics, source CUTA

	Oakville	CUTA Population Group 3	Brampton	Burlington	Hamilton	London	Mississauga	York Region
Service Area Population	225,000	150,001 - 400,000	673,960	181,950	549,689	424,300	771,891	1,165,891
Service Area Size (km^2)	139.6	N/A	266.8	97.3	243.0	169.6	178.6	1,776.0
Hours of Operation	209,474	N/A	1,327,620	202,543	957,759	671,889	1,411,891	1,236,748
Ridership (Linked Trips)	2,130,808	N/A	31,314,940	2,223,173	15,216,361	13,366,417	35,672,982	16,027,350
Operating Expenses	$26.52 M	N/A	$190.3 M	$21.08 M	$126.8 M	$80.8 M	$215.5 M	$203.7 M
Revenue	$5.43 M	N/A	$81.39 M	$4.79 M	$36.78 M	$33.95 M	$78.00 M	$63.71 M
Net Operating Cost	$21.1 M	N/A	$108.9 M	$16.3 M	$90.0 M	$46.9 M	$137.5	$140.1 M
Hours of Operation per Capita	0.9	1.35	1.8	1.1	1.7	1.5	1.7	1.0
Passengers per Operating Hour	12.8	22.3	26.5	11.0	16.7	21.6	26.8	14.1
Passengers per Capita	9.5	29.8	46.5	12.2	27.7	31.5	46.2	13.7
Revenue to Cost Ratio	20%	25%	43%	23%	29%	39%	36%	29%

Appendix A -Table 2: Forecast Operating and Financial Scenarios

Year	Population	Revenue Hours of Operation	Revenue Passengers	Municipal Operating Contribution	Revenue Hours Per Capita	Revenue Passengers Per Capita
2016	193,832	208,831	2,851,368	$16,332,189	1.08	14.7
2017	194,000	212,008	2,945,877	$16,410,597	1.09	15.2
2018	202,500	210,878	3,502,207	$16,332,717	1.04	17.3
2019	211,000	208,569	3,376,070	$16,045,631	0.99	16.0
2020	214,200	140,079	1,601,253	$15,257,207	0.65	7.5
2021	220,140	177,764	1,245,304	$15,665,643	0.81	5.7
2022	226,990	209,474	2,130,808	$17,508,759	0.92	9.4
2023	233,830	220,969	2,876,109	$21,049,640	0.95	12.3
2024	**240,680**	**230,782**	**3,369,520**	**$21,967,080**	**0.98**	**14.0**

Base Case Scenario

Year	Population	Revenue Hours of Operation	Revenue Passengers	Municipal Operating Contribution	Revenue Hours Per Capita	Revenue Passengers Per Capita
2025	247,520	247,520	3,589,040	$ 24,194,508	1.00	14.5
2026	254,370	259,457	3,815,550	$ 25,778,020	1.02	15.0
2027	262,730	273,239	4,072,315	$ 27,599,772	1.04	15.5
2028	271,090	287,355	4,337,440	$ 29,498,541	1.06	16.0
2029	**279,440**	**301,795**	**4,610,760**	**$31,474,600**	**1.08**	**16.5**

Mid-Range Scenario

Year	Population	Revenue Hours of Operation	Revenue Passengers	Municipal Operating Contribution	Revenue Hours Per Capita	Revenue Passengers Per Capita
2025	247,520	272,272	3,712,800	$ 27,411,775	1.10	15.0
2026	254,370	292,526	4,069,920	$ 29,944,193	1.15	16.0
2027	262,730	315,276	4,466,410	$ 32,818,909	1.20	17.0
2028	271,090	338,863	4,879,620	$ 35,858,310	1.25	18.0
2029	**279,440**	**363,272**	**5,309,360**	**$39,065,675**	**1.30**	**19.0**

Recommended Scenario

Year	Population	Revenue Hours of Operation	Revenue Passengers	Municipal Operating Contribution	Revenue Hours Per Capita	Revenue Passengers Per Capita
2025	247,520	297,024	4,084,080	$ 30,051,336	1.20	16.5
2026	254,370	330,681	4,578,660	$ 34,233,889	1.30	18.0
2027	262,730	367,822	5,123,235	$ 38,936,236	1.40	19.5
2028	271,090	406,635	5,692,890	$ 43,971,706	1.50	21.0
2029	**279,440**	**447,104**	**6,287,400**	**$49,350,406**	**1.60**	**22.5**

Appendix A -Table 3: Summary of Oakville Transit's Historical Service and Financial Data and Future Projections (2016-2029)

Year	Population	Revenue Hours of Operation	Operating Cost	Municipal Operating Contribution	Provincial Operating Contribution	Total Revenue	Passenger Revenue	Revenue Passengers	Revenue Per Passenger	Cost Per Passenger	Operating Cost Per Hour	RevenueCost Ratio	Revenue Hours Per Capita	Revenue Passengers Per	Passengers Per Hour
2016	193,832	208,831	$24,616,745	$16,332,189	$759,500	$7,525,056	$6,981,732	2,851,368	$2.45	$8.63	$101.96	31%	1.08	14.7	13.7
2017	194,000	212,008	$25,514,135	$16,410,597	$916,600	$8,186,938	$7,511,419	2,945,877	$2.55	$8.66	$97.47	32%	1.09	15.2	13.9
2018	202,500	210,878	$26,724,250	16,332,717	$1,572,900	$8,818,633	$7,781,013	3,502,207	$2.22	$7.63	$103.19	33%	1.04	17.3	16.6
2019	211,000	208,569	$26,415,361	$16,045,631	$1,572,900	$8,796,831	$7,797,112	3,376,070	$2.31	$7.82	$106.76	33%	0.99	16.0	16.2
2020	214,200	140,079	$23,580,017	$15,257,207	$4,679,098	$3,643,713	$2,975,213	1,601,253	$1.86	$14.73	$143.44	15%	0.65	7.5	11.4
2021	220,140	177,764	$23,880,514	$15,665,643	$4,607,650	$3,617,221	$2,874,873	1,245,304	$2.31	$19.18	$134.34	15%	0.81	5.7	7.0
2022	226,990	209,474	$26,518,430	$17,508,759	$3,581,895	$5,427,776	$4,598,646	2,130,808	$2.16	$12.45	$126.60	20%	0.92	9.4	10.2
2023	233,830	220,969	$30,084,977	$21,049,640	$1,572,900	$7,070,387	$6,238,593	2,876,109	$2.20	$10.48	$136.15	24%	0.95	12.3	13.0
2024	240,680	230,782	$32,048,696	$21,967,080	$1,572,900	$8,508,716	$7,635,332	3,369,520	$2.27	$9.51	$138.87	27%	0.98	14.0	14.6

Year	Population	Revenue Hours of Operation	Operating Cost	Municipal Operating Contribution	Provincial Operating Contribution	Total Revenue	Passenger Revenue	Revenue Passengers	Revenue Per Passenger	Cost Per Passenger	Operating Cost Per Hour	Revenue Cost Ratio	Revenue Hours Per Capita	Revenue Passengers Per Capita	Passengers Per Hour
Base Case Scenario															
2025	247,520	247,520	$35,061,208	$24,194,508	$1,572,900	$9,293,800	$8,376,748	3,589,040	$2.33	$9.77	$141.65	24%	1.00	14.5	14.5
2026	254,370	259,457	$ 37,486,405	$ 25,778,020	$ 1,572,900	$10,135,485	$9,172,580	3,815,550	$2.40	$9.82	$144.48	24%	1.02	15.0	14.7
2027	262,730	273,239	$40,267,261	$27,599,772	$1,572,900	$11,094,589	$10,083,538	4,072,315	$2.48	$ 9.89	$147.37	25%	1.04	15.5	14.9
2028	271,090	287,355	$ 43,195,264	$29,498,541	$1,572,900	$12,123,823	$11,062,220	4,337,440	$2.55	$9.96	$150.32	26%	1.06	16.0	15.1
2029	279,440	301,795	$ 46,274,258	$ 31,474,600	$ 1,572,900	$ 13,226,758	$12,112,075	4,610,760	$ 2.63	$10.04	$153.33	26%	1.08	16.5	15.3
Mid-Range Scenario															
2025	247,520	272,272	$ 38,567,329	$27,411,775	$1,572,900	$ 9,582,654	$8,665,601	3,712,800	$2.33	$10.39	$141.65	22%	1.10	15.0	13.6
2026	254,370	292,526	$42,264,084	$29,944,193	$1,572,900	$10,746,991	$ 9,784,085	4,069,920	$2.40	$10.38	$144.48	23%	1.15	16.0	13.9
2027	262,730	315,276	$46,462,224	$32,818,909	$1,572,900	$12,070,415	$11,059,364	4,466,410	$2.48	$10.40	$147.37	24%	1.20	17.0	14.2
2028	271,090	338,863	$50,937,811	$35,858,310	$1,572,900	$13,506,601	$12,444,997	4,879,620	$2.55	$10.44	$150.32	24%	1.25	18.0	14.4
2029	279,440	363,272	$55,700,496	$39,065,675	$1,572,900	$15,061,921	$13,947,238	5,309,360	$ 2.63	$10.49	$153.33	25%	1.30	19.0	14.6
Recommended Scenario															
2025	247,520	297,024	$42,073,450	$30,051,336	$1,572,900	$10,449,214	$9,532,161	4,084,080	$ 2.33	$ 10.30	$ 141.65	23%	1.20	16.5	13.8
2026	254,370	330,681	$47,776,791	$34,233,889	$1,572,900	$11,970,002	$11,007,096	4,578,660	$2.40	$10.43	$144.48	23%	1.30	18.0	13.8

Year	Population	Revenue Hours of Operation	Operating Cost	Municipal Operating Contribution	Provincial Operating Contribution	Total Revenue	Passenger Revenue	Revenue Passengers	Revenue Per Passenger	Cost Per Passenger	Operating Cost Per Hour	Revenue Cost Ratio	Revenue Hours Per Capita	Revenue Passengers Per Capita	Passengers Per Hour
2027	262,730	367,822	$54,205,928	$38,936,236	$1,572,900	$13,696,792	$12,685,741	5,123,235	$ 2.48	$ 10.58	$147.37	23%	1.40	19.5	13.9
2028	271,090	406,635	$61,125,373	$43,971,706	$1,572,900	$15,580,767	$14,519,164	5,692,890	$2.55	$10.74	$150.32	24%	1.50	21.0	14.0
2029	279,440	447,104	$68,554,456	$49,350,406	$1,572,900	$17,631,150	$16,516,466	6,287,400	$2.63	$10.90	$153.33	24%	1.60	22.5	14.1

Notes

- **Population is from the Growth Tracking Model based on the Best Planning Estimates**
- **Operating Cost per Hour inflates 2% per year**
- **Revenue per Passenger inflates 3% per year**
- **Total Revenue = Passenger Revenue plus Miscellaneous Revenue (Misc Revenue inflates 5% per year)**
- **Provincial Contribution held constant**

Appendix A -Table 4: Forecast Operating and Financial Scenarios

Year	Population	Revenue Hours of Operation	Revenue Passengers	Municipal Operating Contribution	Revenue Hours Per Capita	Revenue Passengers Per Capita
2016	193,832	208,831	2,851,368	$16,332,189	1.08	14.7
2017	194,000	212,008	2,945,877	$16,410,597	1.09	15.2
2018	202,500	210,878	3,502,207	$16,332,717	1.04	17.3
2019	211,000	208,569	3,376,070	$16,045,631	0.99	16.0
2020	214,200	140,079	1,601,253	$15,257,207	0.65	7.5
2021	220,140	177,764	1,245,304	$15,665,643	0.81	5.7
2022	226,990	209,474	2,130,808	$17,508,759	0.92	9.4
2023	233,830	220,969	2,876,109	$21,049,640	0.95	12.3
2024	**240,680**	**230,782**	**3,369,520**	**$21,967,080**	**0.98**	**14.0**

Base Case Scenario

Year	Population	Revenue Hours of Operation	Revenue Passengers	Municipal Operating Contribution	Revenue Hours Per Capita	Revenue Passengers Per Capita
2025	247,520	247,520	3,589,040	$ 24,194,508	1.00	14.5
2026	254,370	259,457	3,815,550	$ 25,778,020	1.02	15.0
2027	262,730	273,239	4,072,315	$ 27,599,772	1.04	15.5
2028	271,090	287,355	4,337,440	$ 29,498,541	1.06	16.0
2029	**279,440**	**301,795**	**4,610,760**	**$31,474,600**	**1.08**	**16.5**

Mid-Range Scenario

Year	Population	Revenue Hours of Operation	Revenue Passengers	Municipal Operating Contribution	Revenue Hours Per Capita	Revenue Passengers Per Capita
2025	247,520	272,272	3,712,800	$ 27,411,775	1.10	15.0
2026	254,370	292,526	4,069,920	$ 29,944,193	1.15	16.0
2027	262,730	315,276	4,466,410	$ 32,818,909	1.20	17.0
2028	271,090	338,863	4,879,620	$ 35,858,310	1.25	18.0
2029	**279,440**	**363,272**	**5,309,360**	**$39,065,675**	**1.30**	**19.0**

Recommended Scenario

Year	Population	Revenue Hours of Operation	Revenue Passengers	Municipal Operating Contribution	Revenue Hours Per Capita	Revenue Passengers Per Capita
2025	247,520	297,024	4,084,080	$ 30,051,336	1.20	16.5
2026	254,370	330,681	4,578,660	$ 34,233,889	1.30	18.0
2027	262,730	367,822	5,123,235	$ 38,936,236	1.40	19.5
2028	271,090	406,635	5,692,890	$ 43,971,706	1.50	21.0
2029	**279,440**	**447,104**	**6,287,400**	**$49,350,406**	**1.60**	**22.5**

Appendix A -Table 5: Capital Budget Forecast for Oakville Transit Projects (2024-2033)

Transit Administration	2024 Budget	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast	2030 Forecast	2031 Forecast	2032 Forecast	2033 Forecast	Total Forecast
Oakville GO Station Modifications			804,800	553,300							1,358,100
Oakville Transit Lighting System	70,000										70,000
Capital Lease for Charging Infrastructure	4,305,100	4,349,300	4,436,300	4,525,000	4,615,500	4,707,800	4,802,000	4,898,000	4,996,000	4,097,800	45,732,800
Transit - 10-year forecast & 5 Year Plan					302,100						302,100
Transit Facility Capital Repairs and Replacement	201,400	38,700	59,200				1,028,000	776,500	22,400	95,400	2,221,600
Transit Facility Equipment Replacement	1,063,300	102,700	30,200	160,800	6,700	463,100	91,300	283,400	233,900		2,435,400
Bus Stop Accessibility Improvements	70,500	70,500	70,500	70,500	70,500	70,500	70,500	70,500	70,500	70,500	705,000
Total Studies & Facility Rehab (5421)	5,710,300	4,561,200	5,401,000	5,309,600	4,994,800	5,241,400	5,991,800	6,028,400	5,322,800	4,263,700	52,825,000
Total Transit Administration	**5,710,300**	**4,561,200**	**5,401,000**	**5,309,600**	**4,994,800**	**5,241,400**	**5,991,800**	**6,028,400**	**5,322,800**	**4,263,700**	**52,825,000**

Transit Facilities	2024 Budget	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast	2030 Forecast	2031 Forecast	2032 Forecast	2033 Forecast	Total Forecast
Palermo Terminal							424,600	2,815,200	2,815,200		6,055,000
Replacement Shelters	221,500	91,600	352,500	559,000	504,600	40,300	40,300	70,500	75,500	747,700	2,703,500
New Shelters	65,600	65,600	65,600	65,600	65,600	65,600	65,600	65,600	65,600	65,600	656,000
Total Shelters & Terminals (5420)	287,100	157,200	418,100	624,600	570,200	105,900	530,500	2,951,300	2,956,300	813,300	9,414,500
Total Transit Facilities	**287,100**	**157,200**	**418,100**	**624,600**	**570,200**	**105,900**	**530,500**	**2,951,300**	**2,956,300**	**813,300**	**9,414,500**

Fleet	2024 Budget	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast	2030 Forecast	2031 Forecast	2032 Forecast	2033 Forecast	Total Forecast
Electric Replacement Buses	4,480,000										4,480,000
Supervisor Vehicle Expansion		80,600									80,600
Electric Replacement Buses	9,638,400	14,457,600	14,457,600	3,084,000	9,291,200	6,968,400	5,402,000	7,724,800	6,968,400	12,368,000	90,360,400
Electric Expansion Buses				6,967,400	7,723,700	6,967,400	6,967,400	6,967,400	6,967,400	6,967,400	49,528,100
Specialized Electric Vehicle Replacement		1,038,200	3,111,500		872,200		1,557,300		1,038,200	3,111,500	10,728,900
Specialized Electric Vehicle Expansion	519,000	519,000	519,000	353,000	1,744,400	872,200		872,200		872,200	6,271,000
Supervisory & Maintenace Vehicle Replacement	201,400	221,500	151,000	101,000			248,900	201,400	221,500	151,000	1,497,700
Major Vehicle Refurbishment	2,012,000	2,012,000	2,012,000	2,012,000	2,012,000	2,012,000	2,012,000	10,542,000	9,839,200	6,331,500	40,796,700
Total Fleet (5441)	**16,850,800**	**18,328,900**	**20,251,100**	**12,517,400**	**21,643,500**	**16,820,000**	**16,187,600**	**26,307,800**	**25,034,700**	**29,801,600**	**203,743,400**

Equipment	2024 Budget	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast	2030 Forecast	2031 Forecast	2032 Forecast	2033 Forecast	Total Forecast
Presto Equipment							1,428,500				1,428,500
Total Equipment (5442)							**1,428,500**				**1,428,500**

Oakville Transit Expenses	2024 Budget	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast	2030 Forecast	2031 Forecast	2032 Forecast	2033 Forecast	Total Forecast
Total Oakville Transit	22,848,200	23,047,300	26,070,200	18,451,600	27,208,500	22,167,300	24,138,400	35,287,500	33,313,800	34,878,600	267,411,400

Appendix B – Consultation Summary Report

Oakville Transit 5-Year Business Plan

Consultation Summary Report (First Round)

Oakville Transit

February 7, 2024

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1 Consultation Overview

1.1 Goals & Objectives

Oakville Transit is preparing a new 5-year Business Plan which will incorporate the key principles of:

- Preparing Oakville Transit for growth.
- Maximizing the potential of new service strategies, with a view to making significant gains in cost recovery and ridership levels.
- Planning for easy, convenient, and direct connections to future rapid transit services.

Engagement of the public, key stakeholders and transit customers is essential for the successful development of the Oakville Transit 5-Year Business Plan. Two public consultation sessions have been scheduled for the Business Plan. This summary report outlines the engagement activities conducted to inform stakeholders and the public about the study, ways to participate, and the feedback received during the initial phase of public consultation.

The primary objectives of the first round of public consultation were to:

- Introduce the 5-Year Business Plan and study process.
- Collect input on the transit customer's current transit travel, challenges, and recommendations.
- Discuss next steps in crafting the Oakville Transit 5-Year Business Plan.

1.2 Organization of Consultation

The first round of consultation took place from November 20, 2023, to December 7, 2023, offering both in-person and virtual opportunities for community involvement. Throughout this period, a four-question survey aimed at understanding current transit travel patterns, challenges and recommendations was hosted on Oakville Transit's project webpage at: www.oakvilletransit.ca/about-us/oakville-transit-five-year-business-plan. This provided opportunity for attendees to review project information and provide online feedback at their convenience.

Additionally, from November 22 to December 7, 2023, the public had the opportunity to participate in in-person consultations within the community. Project staff organized four advertised pop-up events in the community and one public meeting as part of a Public Open House for the Transportation

Master Plan study. During these in-person events, project staff answered questions about the study, gathered information on attendees' transit travel patterns, and collected feedback regarding taking Oakville Transit.

Furthermore, an additional layer of analysis was incorporated into the consultation process, involving an examination of Oakville Transit's recent Customer Service Feedback data from January 2022 to October 2023 and insights gathered from the Annual Plan survey conducted in July 2023, with a specific focus on feedback related to existing conditions.

Looking ahead, the second round of consultation is scheduled for Spring 2024.

Table 1: Key Consultation Activities – Round 1

Consultation Activity	Date/Time
Online Survey (hosted at www.oakvilletransit.ca/about-us/oakville-transit-five-year-business-plan)	November 20, 2023, to December 7, 2023, on-demand
Pop-up Event (hosted at Oakville Trafalgar Memorial Hospital)	November 22, 2023, from 10:30 am to 1:00 pm
Pop-up Event (hosted at Sheridan College Trafalgar Campus)	November 22, 2023, from 2:30 pm to 4:30 pm
Pop-up Event (hosted at Oakville GO Station)	November 23, 2023, from 8:00 am to 10:30 am
Pop-up Event (hosted at Bronte GO Station)	November 23, 2023, from 11:00 am to 1:30 pm
Pop-up Event (hosted at Town Hall as part of a Public Open House for the Transportation Master Plan study)	December 7, 2023, from 6:00 pm to 8:00 pm

1.3 Notification & Communications

The project website (Oakville Transit Five-Year Business Plan) went live on Monday, November 20, 2023, coinciding with the week of the first four Pop-up Transit Talk events.

The Town of Oakville also shared a news release (Help shape the future of transit service in Oakville for the next five years) on Monday, November 20, 2023, promoting the Pop-up Transit Talk events as well as the accompanying online survey.

Furthermore, both the Town of Oakville Facebook page and the Oakville Transit Facebook page provided additional insights regarding the engagement. This occurred on November 20 for the Town of Oakville Facebook page, and on November 20 and 21 for the Oakville Transit Facebook page (see Figure 1 and Figure 2 for details).

Figure 1: Snapshot of Town of Oakville Facebook Page Post detailing the Pop-up Engagement (November 20, 2023)

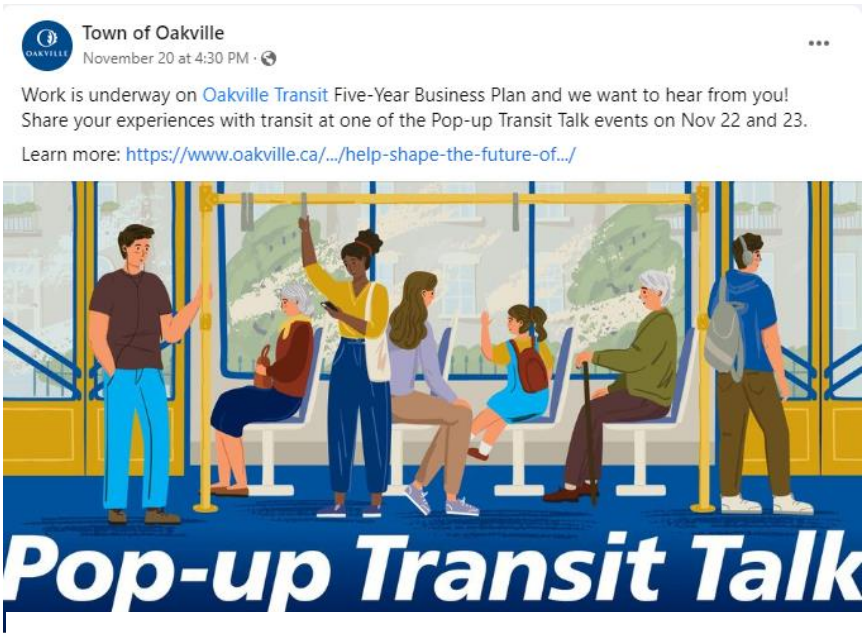
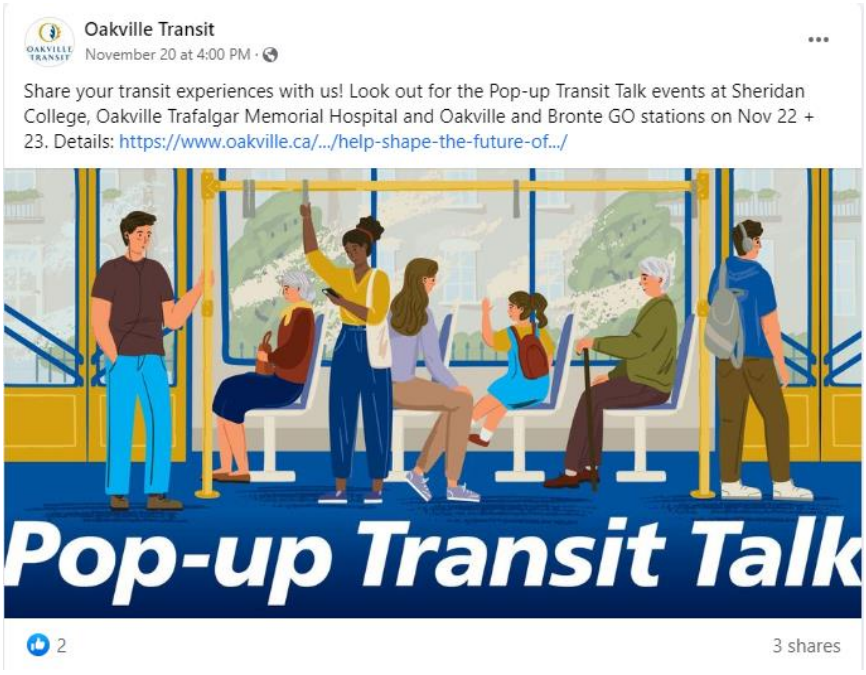


Figure 2: Snapshot of Oakville Transit Facebook Page Post detailing the Pop-up Engagement (November 20 and 21, 2023)



2 Feedback Summary

2.1 Pop-up Transit Talk Events

At the 5 Pop-up Transit Talk events, at least 400 individuals observed the pop-up set-up, and 30 attendees provided their feedback (details in Appendix A). From their responses, the following key themes emerged:

1. Service Frequency
2. On-Time Performance
3. Route Directness / Transfers
4. Driver Behavior

Riders indicated that there are too many transfers required to get to common locations and that more direct routes with fewer transfers would be welcomed. It was also noted that schedule frequency and poor on-time performance often resulted in delays and missed transfer connections. Some participants indicated that weekend and night schedules are too infrequent, making it difficult for those who work during these shifts to commute to and from work.

The final key theme raised was driver behaviour. Concerns were raised regarding interactions with transit drivers. Participants indicated that driver friendliness fell below-expected standards.

Figure 3: Pop-up Events Snapshot: Oakville GO (left) and Oakville Bronte (right) (November 23, 2023)

For a full list of comments received at Pop-up Transit Talk events, see **Appendix A – Pop-up** Transit Talk Comments.

2.2 5-Year Business Plan Online Survey

The online survey was live from November 20, 2023, to December 7, 2023, and had a total of 85 responses. Like the Pop-up Transit Talk events, the key themes highlighted by the online survey were:

1. Service Frequency / On-time performance
2. Transfers / Route Connection Issues
3. Bus Stop Accessibility and Maintenance

Respondents have expressed a need for increased service frequency, particularly during peak periods, and have highlighted that the existing 30-minute frequency for most buses is insufficient.

Currently, many users face challenges making connections to other routes and/or trains due to the existing schedules. There is a desire for Oakville Transit to establish better connections with GO trains and provide more direct routes to stations as well as downtown Oakville.

Concerns have been raised regarding the condition and functionality of bus stops and bus shelters across Oakville, indicating a need for better maintenance, particularly after snowstorms and other inclement weather. Some feedback suggests that residents near new developments are experiencing difficulties accessing public transit due to a lack of nearby bus stops, hindering their access to public transit.

For a full list of comments received through the online survey, see **Appendix B – Five-year Business Plan Online Survey Results.**

2.3 Customer Service Feedback

Oakville Transit operates a Customer Service Feedback portal on its website, enabling residents to submit commendations, complaints, questions, and suggestions related to Oakville Transit. The Customer Service Feedback is tabulated into categories and categorized and summarized on a monthly basis.

The following table outlines the Customer Service Feedback categories, along with the corresponding number and percentage of feedback within each category, covering the twenty-two months from January 2022 to October 2023. Throughout this data period, a total of 1,118 Customer Service inputs were registered.

Table 2: Customer Service Feedback in Oakville Transit Portal

Customer Service Feedback Category	Number and Percentage of Feedback Received
1. Bus Late / Early / No Show	212 (19%)
2. Bypass	39 (3%)
3. Driver Behavior	201 (18%)
4. Route Schedule	112 (10%)
5. Stop / Shelter / Garbage	72 (6%)
6. Care-A-van / Home to Hub	87 (8%)
7. Display Board or Bus Finder	34 (3%)
8. Unsafe Driver / Vehicle / Accident	124 (11%)
9. Snow Removal	26 (2%)
10. COVID Related	13 (1%)
11. Fares / Transfers / PRESTO	70 (6%)
12. Maintenance	3 (0%)
13. Commendations	17 (2%)
14. Other[1]	108 (10%)

2.3.1 Key Themes

The data may be further summarized into the two main areas of Customer Concern:

- Schedule Frequency / On-time performance (Category #1, #4) 29%
- Driver Behavior (Category #2, #3, #8) 32%

2.4 Annual Plan Survey (July 2023)

In July 2023 Oakville Transit conducted an online public survey which received 527 responses. Leveraging the recent survey completion, this study utilizes the results to comprehend the primary concerns of Oakville transit users and identify underlying themes. A summary of the survey findings is outlined below:

[1]. A considerable portion of responses categorized under the 'other' pertained to the labour disruption that occurred in February 2022.

- Good distribution of income brackets with the largest (30%) under $25,000.
- Good distribution of trip purposes with work/school (41%) the largest.
- Most responders (74%) use transit to go to a GO Train.
- The most frequently used routes are #5 Dundas, #24 South Common, and #14 Lakeshore West.
- 58% of passengers make a transfer during their trip.
- The most important factors for customers are reliability and service frequency.
- The major customer challenges include service delays, inadequate information, and overcrowding.
- The most requested improvements are integration with other transit services, increased service frequency, and better shelters.
- The most common reason for not using transit is inconvenience.
- There was an even split between users finding transit challenging or not.

3 Findings:

The feedback collected from various sources, including the Online Survey and five Pop-up Transit Talk events conducted between November 20, 2023, and December 7, 2023, Customer Service Feedback from January 2022 to October 2023, and the Annual Plan Survey from July 2023, has identified key areas that require Oakville Transit's attention. These areas are highlighted below:

1. Schedule Frequency
    - Users expressed a strong desire for increased service frequency, particularly during peak periods.
    - The existing 30-minute intervals for most buses were deemed insufficient.
    - Many users face challenges making connections to other routes and trains due to existing schedules.
2. On-Time performance
    - Service delays and poor on-time performance were highlighted as major challenges during both the Online Survey and Pop-up Transit Talk events.

- Timely and reliable services are essential for meeting the expectations of Oakville Transit users.

3. Driver Behavior:
   - Concerns were raised about interactions with transit drivers, with perceived friendliness falling below expected standards.
   - Driver behaviour was a significant point of discussion during both Pop-up Transit Talk events and Customer Service Feedback.
4. Bus Stops and Bus Shelters:
   - Issues related to the condition and functionality of bus stops and bus shelters across Oakville were highlighted.
   - Feedback from residents near new developments suggests concerns regarding access to bus stops, impacting their perceived ability to use public transit effectively.
5. Integration with GO Trains and Direct Routes:
   - Users expressed a desire for better connections with GO trains and more direct routes to stations and downtown Oakville.

This consolidated summary captures the major concerns and themes that emerged across the diverse engagement activities, providing a comprehensive overview of the community's feedback and priorities for improvement.

4 Next Steps

A second round of public consultations will take place during Spring 2024. The combined findings from both series will inform the development of the 5-Year Business Plan.

A focus on understanding and resolving the root cause of the consultation findings will be crucial for the success of the 5-Year Business Plan.

5 Appendix A: Pop-up Transit Talk Comments

5.1 Transit Talk Pop-up Event # 1 (*Oakville Trafalgar Memorial Hospital)*

Q1: Where are you headed today? If you need to transfer routes, please tell us about it.	Q2: Is there a location that you would travel to/from more often if service allowed?	Q3: Has overcrowding or bus schedule alignment ever discouraged you from taking your planned trip? If so, please let us know the route, stop, and time of travel.	Q4: Are there other challenges you've experienced with transit service or routes? Tell us about what changes you would make to the transit service/system?
24 from Winston Churchill comes too late. Too far to walk from Winston Churchill to Vega Blvd. Extend 5 to Winston Churchill.	Do not use bus. Lived in Oakville 18 years. Do not use as service is terrible in my area.	More buses on route 3.	Too many transfers.
	No convenient way to get from Postmaster Drive to the hospital.		Streamlining services so it's a more direct route.
			Blakelock School snow clearing - no path from bus stop to sidewalk for wheelchairs.
			Need schedules in physical formats at main terminals. Difficult for seniors to access digital.
			If I take the bus to come to hospital from West Oak Trail, there are too many transfers.

5.2 Transit Talk Pop-up Event # 2 (*Sheridan College, Trafalgar Campus)*

Q1: Where are you headed today? If you need to transfer routes, please tell us about it.	Q2: Is there a location that you would travel to/from more often if service allowed?	Q3: Has overcrowding or bus schedule alignment ever discouraged you from taking your planned trip? If so, please let us know the route, stop, and time of travel.	Q4: Are there other challenges you've experienced with transit service or routes? Tell us about what changes you would make to the transit service/system?
One bus from Dundas and Winston Churchill to the campus.	Schedule problems on weekends and closes everyday too early.	Route 5 - sometimes they kick you off at Uptown Core, about 20% of the time.	Timing of the bus - from the GO station to the bus is an 8 minute wait.
Take Route 6 along Upper Middle Road straight to the campus.	Can add more services at late night hours.	Overcrowding on the #14 bus at 3-5 p.m.	Confusing! Google maps have different names for busses, can't tell which direction is which.
The buses take really long to show up. They are never accurate with the times shown on Google/Apple maps (barely accurate).	More direct trips to downtown Oakville from Sheridan campus.	On weekends, certain busses stop running at 8 p.m. It would be better for people working late night shifts if this time was extended. I usually use the #19, but am moving so will be switching over to the #15.	Needs clearer info/easier way to tell locations.
Long commutes with many steps. Oakville GO to catch the GO train to Union Station. Yonge line northbound to Finch off of York Mills. #5 bus to home.	Anywhere after 8 p.m.	Timing with the bus and train connections could be better.	No live GPS tracking on buses. Google maps will say departed when it hasn't even arrived.
		#24 bus route is SUPER crowded when I board at Leighland Avenue and Trafalgar Road, especially on weekdays. Sometimes people can't board or are forced to stand when they would need to sit down due to physical needs.	Sunday the buses stop running at 7-8 p.m. This is too early. Ideally, they would stay running until 2 a.m. 11 p.m. they stop running on weekdays, which is also too early.
		Multiple options from the GO station is helpful.	No service after 11 p.m., more weekend service on Route 19. Higher frequency.
			Free fare for students.
			Number 19 bus is always late.
			Sketchy passengers at Oakville GO.

5.3 Transit Talk Pop-up Event # 3 (*Oakville GO Station)*

Q1: Where are you headed today? If you need to transfer routes, please tell us about it.	Q2: Is there a location that you would travel to/from more often if service allowed?	Q3: Has overcrowding or bus schedule alignment ever discouraged you from taking your planned trip? If so, please let us know the route, stop, and time of travel.	Q4: Are there other challenges you've experienced with transit service or routes? Tell us about what changes you would make to the transit service/system?
Route 5 between Dundas Street and Highway 407 carpool to Laird Road and Ridgeway Drive. Route 6 to Winston Churchill Blvd transitway. Route 10 midday service.	More transit services to community centers.	Yes. Express 190 needs to align with Lakeshore West times in the evening.	Need more physical copies readily available of schedules because no data plan for on the go checking.
Route 1 is the only Trafalgar route (10 min). Route 3 7 days (30 min). Route 4 (30 min on weekends).	More transit to and between community centers. Parents can drive less!	The busses are not on time (Route 15).	Insulated bus shelters, more frequent service, currently two busses an hour in Northern Oakville.
Union Station to Oakville GO to 190 River Oaks Express.		Too many transfers. Inconsistent fares for seniors from bus to GO, etc.	Driver friendliness - treat people with special needs and service animals differently. Drivers don't do anything about verbally abusive passengers either.
Use it to get to the GO station. No issues with transfers or scheduling.		Better alignment with timing of 21, coming from 14, causes missing of next bus. I arrive at 9:10, bus leaves Oakville GO at 9:05.	We need more on-demand transit.
		I always take 5A to Uptown Core terminal. Usually at afternoon, the bus would not come around 2-3 p.m. But, Google maps shows it arrives at 3:13 p.m. / 2:13 p.m. Don't know what happened, but hopefully the schedule will be better soon.	Bus maintenance. Cord snapped one time when I was on the bus.
		56 bus does not come on weekends, every other bus does.	Downtown Route 13 (schedule alignments, fare integration, senior fare, and drivers' behaviour).
		Better frequency of 14 (30 mins now) every 15 mins would be ideal.	
		Bus from Square One (#56), arrived at 9:28 a.m. but didn't leave the station until 9:36 a.m., causing me to miss my next transfer.	

5.4 Transit Talk Pop-up Event # 4 (*Bronte GO Station)*

Q1: Where are you headed today? If you need to transfer routes, please tell us about it.	Q2: Is there a location that you would travel to/from more often if service allowed?	Q3: Has overcrowding or bus schedule alignment ever discouraged you from taking your planned trip? If so, please let us know the route, stop, and time of travel.	Q4: Are there other challenges you've experienced with transit service or routes? Tell us about what changes you would make to the transit service/system?
	Haven't used the bus service for the better part of my time in Canada. I believe being able to having a longer period to link bussing from Bronte GO station to the bus would improve service.	The busses are often so misaligned that I cannot rely on them to get to work on time, even if I take the early bus.	The bus during the week is not always on time, so I hope that at least there will be something that can track it. My work on the weekends starts at 7 a.m., there is not a bus early at 6 a.m. I hope there will be some busses that are early.
		Frequency (timing) - busses often arrive late and just miss connecting trips. Make there a way for drivers to communicate with each other so they can wait when running 2-3 minutes late.	Oakville Transit customer service rep was rude and did not answer 2 questions. Happy with overall transit service.
			Improve bus shelters at Bronte. Needed for inclement weather.

5.5 Transit Talk Pop-up Event # 5 (*Oakville Town Hall)*

Q1: Where are you headed today? If you need to transfer routes, please tell us about it.	Q2: Is there a location that you would travel to/from more often if service allowed?	Q3: Has overcrowding or bus schedule alignment ever discouraged you from taking your planned trip? If so, please let us know the route, stop, and time of travel.	Q4: Are there other challenges you've experienced with transit service or routes? Tell us about what changes you would make to the transit service/system?
			Not reliable or attractive option. Not enough advertising/promotion to make people want to take transit. Better infrastructure and promotion will go a long way.
			There will be a lot of congestion in Midland in the coming years. Transit, roads, and parking need to focus on this area in order to match the expected growth.
			Please increase frequency.
			Please train bus drivers to improve their customer service skills.
			Please increase connectivity, it takes forever to go to key places.

6 Appendix B: 5-Year Business Plan Online Survey Results

Q1: Where are you headed today? If you need to transfer routes, please tell us about it.	Q2: Is there a location that you would travel to/from more often if service allowed?	Q3: Has overcrowding or bus schedule alignment ever discouraged you from taking your planned trip? If so, please let us know the route, stop, and time of travel.	Q4: Are there other challenges you've experienced with transit service or routes? Tell us about what changes you would make to the transit service/system?
To University Avenue, Toronto. I live on 2375 Bronte Road. To catch the Go train or go to Dundas/ 407 Carpool or shopping, I need to walk 10-15 minutes either way to catch the transit bus. With small kids, it is difficult to walk especially while coming back after shopping. As we don't have a car, we depend on public transportation. Request to ply more buses on the Bronte Road, there are no buses running between Dundas and West Oak Trial stretch.	Bronte Road and Khalsa Gate junction. There are quite a good population residing in that area but no buses.	Not overcrowding but the bus schedules for the Bronte Road and Dundas residents. Sunday services on Dundas, 5/ 5A and 13 after 7PM.	Sunday services on Dundas, 5/ 5A and 13 after 7PM
Oakville place. Was at the bus stop on Wot, near to the high school. Every day parents park around to pick up their kids. One parent brazenly parked in front of the stop, and as a result bus 13 did not stop. Surprisingly a second bus followed close behind...did not stop either.	Senior centers, my docs office on Bronte and Dundas, Glen Abbey rec center	At school timing, bus is overcrowded with rowdy, noisy kids. Time to start blaming parents on how kids are brought up. It is not the job of teachers. The parent parked at the bus stop rudely told to get lost...he actually said goodbye, stayed put and spoke loudly on his phone	Better cleaner bus shelters at Oakville GO...looks like they need a much-needed reno and fix. More shelters at Bronte go, more hubs. Bus 13 route is too long resulting in regular delays.
Oakville bus route # 11.	Clarkson Go towards Oakville Go	Yes, bus route # 11, has very less frequency. Many would not prefer local transit as it is not frequent. If I miss bus then need to wait 1 hour for next bus. I use Go train and then take bus# 11 from Clarkson. There is 1 train that comes around 4:24pm to Clarkson station. I can never catch 4:23pm bus from Clarkson station.	If there is many bus within 15 mins, then many would start using public transit especially during peak hours.
I use Oakville Transit mainly to commute between my home and Oakville GO. I am lucky enough that the 1, 5, 24, and 19 buses all bring me within walking distance of my building. I do not need to take any transfers.	I live at Trafalgar and the 403. I used to live near Third Line and Upper Middle Road and many of the essential services I need are there. By car, I can get there in 10-15 minutes, but it is a 45-60 bus ride. It would be nice if there was more direct service between these two areas.	Recently the 7:38am line 5 bus has been running behind schedule leaving from White Oaks Blvd + 1231 White Oaks Blvd. I have been missing my train connection because of this. It is very frustrating.	I have experienced no other challenges. Staff is always friendly and the buses are clean.

Q1: Where are you headed today? If you need to transfer routes, please tell us about it.	Q2: Is there a location that you would travel to/from more often if service allowed?	Q3: Has overcrowding or bus schedule alignment ever discouraged you from taking your planned trip? If so, please let us know the route, stop, and time of travel.	Q4: Are there other challenges you've experienced with transit service or routes? Tell us about what changes you would make to the transit service/system?
I am not headed anywhere today but decided to just open the website of Oakville Transit.	The 4 Speers/Cornwall bus route should go up Ford Drive, through Kingsway Drive in Clearview, through Truscott Drive, down Southdown Road, and end at Clarkson GO and visa-versa for if you were going from Clarkson GO to Oakville GO. There should be service along Kingsway Drive from Ford Drive to Winston Churchill up to Winston Churchill Station of the Mississauga Transitway and the Eglinton-Ridgeway Plaza. There should be more Crosstown Oakville Routes from East to West and North to South, with some routes that are straight and stay on the same road for its main route for a long distance. Such as how Speers/Cornwall mostly stays on Speers Road and Cornwall, but past Ford Road it stops doing so. I think there should not be big loops, such as how bus route 12 has a giant loop using Bristol Circle mostly, as these are hard to get around and take a lot of time, unlike straight routes. I think that crosstown routes are great so you can get across the city without transferring many times, and that most bus routes should connect to bus hubs every few kilometers. There should be a bus service straight up and down Ford Drive. Finally, this is quite important for more people to use Oakville Transit (which would make it worth it to spend all these high costs to make a town with transit that'll be reliable and useful that all the residents use and love) and to make it a more reliable and more frequent service to. I think it should be a 15-minute service from 5:00 AM to 12:00 AM (30-minute service on weekends, with service starting at 9:00 AM and ending at 9:00 PM). For the time between 12:00 AM and 5:00 AM on weekdays, it'll be a 30-minute service, with the time between 9:00 AM and 9:00 PM on weekends being hourly service and with an on-demand service available for times between each hour.	No, it has not, as there is usually no overcrowding on Oakville Transit bus routes from my experience.	I find it how the 30-minute service means either being early or being late. because if I finish what I need to do 4 minutes before the bus comes, I need to come immediately or I have to wait 30 more minutes and be late. This was on route 4 Speers/Cornwall.
Oakville Hospital. Route 3.	Oakville Place. Bus should pull right into the mall parking lot	I never go anywhere via transit on Weekends. Especially Sunday's. Sunday service is awful.	Buses linking up at Hubs. Why are they so fixated on buses linking up with GO trains! What about those of us that work/live within Oakville! Buses should not pull out of hubs while other buses are pulling in. People miss their connections over a matter of seconds. Leaving a hub 1-2 minutes late will not affect the entire trip. That time can always be made up. More accessible services on Sunday's. Especially for Oakville Hospital. Staff is unable to work past 7:00 or pay for taxi/Uber. Staff beginning their shift prior to 9:00am have the same issue. The state of the bus shelters after a snowstorm are shameful!! Days after a storm the inside of shelters are inaccessible! Totally disgusting! Especially for those that require mobility aids! Bring back the 15-minute rush hour buses they had prior to covid lock downs. Ridership is up with seniors and teens riding for free. Buses are late and packed to the brim. 15-minute services would help alleviate that. Please move the stops on Burloak at the new Food Basics store. Stops are very far away from the store and its quite a walk. Will be treacherous in winter. Especially if using grocery buggies.
DO NOT SPEND OUR MONEY ON TINY ELECTRIC BUSES THAT CAN'T GO ON THE HIGHWAY, NEED TO BE RECHARGED AT LUNCH, HAVE NO SEATBELTS AND CAN ONLY SEAT A FEW PEOPLE... WASTE OF MONEY	DO NOT SPEND OUR MONEY ON TINY ELECTRIC BUSES THAT CAN'T GO ON THE HIGHWAY, NEED TO BE RECHARGED AT LUNCH, HAVE NO SEATBELTS AND CAN ONLY SEAT A FEW PEOPLE... WASTE OF MONEY	DO NOT SPEND OUR MONEY ON TINY ELECTRIC BUSES THAT CAN'T GO ON THE HIGHWAY, NEED TO BE RECHARGED AT LUNCH, HAVE NO SEATBELTS AND CAN ONLY SEAT A FEW PEOPLE... WASTE OF MONEY	DO NOT SPEND OUR MONEY ON TINY ELECTRIC BUSES THAT CAN'T GO ON THE HIGHWAY, NEED TO BE RECHARGED AT LUNCH, HAVE NO SEATBELTS AND CAN ONLY SEAT A FEW PEOPLE... WASTE OF MONEY

Q1: Where are you headed today? If you need to transfer routes, please tell us about it.	Q2: Is there a location that you would travel to/from more often if service allowed?	Q3: Has overcrowding or bus schedule alignment ever discouraged you from taking your planned trip? If so, please let us know the route, stop, and time of travel.	Q4: Are there other challenges you've experienced with transit service or routes? Tell us about what changes you would make to the transit service/system?
Sixth line bus 19 changing to 14 west to Bronte. Bus is often late arriving at the GO station which means passengers miss the connection. This is due to bus having to pick up and drop off students and deal with traffic lights and students crossing against the light which holds up the bus. Drivers never apologize or communicate with other buses asking them to wait and often have to stop even if the stop cord is activated and often do not activate rear doors, requiring passengers to shout out instructions.	No	Yes, 19 south to GO station is often late during school hours — 9 am to 3 pm and connection missed	No
South Oakville Centre, Oakville downtown, Oakville Go, Oakville Place My Physio Physiotherapist on Bristol Circle	No	No	The EV buses for Care-A-Van have many many issues which I am sure you know about. I have previously sent an email to Oakville Transit and copied the mayor. If you search your systems, I expect you will find it
I don't normally take transit because of connections and wait times. But would like to use transit more if it were more convenient.	Kerr Street area.	No	Wondering why there is no service along Lakeshore through downtown Oakville?
Oakville Care-A-Van, Bronte GO to Burlington GO and then Hamilton darts (McMaster University)	Kerr Street area.	#15 from GO station - to south end of Kerr. Used to take it fairly regularly but stopped due to long waits for pick up and occasionally no shows/cancellations, especially in winter - there's no place warm to wait - sometimes quicker/warmer to walk.	Full disclosure of operating costs and amount of money made from riders. Put it on this site so we can see if there is a loss of our tax dollars.
Mississauga	Oakville Place	route 28 should be more frequent	bus schedules do not represent running times. the buses are driven as if drivers are in a race and are verging on being unsafe. bus tires are over inflated, seating lacks padding. a bush league system when are there going to be bus lanes in Oakville on Trafalgar and on Dundas St to connect with Mississauga and with Burlington the transit system in Halton should be merged.
I use Oakville Transit to travel to and from the Oakville GO station (Church & Dunn to Oakville GO). Getting to the station in the morning is great but coming home often I have to wait 20 min for a bus.	Downtown/Olde Oakville	Never experienced overcrowding but sometimes the schedule connection with trains has discouraged me from taking the bus.	I find it very difficult to figure out the routes and stops. Why do Seniors get free transit and disabled people on ODSP do not?
From Trafalgar GO to Iroquois Ridge. Route 20. No transfers	I would love to be able to travel along the Lakeshore from downtown Oakville to Winston Churchill area without having to go to the Oakville GO to transfer buses.	Oakville buses are almost always empty (2-3 people max) outside of rush hour times on the morning and evening. It's discouraging to see your tax dollars ride around in empty buses. Bus schedule alignment discourages me from takin the bus to Dorval/Speers	Please consider running smaller buses during the day or nighttime when you don't need to run a 50-seater. Please consider more connections with Mississauga/Burlington/Milton.
Route 14 from Bond & Chisholm to Shoppers Drug Mart on Kerr at Speers and return.	Yes. Dorval/Speers twice a week. Now it takes almost an hour by bus and only 15 minutes by car.	NO	Later evening 30-minute service on 14, 24 and 5-5a.
Toronto Downtown	Falgarwood area in the late morning and afternoons.	Yes, the bus is not exactly aligned with the Go Train arrival / departure timings, so better alignment with Go Transit will be helpful.	More Frequent Buses to/from Bronte GO station.

Q1: Where are you headed today? If you need to transfer routes, please tell us about it.	Q2: Is there a location that you would travel to/from more often if service allowed?	Q3: Has overcrowding or bus schedule alignment ever discouraged you from taking your planned trip? If so, please let us know the route, stop, and time of travel.	Q4: Are there other challenges you've experienced with transit service or routes? Tell us about what changes you would make to the transit service/system?
One of the main issues with our transit system is bus times not lining up. I work at OTMH. It takes me two buses and about 45-50 minutes to get there. Changing the 3N to every 15 minutes in the morning would be beneficial, at least during rush hour. Having the 14 Oakville GO wait at Hopedale for people who get off the 3S at Third Line and Rebecca would also help. We literally miss it by about 1 minute and have to wait 30 minutes for the next one.	Yes, there is currently no bus service for Route 34 in the afternoon and after the rush hour, however it will be helpful to have this since a lot of people use the Go Transit to commute to/from Oakville at different times outside of the rush hours.	The routes to the hospital are not very well planned for shift workers. November 30th - 14 Oakville GO was over 20 minutes late; why not send the floater bus sitting at Bronte GO to pick up this route?	I would like to see transit show more respect to the people who live and work in Oakville. It seems the buses can always wait for the trains but can't wait at any of the intown hubs for other buses. The 13 at Bronte GO for instance - certain drivers will wait for the other buses to arrive, while others will not. This seems dependent on whether the supervisor is there. One day I asked the 3S driver to wait one minute at the hospital for my colleague to come out. He said he couldn't but we waited a full 3 minutes at Bronte GO for the train to come in. Annoyances: Drivers who park too far away from the curb, especially for the elderly Drivers who don't respond when you say hello or good morning; common courtesy Bus stops not cleared in a timely manner after snowfall; can be dangerous Drivers who drive too fast and pump the breaks or accelerator Shelters are Bronte GO are still not finished since August Certain buses/drivers are consistently late; socialize on their own time, not ours When someone is getting off at the front, usually elderly, the driver should stop the people trying to get on instead of squeezing through Information board at Church and Dunn only shows times for Oakville GO, not Appleby GO "Find 3113" at SOC does not show times for 14 Oakville GO New EVs are ridiculous for use as Care-A-Van as they have steps inside Driver should be more clear when people ask them questions. I have heard drivers say, "what does the sign say?" when asked where does the bus go. I would like to say thank you for allowing us to have our say in this manner. Including people who actually ride the bus when developing transit plans is long overdue.
26 Falgarwood down to Oakville GO	Downtown	Bus schedule alignment - the busses used to align better to GO express trains and now they don't, especially in the evenings coming back.	I appreciate that 26 is not used as heavily as other routes but it's a key service for this part of Oakville. Regular, predictable service aligned to the GO, even with smaller vehicles, is still essential to deter road congestion
Not traveling today.	The GO station so I wouldn't have to walk instead of waiting 30 minutes for my next bus	The timing of the 14 right now is good, as it connects amazingly with my GO bus. Mid-day when all the buses are 30 minutes apart and I end up missing one, I just choose to walk instead of waiting for the next. Having all buses come and go at the same time means a late bus would make me miss everything. More frequency would negate this issue	1. If I'm correct, riders need to check for routes and schedules online. Some potential riders don't have access to Internet - I do, but at home only. If I decide or need to use Oakville Transit while I'm out, I cannot check. Some potential riders have no access at all. 2. At a meeting in March 2023, a councillor spoke of riders reserving? checking? service (on demand??) The assumption was that everyone has the technology at the touch of a finger. Not true. If I misunderstood, please accept my apologies.

Q1: Where are you headed today? If you need to transfer routes, please tell us about it.	Q2: Is there a location that you would travel to/from more often if service allowed?	Q3: Has overcrowding or bus schedule alignment ever discouraged you from taking your planned trip? If so, please let us know the route, stop, and time of travel.	Q4: Are there other challenges you've experienced with transit service or routes? Tell us about what changes you would make to the transit service/system?
I usually take route 4/14/15 to transfer to GO Transit	No location specifically.	Buses have generally been vacant when I use the service (evenings or weekends).	I would make mid-day service at least every 15-20 minutes of the busiest routes (5/14/24) and extend the operation hours to at least 12-1AM to connect with later trains. I would like these aforementioned routes to at least have 30 minutes service from 8PM to 1AM to connect with said trains. For the less popular routes, maybe the return of 15-minute rush hour service would be nice, and also extend their operation hours to 12/1AM. For weekends, minimum 30-minute service on all routes would be useful, and of course make them run until 12/1AM. This would make Oakville a somewhat appealing system at least, which is what Burlington is currently doing and succeeding with. I would even consider moving to Burlington since their system is much better in most spots - more frequent, runs past 10/11PM on most routes.
I travel to visit family in the Glen Abbey area (Route 28) or the Oakville Trafalgar Memorial Hospital (Route 3).	Yes, we would travel to the Colborne Seniors Centre, Trafalgar Park Community Centre, and to the library at Glen Abbey Community centre. We would also go to Bronte Go to use the trains. My doctor is at the hospital…no way to get there by transit during the day. I'd like to note that we have no community amenities where we live. So nowhere nearby to gather. And no way to get to the other centres.	We have no busses except 1 or 2 at rush hour which only go to Bronte Go. Getting to the hospital, or nearby doctor's office means a very long walk or a taxi. The busses travelling around Oakville are invariably never full. It is also difficult to figure out direct routes. I have been driven to the hospital for doctor appointments, then travelled by bus to the Colborne seniors centre via Bronte Go. Then I had to figure out how to get home by a long circuitous route…back to the hospital, a long walk along Dundas, and Colonel William parkway, or a ride by car. It's just too much.	As someone who does not drive, I depend on transit service to get me to places reliably. I understand how challenging it can be to operate public transit with the current land use/high rate of car ownership in Oakville but I really appreciate the service offered here, it has improved significantly over the years. I suggest expanding the hours of operation to later hours or bring back the late-night custom buses. Ending Sunday service by 7pm is too early, sometimes I would like to stay later with family, but I can't because I have to catch the last bus of the night. I know ridership isn't always there and there are likely budget constraints too, but building transit will help to attract ridership if people know that the option is there. Also better connections with the GO Train, especially with the last train of the night (last Southbound Route 3 meeting the last eastbound GO train at Bronte GO is very tight unless the bus hits all green lights) Thanks to all the staff working hard to listen to us and making the system better!
I travel to visit family in the Glen Abbey area (Route 28) or the Oakville Trafalgar Memorial Hospital (Route 3).	I would travel to Oakville Go or Uptown Core more often if there was more service on the 5 routes. Currently its every half hour to an hour. I would travel more to and from my home to Oakville GO Station if my bus stop had a shelter.	14A from Hopedale to Bronte between 3pm and 4pm after work. Bus is standing room only filled with kids and after working all day on my feet I don't feel like being jostled around by disrespectful teenagers. So instead of getting home 20 minutes after work I wait for a later bus to avoid the overcrowding.	It would be lovely to have a bus service where we live. Oakville transit did try to help, but the walking distances at our age are just too far, and during inclement weather, just too difficult. And they suggested a bus that doesn't even run during the day. I would suggest using smaller busses. It would be good to be able to occasionally call for a bus to pick me up at the end of my street. Or close to my home. As we age, we feel quite isolated on days when our car is in use.
I was headed to the Colborne Seniors Centre. However, our one car was in use, and since we have no transit options where we live, and we simply can't afford Uber, I was forced to stay home. I live at 2196 Emily Circle. My husband and I are 80 and 79 years old respectively. We have lived here 16 yrs. We walked everywhere in 2007. It's much more difficult now.	No. Its slow and inconvenient.	No	Sundays...the 14 or 3 need to start earlier.... I work Sundays starting at 8am as do many that work at the hospital
South Common Centre. I transfer from the 5/5A to the 24 every day.	south Oakville	N/A	Sometimes the busses are late but that doesn't happen often. More service on all/most of the routes with little service currently.

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Today, I went to my work and was working till late 9. I have my house in fourth line + bridge road. I had trouble to reach home, because 15 number route bus was not working till 9. I had to walk for 1 hour in snow to reach my house.	I would go to places like the Oakville Walmart and the Oakville Town Centers more if the 15 ran later at night.	No. From what I can see they are predominantly empty / underutilized.	Yes, I always go to college and my work by route 15 bus, and I have trouble returning home late till 9, the 15 number bus works only till 8:23 pm on weekdays as well as weekends. I find it difficult to reach my home as this bus is only my source to reach my home location. I think it should at least work till 10:30...it would be difficult for us students to travel if this happens every day.
Towards Oakville GO.	Not that I know of.	route 19 when the high school gets out. the bus gets filled to a dangerous capacity (kids over the yellow line, standing right beside driver and front door) when mothers with strollers and/or young children, elderly, disabled etc. gets on this route, many times the high school students will not want to vacate the priority seats that they are sitting in. students have given bus drivers attitude for telling them to vacate seat for the person in need getting on the bus, or I have seen elderly people and mothers and young children struggle as they have to ride the bus standing.	Yes. Route 5 - via Dundas Street Eastbound to Oakville GO, specifically the Dundas & Sixth Line bus stop does not have a bus shelter. So very often, I am left exposed to the elements (snow, rain, sun, wind, etc.). The westbound route has a shelter, could you kindly construct one for eastbound riders too?
Not applicable.	Kerr Village, Downtown Oakville. The 14 is a great route, but 15-minute service from Oakville GO to South Oakville Centre in the midday would be even better.	Yes. 4 east to 28 at 3:11 pm	I think we should look to right size the transit system. It costs taxpayers a lot of money and from what I can see it is greatly underutilized. May be more efficient to give taxi chit / Uber credits.
Today I will be taking route 14	Libraries and community centres The closest to my home is glen Abbey and it takes too long to arrive there due to bus transfer, I rather to go to Burlington library because it's just there a few steps away from the bus stop (Alton location). It seems there is a disconnection between public transportation and key community places to be accessible.	Since most Oakville Transit service is every 30 mins, it is difficult to plan trips.	I have noticed since the bus has become free for students that many young people sit in the priority seats and will not want to move when someone in need gets on the bus (I mentioned this above but I have seen this on many different routes/times/days etc.) I think it's absolutely disgusting! I have seen an elderly lady with a neck brace and walker get on the bus and the kids see her but do not move! I think something needs to be done about this (no students allowed to sit in the priority seats at any time) I have seen so many people in need struggle trying to get into a regular seat, have to stand, or have to confront a student to leave their priority seat. I see this at least once a week for the last few months.
I often take the 15 to the South Oakville Center and then transfer to the 14 to get to work. I also take the 14 at night to get home	I would like a bus that can go From Oakville GO to Bronte Go By going on Grand Oak Trail	Yes, it has. The buses are never overcrowded, but the 30-40 minutes schedule/waiting period is extremely discouraging. I check google map to check the time the buses come and sometimes is not accurate or confusing; the Oakville transit app is useless, sometimes work other not , so not reliable at all to plan accordingly; the number in the bus stop doesn't offer estimate arriving time which give us new users a sense of frustration. Please implement a similar system to TransLink in Vancouver, people can call and hear the estimate time and number of buses stopping in the specific stop.	The 15 and 14 are horrible at meeting up with each other like they are supposed to. I can't tell you the number of times I've been on the 15 and the 14 has pulled out of the bus loop early before I can transfer making me have to wait for the next 14 which forces me to always leave extra early to make absolutely sure I can get to work on time which is extremally annoying and time consuming.... Also the 15 does not run late enough at night so I have no bus to transfer to on my way home when the 14 reaches the South Oakville Center at 11:37, That forces me to walk several blocks late at night after I've been on my feet at work for 6 or more hours which is less than ideal. Having a late night 15 to transfer to would make things so much easier, especially when dealing with incremental weather.

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Normally after school I take the 4 east to Bronte go and I try to catch the 28 but I'm always 1MIN short. The 4 east pulls up at 3:11 and the 28 leaves around then. I always miss it. I wish it would stay 1 or 2 mins later.	To Walmart Burlington from Speers Road To Speers Road from Walmart Burlington departing at 11 pm on weekdays	I take the Line 5, Line 13, Line 6, Most of the time Buses get very busy	No
Kerr Village, Downtown Oakville.	Yes, I usually go to Oakville downtown or Bronte by the lake with bus #28 & transfer bus #14 during the week, no problem bus #28 every half an hour but Saturday & Sunday no good as bus #28 every hour, I did that but is very inconvenient if you miss the #14 wait another half hour, # 28 should run every half an hour at least on Saturdays, would make it easier & able to travel more on week-ends & enjoy Oakville or Bronte by the Lake. As well Why can it be. A direct bus?	Route 28, Saturday and Sunday, as per above.	1) Schedule the buses more often or offer an easy reliable system to check bus time + bus # arriving to the specific stop. Improve the app. 2) Build effective bus shelters, the glass design doesn't work neither for summer or winter, in summer the bus shelter are saunas and in winter are refrigerators. Again check the shelters in Vancouver-TransLink. 3) Why the cost of buses in Burlington is $2.75 and in Oakville $3.30? I would like to know. 4) Train the bus drivers to offer a better customer service, many of them seem they don't like their job, they are angry or not friendly at all. Also maybe make a system where users can recognize the great service offered by some bus drivers, they are few that really offer a great service. 5) Youth and seniors have free service, would it be possible to make at least one day/ week promotion to working people to go to work by bus? More engagement is needed to encourage people to use public transportation.
I mainly use bus #5, I honestly avoid directions where I have to transfer, it is a waste of time and under certain weather conditions hard to handle.	The 6 runs so little but the only bus that goes through Upper Middle and when a bus for some reason doesn't run I have to wait at least an hour for the next bus.	Thats nice	Delays Bus Being Slow Bus Arriving Too Late Maybe Adding more Lines Would help in some areas
I am going to Oakville Go Through Bus 13	Neighbouring municipalities	Weekend Bus Schedules suck, if I decide to go out late, well I probably have to take an uber home and that is such a bad idea. Most of the time I just decide to never go out for dinner on the weekends because I probably can't get home, especially if I go to the cineplex, I know I can't get home so I just can't go see movies later than like 4.	Yes, they have changed the 5 timing and removed the last bus to Oakville GO departing at 11pm from go 407 carpool Dundas
To Walmart Burlington From Speers Road first I took 4 to Oakville GO and then 5 to Walmart Dundas Burlington	Plenty but as mentioned above the connections are horrible. With plans for a Midtown this is a horrible situation. Obviously, ridership is low. Transit makes or breaks a town. If you want less cars on the road, improve the service and increase frequency.	Yes. Thursday 1.20pm - Bus arrives 15 minutes before train to Toronto. Return trip has bus leaving 1 minute before return train arrives back between 7-8.	Direct route #28 to OAKVILLE & Bronte (if possible) As well before #14 used to stop opposite Wholefood, was so convenient for me but now the route was changed so I stop going to Wholefood, if I take other bus route schedule alignment doesn't agree.
From Glen Abbey #28 to OAKVILLE go transfer to #14 to OAKVILLE downtown	The Village at Bronte to the Bronte go station	Besides frequency, improve the look of the bus bays at Oakville GO. The shelters are in very poor shape and in great need of repairs. With the increase in users ...mainly students, new immigrants...there are not enough covered spots to protect from elements	It is very frustrating when a bus gets cancelled and nothing gets updated, the only way to tell is the online bus tracker. There needs to be more accurate time estimates on the boards at hubs like the GO and Sheridan.

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Today I'm going to be heading to both Dundas/Winston Churchill and also Wyecroft/Bronte later in the day. If it wasn't the weekend this would be easier to do.	I would travel from Meadowridge and Dundas much more often if there was increased service and bus shelters, to destinations around Oakville such as Uptown Core and the area around Dundas and Winston Churchill	Besides frequency, improve the look of the bus bays at Oakville GO. The shelters are in very poor shape and in great need of repairs. With the increase in users ...mainly students, new immigrants...there are not enough covered spots to protect from elements	Outside of Go Transit hookup, it's way too expensive. Don't know why we are buying too small to be economic, expensive electric buses when we don't even have a proper service. I'd like Oakville Transit to be merged and integrated with other municipal bus services in Metrolinx perhaps
Bronte Go	Lakeshore East to Downtown. The line 2 should be reinstated again. Downtown is poorly served by public transit.	Colonel Williams to Glen abbey recreation Center. Takes an extraordinary amount of time.	More covered bus shelters along the routes. Bus drivers that are more empathetic...yes there are a few really rude ones. Better trained drivers to deal with a changing population. Have used transit over 20 years and seen a big deterioration.
The Oakville transit bus timings coordinate with GO trains. Why is the frequency not coordinating with public requirements. Had to wait more than 20mins to get each connection. Sheridan to Oakville GO to my final destination. A 40 mins total journey was more than 1 hour	School. Holy Trinity High School Currently I have to take 2 buses for a 3km distance. Bus 24 and Bus 19 plus 25 minutes walking	Bus 20 is always overcrowded after it reaches the IRHS stop at around 2:50 pm on weekdays when school ends. Additionally, I will often use other means of transportation instead of the bus if the wait times make it not worth it to take the bus.	I would implement more frequent service, as well as stronger transit priority measures. Major routes such as routes along Trafalgar and Dundas should have all day 15-minute service or better. It would make transit much more appealing as missing the bus doesn't mean waiting half an hour. In addition, implementing stronger transit priority measures would make taking transit even more appealing. This could be done with HOV lanes along Dundas and Trafalgar. While I know that there are plans to implement this, it is taking much too long to do so. The traffic along Dundas and Trafalgar during rush hour is already really high, so making transit more appealing than driving will likely reduce the traffic and increase transit ridership.
Today I travelled between Prince Michael + Northridge and Iroquois Ridge Community Centre	Oakville GO, uptown core	Waiting in the winter without a shelter for bus 24	Reinstate route # 2
Holy Trinity High School I need to take 2 buses for a 3km distance. Bus 24 and Bus 19 plus 25 minutes walking	Sixteen Mile Sports Complex.	Yes. 5a does not run after 7:15. Most of us who commute from Toronto have to Uber home from Oakville go because there is no bus service to where we live.	No transit to and from the new developed area north of Dundas. There’s no pedestrian walkway north of Trafalgar
More service to new development beyond 5a. 5a is rarely reliable.	Many areas are not easily accessible and hubs to get connections are almost impossible.	No	Yes. 5a changes schedules bit doesn’t post them or update the text system with new schedule. We are stuck waiting in the cold every 35 minutes. Changes routes mid-way often and then wait for another transfer.
Nowhere. Didn't leave the house today.	No	The condition of bus bay shelters especially in Oakville are real pathetic shape...leaking, dilapidated....worse than in many 3rd world countries. Heating or being properly sealed would be an added asset	No
Is there plans for Oakville Transit to improve its services, connections and increase hubs to meet the Midtown envisioned development?	More directly, Neyagawa & Dundas from 1180 Dorval. Winston Churchill Station. Either having the extended 5 going up Winston Churchill from Dundas. UTM (University of Toronto, Mississauga Campus), perhaps the 5 or the 6 can go in there. I've known that Oakville Transit has been wanting to get out of South Common, so I suppose to take a route close by, the 5 or the 6 (maybe even the 12, {or renumbered 21 from 120} and send those passengers to areas where acceptable MiWay transfers are needed for South Common.	No	In the new Midtown plan, the Oakville GO shows that it is bring moved. Are talks with Metrolinx already on and how can a POC be approved without surrounding transit infrastructure be in place?

Going to Toronto by go train from Oakville station	Mainly down the main strip of downtown. I work at Gairloch Gardens and getting there via transit is a pain sometimes because the only bus routes close to the location are either a 16-minute walk or a 35-minute walk. Other places would be to somewhere like Oakville Place. As mentioned previously most places I would like to go to would require me to transfer at Oakville Go even if there is a bus close by but would require me to walk a bunch. As an example, I can either walk 24 minutes in total to take the 6 east to my boyfriends house where the bus ride is half that, or I can walk 23 minutes to ride the bus for 5 min. I just wish there was a way to connect transit through neighboring neighborhoods without having to transfer at the main station or walk 20+minutes for a bus ride that doesn't even last that long.	Very rarely. OT in for as long as I can remember never really has been crowded. So I'll instead list out improvements that will greatly benefit a lot of people in Oakville and surrounding communities of Burlington & Mississauga. On post it notes, I put the 1 - Trafalgar, which essentially isn't really needed now based on what the Trafalgar corridor is as of now, can become the only route operating in the corridor. The span of the route would be 407/Trafalgar Carpool and Downtown via Oakville GO. Don't know exactly where within downtown these buses would come from, whether it be from Kerr or Reynolds, but I suppose that area of the routing can be at a lesser frequency compared to Oakville GO and the 407 Carpool at Trafalgar. White Oaks Boulevard can't be forgotten for the Route 1, so a branch can serve it. Frequency: 10 minutes, every day, maybe 20 minutes on Sundays/Holidays. Route 2: Bronte: I think Bronte Road can have its own routing. Unsure of its frequency, but I suppose that it can go as far north as Dundas and Colonial William Parkway to as far south to perhaps South Oakville Centre. Don't see it interlining. Frequency: 30 minutes, 7 days a week. Route 3 - Third Line: Least restore weekend and holiday frequencies to every 30 minutes. It's embarrassing to see it operate hourly on weekends for a long time. Ridership is back! I suppose that the peak hours can see an increase to every 20 minutes. Don't know about its southern routing along Rebecca, Bronte, Lakeshore & Third Line. Route 4 - Speers/Cornwall: Perhaps its time to look at midday frequencies to every 20 minutes on weekdays with 30 minutes on weekends. Route 5: Dundas: This is the route that I'm pretty sure will become the primary Dundas route, between Burlington 407 Carpool and either Liard & Ridgeway, South Common or Winston Churchill Transitway Station or even UTM. Frequency: Every 15 minutes, 7 days a week. No need to service Sixteen Mile Drive. Route 6: Upper Middle: Time to establish a consistent and easy-to-remember frequency of every 30 minutes and even go deep into the evening. It ends way too early and even during peaks, it shifts to hourly at 5:30pm? Is it because that historically that ridership fades out or something else. Reliability and predictability. The eastern portion of its routing can either terminate at Winston Churchill Transitway Station and/or South Common Centre. Route 10 - Wyecroft:	I think we have too many buses/routes but too little passengers or users.

		I see this route can finally go to a midday level of service, perhaps hourly or every 30 minutes. The difference is that it should remain on Wyecroft all the time. The portion of North Service between Fourth Line and Third Line perhaps can see a branch of that route or a new route altogether, during peaks. Route 11: Linbrook 30 minutes during the day and hourly on weekends/holidays. Route 12: Winston Park: Like the 11, I can think that a consistent and reliable service on this route should be every 30 minutes during weekdays with hourly weekend/holiday service. Maybe the possibility of being extended to Winston Churchill Station. Route 13: Westoak Trails Return to 15 minutes peak and not just 30 minutes on Saturdays, but also on Sundays/Holidays. Route 14: Rebecca/Lakeshore: Calling it Lakeshore West doesn't make sense anymore given there's no Lakeshore East route in the system. But I think the frequency on weekdays and Saturdays can be at every 20 minutes with 15 minutes peak. The only thing I'd be wondering about is whether the Route 1 operates south of Oakville GO and how it gets to downtown. Otherwise, operating on Kerr Street, downtown then along Rebecca is doing very well. Route 15: Bridge I don't know what to do with this route, except its 'hook' shape at the western end of its routing. Depending if there's a new route on Rebecca west of Third Line towards Burloak, I suppose that the portion of Bridge, between Third Line and Bronte I'll get to. Frequency: 30 minutes, 7 days a week. Route 18: Glen Abbey South-Bridge Same routing to Bronte GO, but from there, to go onto Third Line, south to Bridge, Bronte and Rebecca and terminate at South Oakville Centre. Multiple ridership generators, transfer points and better connectivity. Route 19: River Oaks-Glenashton Not sure what to do with this route but primarily 15-minute peak frequency along with 20 minute weekday off-peak and 30 minute weekend/holiday frequencies. I think this will no longer have the need the 190 to operate. Route 20: Northridge On its return routing to Oakville GO from Uptown Core, I don't understand why it needs to operate along Oak Park Boulevard all the way to Dundas. I think another route can cover that (maybe my new 28?) and rather have it cross Trafalgar to Postridge and continue regular present routing. Frequencies; 30 minutes 7 days a week with 15 minutes during peaks.	

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		Route 21: South Service-Joshua Creek Renamed from the 120, I think this route can benefit of operating during weekdays at 30 minutes all day. Perhaps operating until 8:30pm in the evenings. Routing I think could serve Winston Churchill Transitway Station. Route 22: Nottinghill Gate-Hospital This route can either alternate with the 18 with maintaining 30-minute frequencies along North Service Road West at hourly, or operate at every 30 minutes. I see this route, around the northern portion to operate along Glen Abbey Gate, Heritage Way, Postmaster Drive and Dundas, terminating at the Hospital. Weekends can also be at every 30 minutes, perhaps dependent on the frequency of the 18. If not, hourly can suffice. Route 24, as it's known now, would be discontinued because of the new Route 1., Route 26, as it's known, would be discontinued. I've felt that perhaps it could be blended with the 20, with the portions of the routing, on both sides of Eight Line. Route 34: Pine Glen Ok, this is a mistake to discontinue completely and replace it with Home-To-Hub or OnDemand. This route can be better served to be as part of the new Sixteen Mile route, left behind the 5, Route 16 - Sixteen Mile-Pine Glen would perform so much better knowing that it should operate 7 days a week, with a consistent 30-minute frequency. Bronte GO as the western terminus and Uptown Core to the northeast. Lastly, extend Sunday service to 9:30pm. Embarrassing to have it end at 7:40pm. Late Night Service should be available at both Oakville and Bronte GO, with more specific areas for the drop-off requests that can be done at more closer to those stations rather than a central location. Overall, extend evening service on all conventional routes (minus the 21) to 11:30pm and lead right into LNS.	
Uptown Core, but from 1180 Dorval, you need one transfer at Oakville GO. I'd rather have one route, the 28 to head to Uptown Core via Dorval and Neyagawa/portions of River Oaks & Glenashton. Makes for a bit of a crosstown service, but without the need of going through Oakville GO. If I needed to head to somewhere within Mississauga, I can get the 5 (assuming it's the full Dundas /Route), or the 1 (assuming it's the full Trafalgar route) to 407 Carpool @ Trafalgar.	Downtown of Toronto to Oakville	On the 18th there was the Santa parade and busses (mostly the 14 and 14A for my case) were interrupted from running to downtown. The transit app also seemed to have bugged out and said that some busses were inactive when they weren't (such as the 28 and the 14/14A busses after the event was over). So, when I tried to go home and everywhere said that the busses were not running despite the fact that I saw them passing by it discouraged me from taking transit	None to date. Even though I am a visually impaired rider, I am comfortable enough in riding the system as it's currently constructed.

Q1: Where are you headed today? If you need to transfer routes, please tell us about it.	Q2: Is there a location that you would travel to/from more often if service allowed?	Q3: Has overcrowding or bus schedule alignment ever discouraged you from taking your planned trip? If so, please let us know the route, stop, and time of travel.	Q4: Are there other challenges you've experienced with transit service or routes? Tell us about what changes you would make to the transit service/system?
I usually have to take the 28 Oakville GO and then I transfer at Oakville station to take the 14 to downtown. I more than often have to take a bus down to Oakville go and from there I can transfer to different locations.	Yes - I would like to see a lakeshore bus run from southeast Oakville (Devon) along the Lakeshore to Bronte please. I used to take the bus along Lakeshore from Devon to Downtown Oakville and it was great. This route would allow for more direct access to both downtown Oakville and Bronte and Parks and many other amenities without changing busses. I would certainly be a regular transit rider if that route were added. Thank you and I look forward to this route being added (possibly) 😊	Routes 14, near 271 Kerr St, six to eight o'clock	I would make the transit service more frequent and reliable to get from place to place. With what I mentioned before from the boyfriend thing, it discourages me from taking transit because at times it just seems really inconvenient when it's my main source of transportation. I also wish the busses ran later. If I want to go to Toronto for a concert I have to be sure that I have a ride as transit never runs as late as the last bus which I feel is such a missed opportunity, if there is a train there should be a bus to accompany it so that people can get home. I also think that we should start to implement more bus lanes, if people are stuck in traffic and suddenly see a bus zooming past them, they're going to be more inclined to take transit. This is also a way for busses to travel more efficiently as they will no longer get stuck in traffic if they have their own dedicated lane. I also feel that there should be a better kept environment around bus stops, ala fixing the pavement and making it an area that can be more accessible for people with mobile disabilities or the elderly. I overheard an older woman on the bus say once "They should really fix the sidewalk. Though they probably won't because we walk, and they only care about people in cars". Now with this new plan coming up I'm sure there is a way to turn this opinion around, but I feel like transit has to take risks rather than hoping to get things perfect first try or to try and appease those who don't even take transit very often in the first place.
From Union to Oakville station. And still need routes 14 to Kerr St.	I would love to visit the 16-mile branch library.	Buses are overcrowded at certain times of the day on routes 14 15 28	On time, if delay report online can check
I was headed to the Glen Abbey Branch library. I only used one bus the 28.	All of them. I sometimes just stay at home for weeks because it's not a pedestrian friendly city.	Overcrowding is a notable problem on the 5/5A by 5pm rush-hour. Added bus service would help prevent overcrowding.	Why are there so many side tours on the routes? The old Grey Coach route used to get me direct from Bronte to downtown and then up to the Go Station. Oakville Transit however have a more rounded service with loops here and there, I ultimately get downtown or the GO but I must allow more time for the trip. It is the same thing going to the Hospital. If the choice is walk or take the bus, I will obviously take the bus. I think we would be better serviced with straight routes that are supported by feeder lines.
Better transfer routes between downtown Oakville/midtown would help making transferring between buses much easier. Wait times at the station are often 30m or longer in the mornings.	I try to avoid going anywhere south. Bus 5 takes 47 minutes to get to the Go station. It takes too long with too many transfers to go anywhere else. Seats are not comfortable. I have mobility issues. I can't sit too long or sit sideways either. I try to stay along route 5. I travel for grocery/shopping and appointments only.	It can be overcrowded when students are getting out of classes but otherwise it usually is not.	None
I typically go from the Northend or central to downtown and Kerr. I always need to transfer and most days it takes 40 mins to get somewhere (approx. the same amount of time walking or biking).	West Oak Trails to Lakeshore Rd via Bronte or Third line	Many students are now taking #13 bus to Garth Webb. It would be great if you can add one more bus at about 8:15am so that students who missed 8:02 bus can still make it on time to school.	Added or modified service in the morning for more routes would be great.

Q1: Where are you headed today? If you need to transfer routes, please tell us about it.	Q2: Is there a location that you would travel to/from more often if service allowed?	Q3: Has overcrowding or bus schedule alignment ever discouraged you from taking your planned trip? If so, please let us know the route, stop, and time of travel.	Q4: Are there other challenges you've experienced with transit service or routes? Tell us about what changes you would make to the transit service/system?
Going for a 1:30pm doctor's appointment at 1060 Speers Road. I live at Dundas and Bronte. I start out on bus 5A for 11:57am. I transfer for 12:21pm to 3 at the hospital to go to Bronte station. I then transfer onto 4 for 1:06pm to arrive with enough time to get to the office. There have been numerous times with traffic on third line I have missed bus 4 so I now always take the earlier bus. My travel time is 1 1/2 hrs.	I would really appreciate a direct bus from North Oakville (Uptown Core, realistically) to Lakeshore Road. The Lake is one of Oakville's best amenities, but there is no way to get there conveniently from North Oakville without a significant walk/a car.	Yes. I think the buses 19 and 5 come way too close to each other, especially since I believe they only come once every hour or so (in certain hours). Just this Monday I needed to get to Oakville GO before 14:00 to catch the Lakeshore West train at 14:01. I either took the 19/5 at around 13:00 and arrived 30 minutes earlier and waited in the cold, or I took an Uber. The 19 and 5 were coming only a few minutes apart from each other, which is not useful considering they take more or less similar routes.	I have to use little bits of paper to pay. I don't understand why they can't make an electronic system or link it to presto in this day and age for disabled people. It's so easy to lose a tiny ticket.
Garth Webb high school via #13 bus	None	Route 20/26 from Oakville GO evening rush hour. These are not all aligned with current GO train arrivals. There are times when bus is leaving as we arrive and then have to wait 30 min.	I wish there was a faster way to get to the Bronte station from Dundas and Bronte. I used to make appointments to take bus 33, with a 10 minute ride down Bronte to the station. I have used bus 34 which only goes 1 way and takes 28 minutes. Both are/were rush hour buses only and will no longer be running in the new year.
I take the 5A to work, a 7min walk away from my house (up in North Oakville, Dundas and Preserve), and about a 2min walk away from work. No need to transfer routes.	Neighbouring municipalities. We need amalgamation of municipal busses across the GTA. Perhaps under the umbrella of Metrolinx. I should be able to seamless traverse the GTA east to west and connect to north-south routes.	No, the buses are usually nearly empty	A couple of times I tried to take the transit to and from work but there's never a good connection and it took me 1.5 hours each way including the wait times. This is a route that will only take me 15min by car. I'm almost positive that more people will take the bus if you improve connections and frequency.
Taking Route 26 to Oakville GO, alternatively can take Route 20	From home to workplace	Bus schedule. No buses go from east side of Trafalgar to west side of Trafalgar. Long waiting times for commuting.	There have been considerable times where the bus 5 and 5A has simply not come. These have been significant since, in most of these times, I had to attend an important work event and instead had to Uber. Since I admittedly have not taken public transit too often since I moved here (I mostly walked during the time when the weather was nice), it is thus quite significant that the bus has not come this many times. A better way of tracking the buses would be nice, as I have now started to check where the bus is (on the Transit app) before leaving my house just to make sure it is coming. Also, the Oakville Transit app does not work.
To GoodLife gym in Burlington along Dundas but I'll drive the 5km rather than pay for the bus because it's 50% cheaper.	I wish to have a direct service to the hospital	No	I would make more busses available during the evening rush hour. Go trains are coming more frequently and if you don't catch the timing right you can get your bus right away or wait 30 min sitting at station. Change it so arrival time for GO train to give us at least 5 min or so for bus departures.
From home to go station From home to school	We do most of our shopping on Sundays but always a hassle because of limited service	No	The cost per ride is far too high for casual riders. Even the monthly passes aren't worth it.
Oakville Hospital I have to take two buses 14 and 3 I live in Lakeshore Woods. By car takes only 15 minutes, by bus 1 hour and 1 minute!!! I work there on my way back I have to wait almost an hour when I finish work to catch the first bus and another hour into buses. Is a lot of time	Mississauga-Oakville. At certain periods buses to/from Mississauga and Oakville only show every 1h and need a few transfers.	Sometimes I avoid the 24 east because either too crowded/too much waiting or bad connections.	What discourages me is the lack of routes to go from one side of Trafalgar to the other. I have first to take a bus all the way to Go station or Sheridan or Walmart. Wait for the connection. This makes a ride to take way too much longer.
14, 18, 28 routes Sunday service is terrible as only once an hour for most routes.	If transit services allowed, I would travel more frequently to and from St. Ignatius of Loyola on 1550 1550 Nottinghill gate. It would be great to have more accessible routes to that location.	Yes, there have been instances where schedule misalignment has deterred me from taking planned trips. Specifically, on Bus Number 19, at stop 2233, around 11:00AM. I need to wait 30+ minutes for the bus to arrive at 11:51AM. Improved scheduling and capacity management would make the service more reliable.	Small buses, more often services and more routes

Q1: Where are you headed today? If you need to transfer routes, please tell us about it.	Q2: Is there a location that you would travel to/from more often if service allowed?	Q3: Has overcrowding or bus schedule alignment ever discouraged you from taking your planned trip? If so, please let us know the route, stop, and time of travel.	Q4: Are there other challenges you've experienced with transit service or routes? Tell us about what changes you would make to the transit service/system?
West Mississauga. Sometimes I end up catching 3 buses because the transfers don't align well/are not often frequent.	No	The timetable for 5 and 5A does not service the community well. Later evening buses should travel the 5A route. Buses should also align with Go Train services. Quite often people swap buses at Uptown Core in order to be able to make earlier trains.	Yes, please add ability to text a number with the number of the bus stop to find out when next bus is arriving, just like Toronto. As new homeowners in Oakville, we were absolutely horrified to get rejected by a bus driver on our way back (way there was fine) who blocked us from entering a bus and left us stranded for an hour, because we didn't have a muzzle on our dog. I found this rule on the website but this needs to be posted in site on the bus! I should have either been blocked by the first bus driver or at least warned, or better yet, put a sign up! Just like no shirt, no shoes etc. you can't expect me as a new resident to know to muzzle dog when no other transit systems do that. It was humiliating to get harassed by the driver and asked to get off the bus and left stranded.
Today, I'm not headed anywhere in particular. No need for route transfers at the moment.	I would love to travel to Oakville town centers to go to the gym. I currently travel by car because buses (e.g., 20 Northridge) only run every 1/2 hour.	Overcrowding has never discouraged me. Nor has bus schedule alignment.	Non direct routes/sometimes routes seem fragmented or split apart. More direct/crosstown routes/less looped routes and additional or later service. Also seems that a lot of routes end at the same destination and don't help much.
Oakville Go Station (to Toronto) from Oodenawi School	2525 Old Bronte Road Please consider a more direct route from Bronte to Palermo (return) without transfers. It is very hard to get to my doctor. I cannot afford ride sharing or taxis both ways.	See above.	Other challenges include limited accessibility to St. Ignatius of Loyola to Preserve Drive. I would propose adding more accessible routes to this destination, ensuring convenience for a larger population.
I mainly travel to the GO station, the Uptown Core, the Falgarwood area, & downtown Oakville. I only need to transfer routes when going to downtown Oakville.	To Dundas and Neyagawa if schedule was from Upper Middle Road and Neyagawa	Only bus schedule alignment. Arriving at Bronte station on the Go Train, taking a bus up Bronte is not frequent. Not getting me to work on time because it is infrequent service.	Ideally more buses would run at peak times as buses can be overcrowded at this time. Why can't drivers take their break at Oakville Go instead of Uptown Core on certain routes? Waiting at Uptown Core means later arrivals at Oakville Go Station, meaning trains are missed.
It can take anywhere from 51 minutes to 96 minutes to get to my doctor (2525 Old Bronte Road) from Marine Drive.	Yes! I would use Oakville transit more often to commute to work if there was better service. Its disappointing that service is not competitive with car-dependent travel. Using transit adds 15-30 minutes to my commute, most of that seems to be waiting at transfers.	14 bus, with all the St. Thomas Aquinos students on in afternoon - not one will offer seat to old people, totally packed to driver entrance. Every day...	Mainly the frequency of the routes. I would love it if every route had a bus running every 10 minutes, or at least every 15 minutes. Or at least have the most-used routes run every 15/10 minutes.
#13 eastbound to GO station should directly connect to #14 westbound from GO station. Most times as you are getting off #13 bus to transfer to #14 bus, the #14 bus leaves its post and you wait another 1/2 hour….	I would like to suggest that there be a hop on hop off service running along Lakeshore between Oakville downtown and Burlington downtown.	Fortunately, Overcrowding isn't a major problem most of time, as opposed to major cities.	Would make sure that new electric buses are NOT used to pick up people with handicapped issues …… in order to be able to use Care-A-Van one must be able via a doctors form to provide a handicap that makes travel by regular bus impossible !!……. Now you send these electric ones with steps MUSH too high for us to climb up !!!
Bronte and North Service Road. Transfer at Bronte Go stations.	Milton.		Your drivers are excellent but the schedules for Bronte leave much to be desired.

Q1: Where are you headed today? If you need to transfer routes, please tell us about it.	Q2: Is there a location that you would travel to/from more often if service allowed?	Q3: Has overcrowding or bus schedule alignment ever discouraged you from taking your planned trip? If so, please let us know the route, stop, and time of travel.	Q4: Are there other challenges you've experienced with transit service or routes? Tell us about what changes you would make to the transit service/system?
Oakville's recreational center. The route and timing, would depend on where and how far someone is coming from.	Connections with Burlington. Oakville's Recreational centres		Definitely. Some transit stops are dehumanizing and unsafe. Take for instance North Service Road, you are dropped off on a gravel shoulder with fast traffic, no shelter/seating. We prioritize automobile traffic flow and speed over people using transit. Late or early busses can make or break a trip due to infrequency.
			Removal of buses on Old Abbey Lane has impacted my ability to take transit.
			Oakville transit from the Uptown area starts too late in the morning. Everywhere outside of Oakville buses start earlier and can help you get to work on time. I have been unemployed in Oakville for a year because every manufacturing job I apply for I cannot make it to the 7am start. If the bus would just start half an hour earlier then we would have the same privileges that the rest of Halton enjoy. Even Milton has earlier buses. I am hoping that by just starting half an hour earlier this will allow people a choice to not have to purchase a car. Half an hour is not much to ask to give Oakville a chance to be an equal to other cities in modern transit and also help fight climate change. Other than the Oakville Transit making it hard to gain employment it is a great service.
			You need a bus shelter at the connecting Mississauga 24 bus stop, it's way at the end of the platform. And drivers don't stop for long (if you are not outside waiting). Some drivers do not wait for elderly to sit down - dangerous driving.
			Fortunately, I haven't had major challenges for transit here in Oakville, as opposed to major cities which I have had many challenges.

Oakville Transit Five-Year Business Plan

Consultation Summary Report (Second Round)

Oakville Transit

June 25, 2024

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1 Consultation Overview

1.1 Goals & Objectives

Oakville Transit is preparing a new Five-Year Business Plan which will incorporate the key principles of:

- Preparing Oakville Transit for growth.
- Maximizing the potential of new service strategies, with a view to making significant gains in cost recovery and ridership levels.
- Planning for easy, convenient, and direct connections to future rapid transit services.

Engagement of the public, key stakeholders and transit customers is essential for the successful development of the Oakville Transit Five-Year Business Plan. This summary report outlines the engagement activities conducted to inform stakeholders and the public about the study, ways to participate, and the feedback received during the second phase of public consultation.

The primary objectives of the second round of public consultation were to:

- Introduce proposed route network changes to the public.
- Collect input on the transit customers' current transit travel, as well as sentiments and recommendations related to the proposed network.
- Discuss next steps in crafting and implementing the Oakville Transit Five-Year Business Plan.

1.2 Organization of Consultation

The second round of consultation took place from March 27th, 2024, to April 23rd, 2024, offering both in-person and virtual opportunities for community involvement. Throughout this period, a seven-question survey, aimed at presenting the initial findings and gathering additional feedback to inform the Final Oakville Transit Five-Year Business Plan, was hosted on Oakville Transit's project webpage. This provided an opportunity for citizens to review project information and provide online feedback at their convenience. The online survey questionnaire is provided in **Appendix A**.

Additionally, on April 10th and April 11th, 2024, the public had the opportunity to participate in in-person consultations within the community. Project staff organized six advertised Drop-In events in the community. During these in-person events, project staff answered questions about the study, gathered

attendee recommendations and opinions related to proposed new routing and scheduling, and collected feedback regarding Oakville Transit. The Drop-In boards are provided in **Appendix B.**

Furthermore, a Drop-In event was organized for Oakville Town Council members to receive their feedback on the Draft Oakville Transit Five-Year Business Plan, followed by a meeting with Oakville Transit staff to discuss and gather their feedback.

A summary of these activities can be found in **Table 1** below.

Table 1: Key Consultation Activities – Round 2

Consultation Activity	Date/Time
Council Member Drop-In	March 25, 2024, two afternoon sessions.
Online Survey (hosted at www.oakvilletransit.ca/about-us/oakville-transit-five-year-business-plan)	March 27, 2024, to April 23, 2024
Drop-In Event (hosted at Queen Elizabeth Park Community and Cultural Centre)	April 10, 2024, from 9:00 am to 12:00 pm
Drop-In Event (hosted at Glen Abbey Community Centre)	April 10, 2024, from 2:00 pm to 5:00 pm
Drop-In Event (hosted at Sixteen Mile Sports Complex)	April 10, 2024, from 6:00 pm to 8:00 pm
Drop-In Event (hosted at Oakville Trafalgar Community Centre)	April 11, 2024, from 9:00 am to 12:00 pm
Drop-In Event (hosted at Oakville Public Library)	April 11, 2024, from 2:00 pm to 5:00 pm
Drop-In Event (hosted at Iroquois Ridge Community Centre)	April 11, 2024, from 6:00 pm to 8:00 pm
Oakville Transit Staff Meeting	April 21, 2024, from 11 am to 2 pm

1.3 Notification & Communications

Oakville Transit and the Town of Oakville utilized various social media platforms to share information about engagement opportunities. A summary of these efforts can be found in **Table 2** below, while examples of social media posts are provided in **Figure 1**, **Figure 2**, **Figure 3**, and **Figure 4** below.

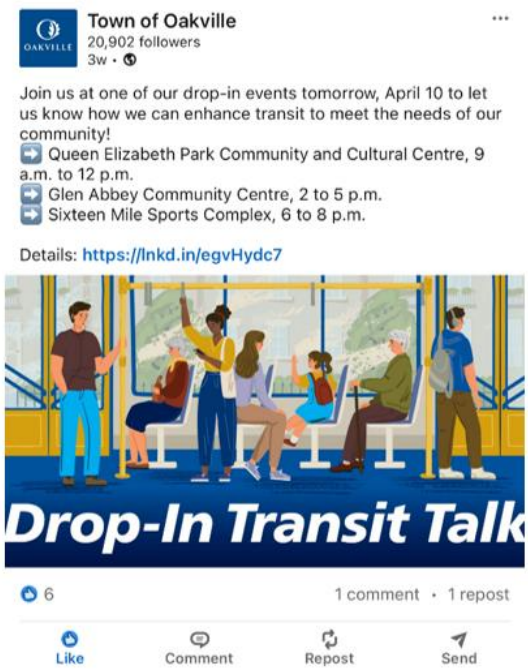
Table 2: Social Media Engagement Summary

Account	Platform	Dates
Oakville Transit	Facebook	March 28th, March 30th, April 1st, April 3rd, April 5th, April 9th, and April 10th,
Town of Oakville	Facebook	March 27th, April 5th, and April 9th
Town of Oakville	Instagram	March 27th
Town of Oakville	LinkedIn	April 9th and April 10th
Oakville Transit	Twitter/X	March 28th, April 1st, April 3rd, April 5th, April 9th, and April 10th

Figure 1: Snapshot of Oakville Transit and Town of Oakville Facebook Page Posts detailing the Drop-In and Survey Information (March 28 and April 5, 2024)

Figure 2: Snapshot of Town of Oakville Instagram Page Post detailing the Drop-In and Survey Information (March 27, 2024)

Figure 3: Snapshot of Town of Oakville LinkedIn Page Posts detailing the Drop-In and Survey Information (April 9 and April 10, 2024)



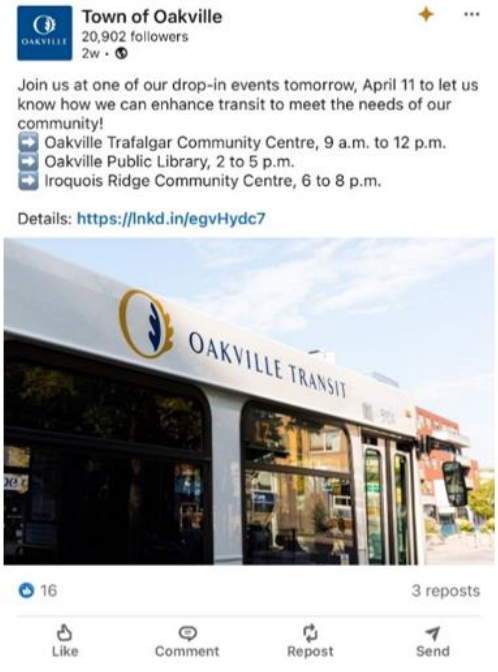


Figure 4: Snapshot of Town of Oakville Twitter/X Posts detailing the Drop-In and Survey Information (March 28, 2024)

2 Feedback Summary

2.1 Drop-In Transit Talk Events

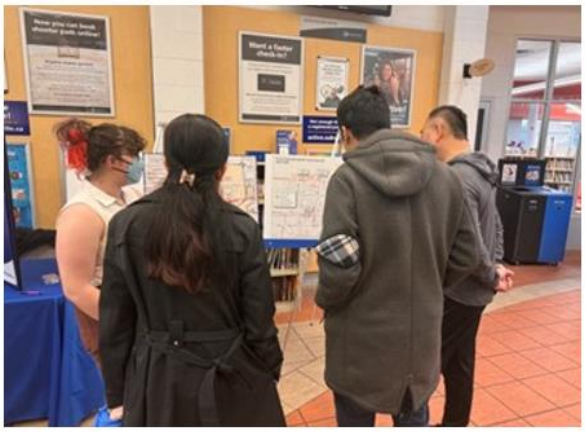
At the six Drop-In Transit Talk events, approximately 600 individuals observed the Drop-In set-ups, and approximately 80 attendees provided their feedback.

Most members of the public who provided feedback were Oakville Transit users, but many members of the public who stopped at the Drop-In booths were not Oakville Transit users and declined to provide feedback for that reason. A few respondents mentioned that they might start using transit or would use it more if proposed changes were implemented.

2.1.1 General Feedback

Participants at all locations expressed a strong interest in increased service frequency and were particularly interested in better frequencies during off-peak hours. They also expressed support for additional connections to GO stations. Recommendations included better synchronization of bus connections at GO stations with the arrival and departure of GO trains, along with a reasonable buffer to facilitate smooth and reliable transfers. Participants were interested in the possibility of having Oakville Transit information such as schedules, maps, and real-time arrival data available at all GO stations.

Figure 5: Drop-In Events Snapshot: Iroquois Ridge Community Centre (left) and Oakville Public Library (right)



Additionally, participants expressed a desire for more information and infrastructure at Oakville Transit stops, including improved digital resources and additional maps, schedules, and real-time data. A representative from the Canadian National Institute for the Blind (CNIB) attended a Drop-In session to advocate for accessibility-focused infrastructure improvements for blind and low-vision travelers.

Key destinations mentioned by participants included Downtown Oakville and the Oakville Trafalgar Memorial Hospital. Multiple participants at Drop-In sessions in all locations expressed strong interest in a fixed-route service for North Oakville, emphasizing that this service would enable new residents to rely on public transportation instead of private vehicles and would also provide transportation options for students attending schools in the area.

In general, the following key themes emerged during the Drop-In Transit Talk:

1. Desire for increased frequency, including off-peak service.
2. Desire for better coordination with GO Transit.
3. Desire for physical and digital infrastructure improvements to support convenience and accessibility.

2.1.2 Feedback on Specific Routes

In addition to the general feedback, additional feedback was collected at Drop-In sessions specifically on the existing network and proposed draft route network presented to the public for review.

Figure 6: The Existing System Map Presented in Drop-In Sessions

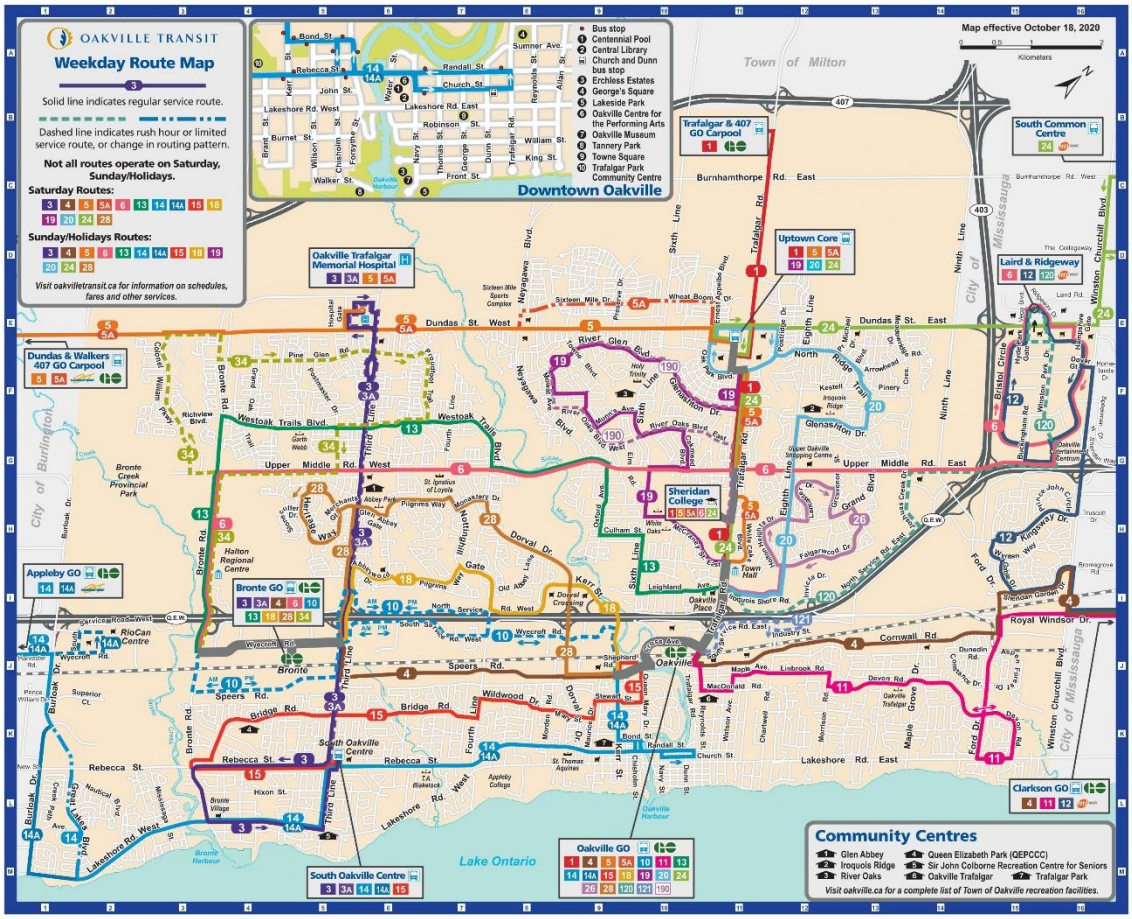
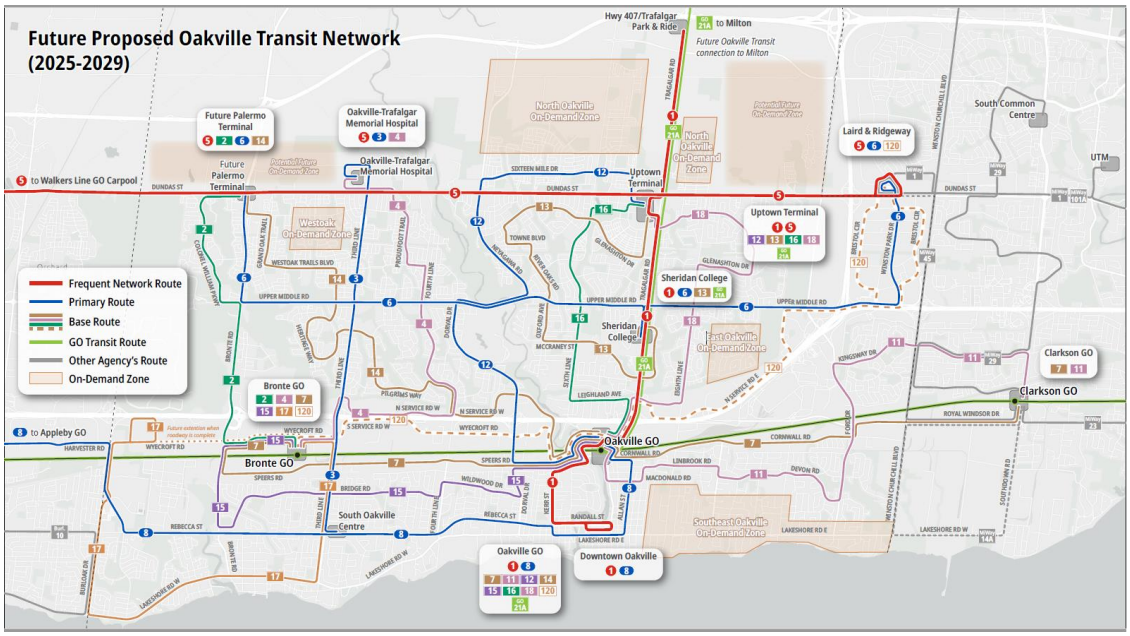


Figure 7: The Proposed Network Presented in Drop-In Sessions



Comments regarding the routes included:

- **Previous Route 14 / Proposed Route 8:** Lakeshore Road was emphasized as a more important corridor compared to Rebecca Street west of Third Line.
- **Previous Routes 18 and 28 / Proposed Route 14:** There were recommendations to maintain east-west service along Pilgrims Way in the Glen Abbey neighbourhood, similar to the current Routes 18 and 28.
- **Route 3:** Suggestions were made for a proposed Route 3 to maintain its connection to Bronte GO, as well as maintain a direct connection between Bronte Village and the Oakville Trafalgar Memorial Hospital at both ends, mirroring the existing Route 3.
- **Route 15:** Suggestions were made for Route 15 to remain on Queen Mary Drive instead of being shifted to Dorval Drive due to its higher density and greater coverage of low-income areas.

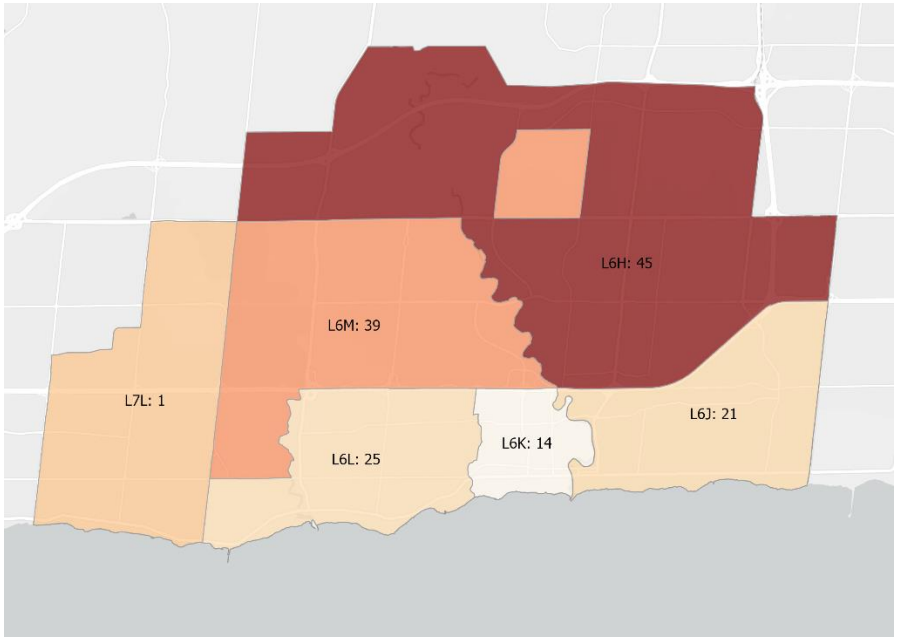
2.2 Oakville Transit Five-Year Business Plan - Online Survey

The online survey was live from March 27th, 2024, to April 23rd, 2024, and had a total of 156 responses.

2.2.1 Survey Respondents' Postal Codes and Total Counts

Figure 8 illustrates the distribution of survey respondents by postal codes. The highest response rates were from residents of North Oakville and Central Oakville.

Figure 8: Survey Respondents' Postal Codes and Counts in Oakville



2.2.2 Demographic Profile of Online Survey Respondents

Responses to the online survey also skewed towards Oakville Transit users, though not as strongly as Drop-In responders, as seen in **Figure 9**. The majority of respondents were adults over 20, with nearly 40% being over 65, as depicted in **Figure 10**.

Figure 9: Patterns of Transit Use Among Online Respondents

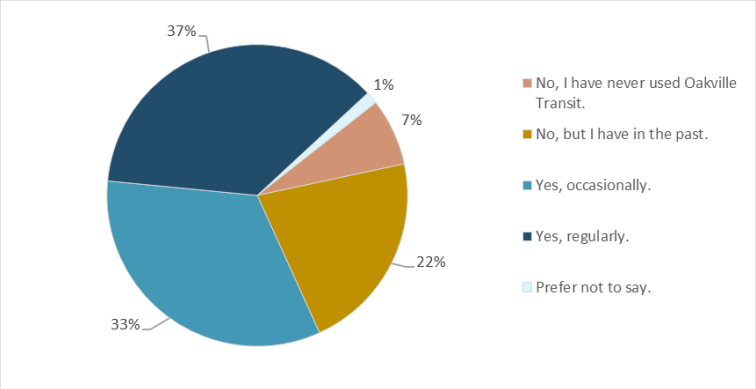
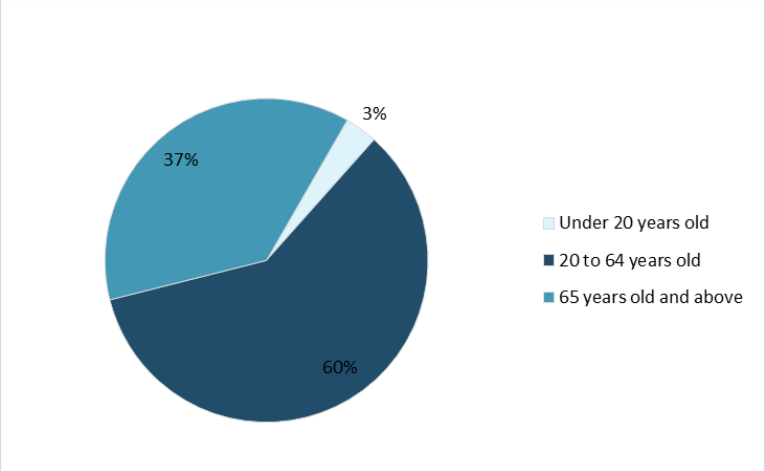


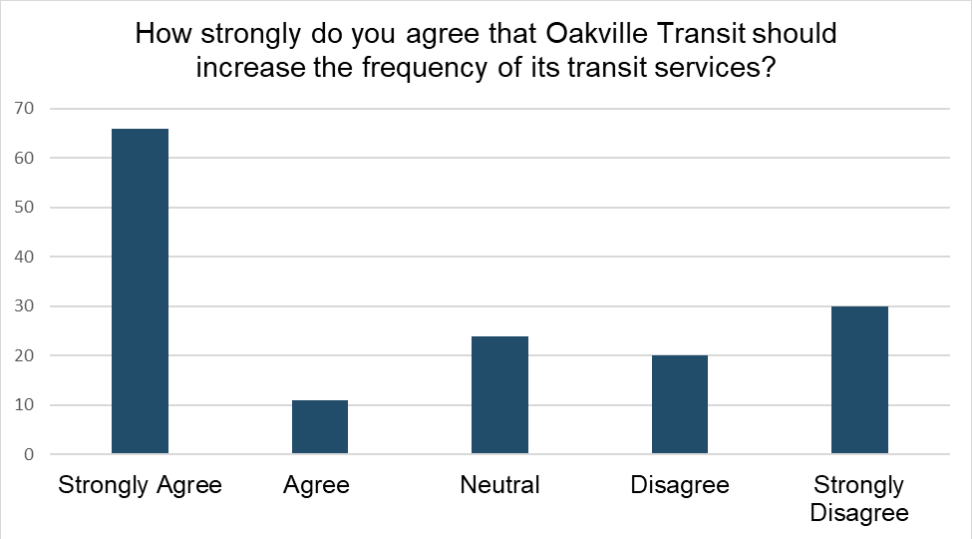
Figure 10: Age Distribution of Online Survey Respondents



2.2.3 Transit Service Feedback and Importance Ratings

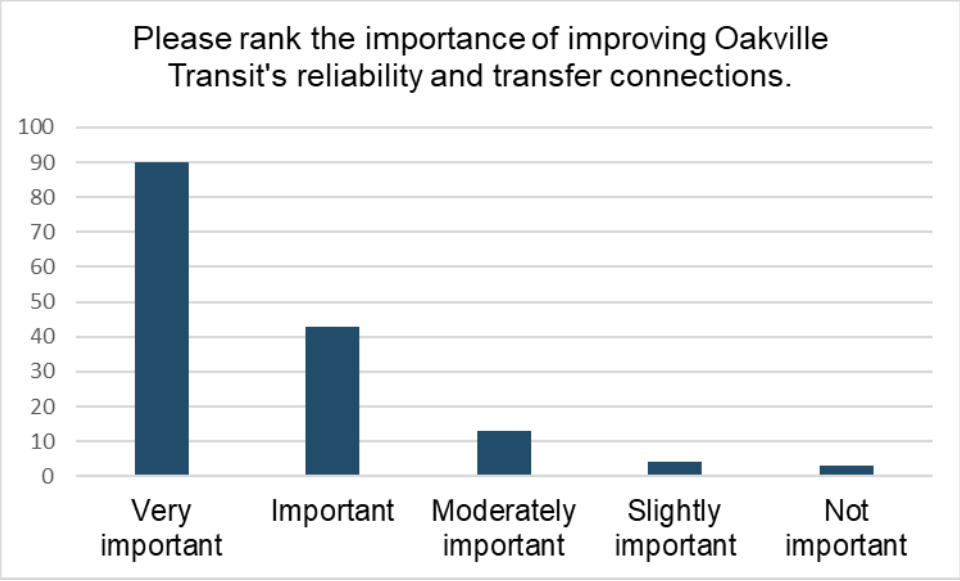
The fourth survey question focused on understanding respondents' support for increasing the frequency of Oakville Transit services. The survey results for this question are illustrated in **Figure 11**. The majority of respondents expressed support (50%, including strongly agree and agree) for enhancing the frequency of Oakville Transit services. The remaining respondents either had no comments or were satisfied with the current frequency of Oakville Transit routes.

Figure 11: Frequency of Responses Regarding Support for Increasing Transit Service Frequency



The fifth survey question asked participants to rank the importance of improving Oakville Transit's reliability and transfer connections. The survey results for this question are illustrated in **Figure 12**. The survey results indicate that a significant majority of respondents (76.5%) rank improving Oakville Transit's reliability and transfer connections as either "Very important" or "Important".

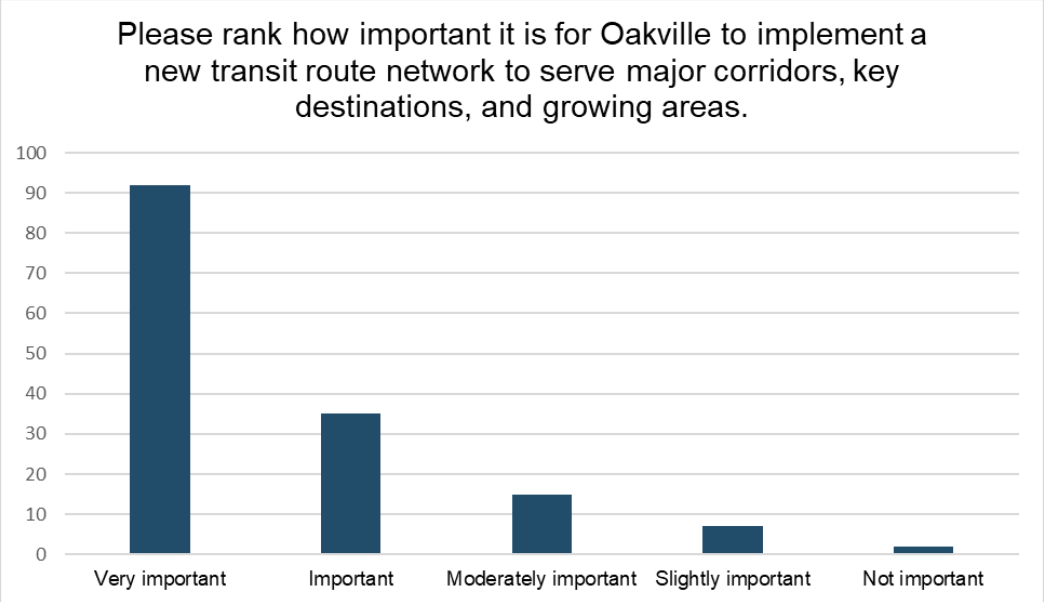
Figure 12: Ranking of the Importance of Improving Oakville Transit's Reliability and Transfer Connections



The next survey question sought participants' opinions on the importance of implementing a new transit route network to serve major corridors, key destinations, and growing areas in Oakville. The survey results for this

question are depicted in **Figure 13**. Analysis reveals that a substantial majority of respondents (84%) consider the implementation of a new transit route network as either "Very important" or "Important".

Figure 13: Ranking of the Importance of Serving Key Destinations



2.2.4 General Feedback

Respondents were provided an open-ended opportunity to share written comments as part of the online survey question. From these responses, two key themes emerged:

1. Desire for increased frequency and off-peak service.
2. Desire for better coordination and reliability to facilitate transfers.

In addition to these themes, there were several consistent concerns and recommendations related to specific proposed routing changes. Many of these were consistent with the suggestions made during Drop-In events.

Respondents expressed particular interest in the following potential connections in the proposed network:

- Direct access to the Oakville Trafalgar Memorial Hospital from all areas of Oakville without requiring a transfer.
- Establishing connections with neighbouring municipalities, potentially through continuous direct routes.
- Access to shopping areas and downtown locations.
- Maintaining connections along Lakeshore Road West.

- Implementing fixed-route connections specifically catering to North Oakville.

Regarding aspects beyond scheduling or routes, respondents mentioned the following:

- Improved technological features at stops and online platforms for real-time schedule tracking.
- Enhanced accessibility measures are sought for stops and buses, especially catering to individuals with physical and sensory disabilities.
- Upgraded stop infrastructure, including better weather protection and improved maintenance.
- Transitioning to smaller and/or electric buses to mitigate the operation of large diesel buses when they are underutilized.

The online survey also highlighted the following concerns:

- Seniors residing along Lakeshore Road West expressed notable concerns about accessibility to the Oakville Trafalgar Memorial Hospital.
- The primary negative feedback received centered around potential increased costs to taxpayers due to heightened frequency or service. However, comments on this theme were relatively few.

2.2.5 Feedback on Specific Routes

The following feedback was collected from the online survey specifically on the proposed draft route networks.

- **Previous Route 14 / Proposed Route 8:** Prefer this route to continue to go along Lakeshore West rather than Rebecca. A more frequent route with access to downtown is preferable for seniors and prevents a need to transfer from the proposed Route 17 for those living further south. The current route is heavily used, including as a connection to Downtown.
- **Previous Routes 13 and 28 / Proposed Route 14:** Prefer this route connects to Bronte GO rather than Oakville GO. It allows more direct access to the GO network for West Oak residents and a more direct route in general.
- **Proposed Route 3:** Prefer this route to continue down towards Lakeshore where the existing loop is to allow seniors a direct

connection to the Oakville Trafalgar Memorial Hospital. Also prefer for this route to connect to Bronte GO.

- **Proposed Route 5:** Strong support for increased frequency along this route, specifically during off-peak times. Respondents also noted the need for real time information displays and training for drivers interacting with seniors and special needs passengers along this route as it serves the Oakville Trafalgar Memorial Hospital. A route should extend into Mississauga to allow direct connections to the South Common Centre.

2.3 Council Drop-In Sessions

The Council Drop-In Sessions were attended by five council members, as well as Oakville Transit and HDR staff.

Figure 14: Council Drop-In Session on March 25th, 2024

The presentation and meeting minutes from the council session are provided in **Appendix C.**

2.3.1 Council General Feedback

Council members expressed general support for increased frequency and off-peak service, with a particular focus on additional service to schools, GO stations, and Downtown areas. Additionally, members recommended

implementing training programs for both drivers, emphasizing customer service, and for members of the public, providing informational training on public transit usage.

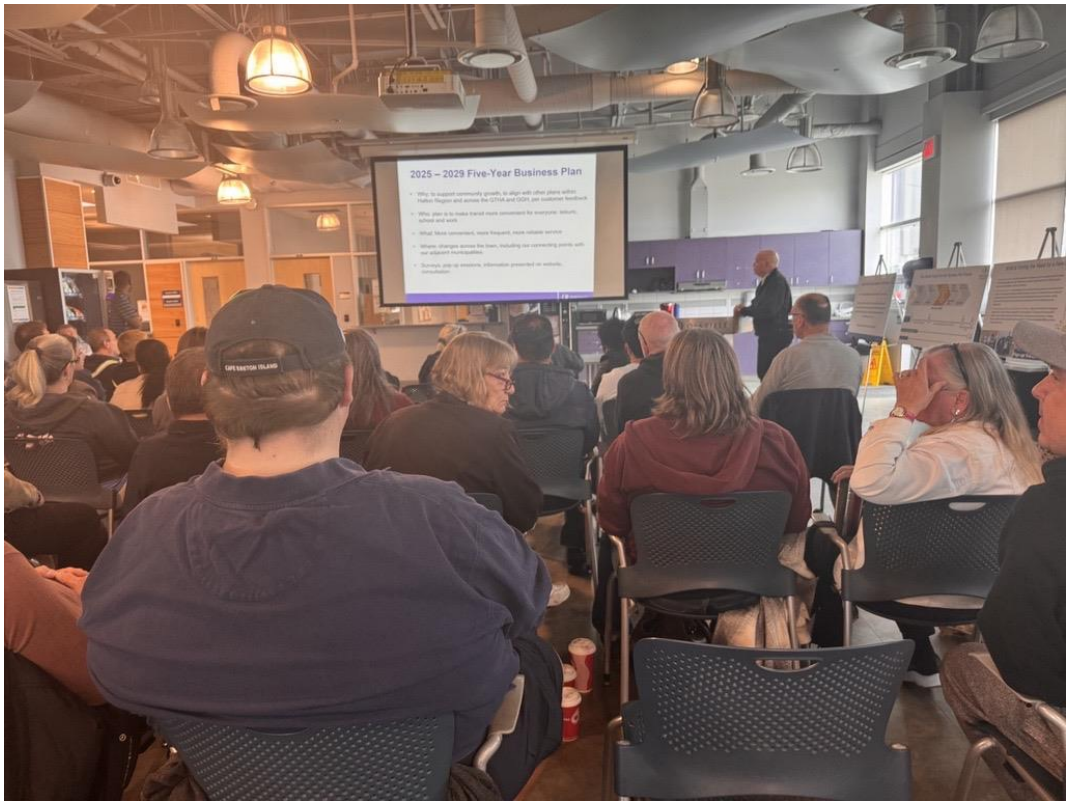
2.3.2 Feedback on Specific Routes

Members of the council suggested that a route from Bronte Village to downtown should be maintained, as well as a route from Bronte Village to Bronte GO and Palmero Terminal. Members also expressed concern about access from North Oakville with the removal of current Route 5A.

2.4 Oakville Transit Staff Engagement

Oakville Transit staff were broadly supportive of the proposed Oakville Transit Five-Year Business Plan including the proposed route network, frequency improvements, and expansion of the On-Demand areas.

Figure 15: Oakville Transit Staff Engagement Session on April 21, 2024



3 Findings

The feedback collected from various sources, including the Online Survey and six Drop-In Transit Talk events has identified key areas that require

Oakville Transit's consideration as the Oakville Transit Five-Year Business Plan is finalized. These areas are highlighted below:

1. Schedule Frequency:
    - Users expressed a desire for increased service frequency, particularly during off-peak periods.
    - The existing 30-minute or one-hour intervals for most buses were deemed insufficient.
    - Many users face challenges making connections to other routes and trains due to existing schedules.
    - Oakville Transit's shorter hours compared to GO and neighbouring local systems make it difficult for Oakville residents to complete longer trips using public transportation.
2. Transfers and Reliability:
    - Delays and poor on-time performance combine with infrequent schedules to make connections between buses difficult, time-consuming, and unreliable.
    - Poor timing coordination with GO transit combined with delays and lack of reliability makes it difficult to reliably transfer between systems.
3. Supportive Infrastructure:
    - Residents were interested in additional information at bus stops, including more complete schedule and route information.
    - Transit users wanted access to real-time arrival information both on their own devices and at stops.
    - Users wanted physical infrastructure, vehicles, and information to be more accessible to riders with physical and sensory disabilities.
    - Weatherproofing of bus stops for both summer and winter, both through physical infrastructure and timely maintenance was desired.
4. Specific Route Suggestions:
    - Residents suggested that the proposed Route 8 to run along Lakeshore Road West instead of the proposed Route 17.
    - Residents were interested in the proposed Route 3 continuing further south, making a stop at Bronte GO, and connecting to Oakville Trafalgar Memorial Hospital.
    - Transit users suggested a re-think of the proposed Route 14 to ensure good neighbourhood connections to Bronte GO are maintained, as well

as to ensure strong east-west connections through the centre of the city.

- Residents throughout the city were interested in fixed-route service to North Oakville within the timeframe of the Oakville Transit Five-Year Business Plan to support grade school students and new residents.

4 Next Steps

The feedback received from the public and stakeholders will inform the final version of the Oakville Transit Five-Year Business Plan.

Appendix A: Online Survey Questionnaire

Online Survey Questions

1. Please enter your postal code in the box below.

2. Please select the age category that best represents you:
    1. Under 20 years old
    2. 20 to 64 years old
    3. 65 years old and above
3. Are you a user of Oakville Transit?
    1. Yes, regularly.
    2. Yes, occasionally.
    3. No, but I have in the past.
    4. No, I have never used Oakville Transit.
    5. Prefer not to say.
4. **Transit Service Frequency —** How strongly do you agree that Oakville Transit should increase the frequency of its transit services?
    1. Strongly agree
    2. Agree
    3. Neither agree nor disagree
    4. Disagree
    5. Strongly disagree
5. **Reliability and Transfer Connections —** Please rank the importance of improving Oakville Transit's reliability and transfer connections.
    1. Not Important
    2. Slightly Important
    3. Moderately Important
    4. Important
    5. Very Important
6. **Transit Route Network —** Please rank how important it is for Oakville to implement a new transit route network to serve major corridors (e.g., main roadways such as Trafalgar Road and Dundas Street), key destinations (e.g., community services, shopping malls, and hospitals), and growing areas.

1. Not Important
2. Slightly Important
3. Moderately Important
4. Important
5. Very Important

7. Do you have any additional feedback on the proposed network, or any other strategic components completed to date in the development of the Oakville Transit Five-Year Business Plan? (Link to slide deck).

Appendix B: Drop-In Boards

Do you use Oakville Transit?
Please respond with either Yes or No.
Should Oakville Transit increase service frequencies? Rate from 1 to 5.
oakvilletransit.ca

Drop-In Transit Talk
Share your feedback to help shape Oakville Transit's 5-Year Business Plan.
Let us know how we can improve services for the community.
Write your thoughts on a sticky note, using a scale of 1 (Strongly Disagree) to 5 (Strongly Agree) for most questions.
Strongly Disagree
Disagree
Neither Agree nor Disagree
Agree
Strongly Agree
1
2
3
4
5
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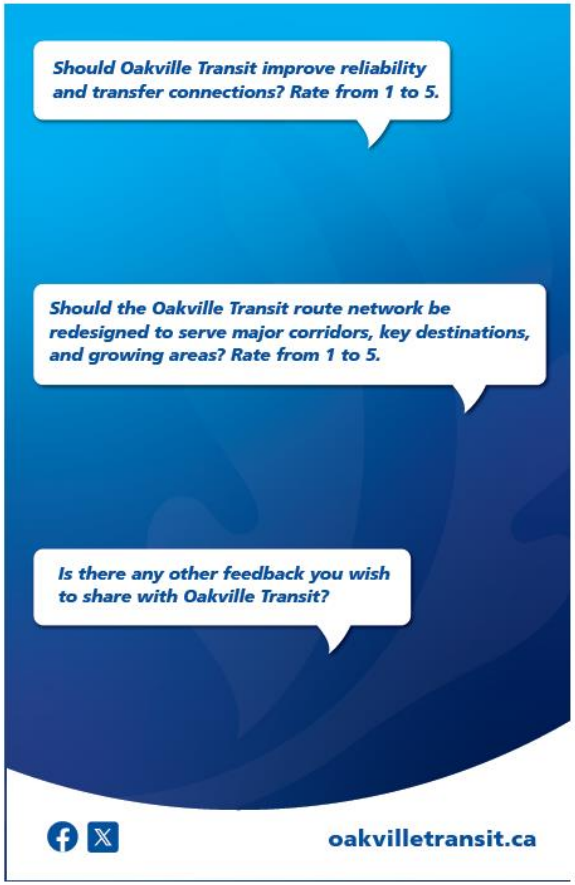

Should Oakville Transit improve reliability and transfer connections? Rate from 1 to 5.
Should the Oakville Transit route network be redesigned to serve major corridors, key destinations, and growing areas? Rate from 1 to 5.
Is there any other feedback you wish to share with Oakville Transit?
oakvilletransit.ca

Appendix C:

Council Drop-In Session- Minutes

Minutes

Project:	Oakville Transit 5-Year Business Plan (OTBP)
Subject:	Council Drop-In Session
Date:	Monday, March 25, 2024
Location:	Town of Oakville Town Hall

Attendees:

Oakville Transit
Adrian Kawun (AK) – Oakville Transit
Joanne Phoenix (JP) – Oakville Transit

HDR
Jonathan Chai (JC) – HDR
John Hubbell (JH) – HDR
Sophia Saedi (SS) – HDR

Town of Oakville Members of Council
Councillor Sean O'Meara - Ward 1
Councillor Janet Haslett-Theall - Ward 3
Councillor Scott Xie - Ward 7
Councillor Jeff Knoll - Ward 5
Councillor Tom Adams - Ward 6

	Topic

	Bus Frequency and Routing:
	• Councillor Sean O'Meara:
	  • Proposed increasing the frequency of buses and adding routing coverage.
	  • Advocated for a more grid-like network.
	  • Direct route suggestions:
	  ○ Lakeshore connecting Bronte Village to Downtown.
	  ○ Bronte Road from Bronte Village to Bronte GO and Palermo Terminal.
	• Councillor Janet Haslett-Theall:
	  • Suggested a more frequent weekend/special event connection between Oakville GO and Downtown (consider a shuttle?).
	  • Noted a proposed new road identified in the Midtown study that Route 1 could utilize.
	• Councillor Tom Adams:
	  • Expressed concern about the removal of Route 5/5A running on White Oaks, potentially causing inconvenience for seniors traveling to the GO station or Uptown Core.
	
	Travel Training:
	• Councillor Janet Haslett-Theall:
	  • Emphasized providing travel training to the public on transit usage.
	
	School Transit Services:

	Topic

	• Councillor Scott Xie:
	  • Recommended considering increasing transit services to schools to address overcrowding issues.
	
	Customer Service Training:
	• Councillor Jeff Knoll:
	  • Recommended customer service training to drivers.
	
	Free Fare Transit:
	  • A question was raised if during the survey feedback or pop-up sessions, there were any discussions/questions regarding free fares. The answer was no; the issue of free fares did not come up.

Appendix C – Service Design Guidelines

Oakville Transit 5-Year Business Plan

Service Guidelines 2025

OAKVILLE TRANSIT

Overview

The Transit Service Guidelines noted below are organized into categories based on transit system guidelines, individual route guidelines, and planning, operational and other criteria. The Guidelines help manage system and route performance and guide system planning and operations. The criteria definitions are from the CUTA Canadian Conventional Transit Statistics database.

The system and route guideline data requirements are derived from the standard data elements of service area population, service area size, annual hours of operation, annual ridership (linked trips), annual operating expense, annual revenue, route level boarding passengers (unlinked trips), etc.

The Guidelines described below are considered the minimum requirements for monitoring transit system and route performance. The Guidelines require a minimum of data and provide an effective level of performance monitoring with a minimum of effort.

Oakville Transit Service Guidelines

It is recommended that Oakville Transit work towards achieving the following Guidelines over the 2025 to 2029 period.

System Guidelines

Hours of Operation Per Capita

(Revenue vehicle hours divided by service area population, reported annually)

- 2029 Target: 1.2

Passengers Per Operating Hour

(Regular service passengers (linked trips) divided by revenue vehicle hours reported annually)

- 2029 Target: 20.0

Passengers Per Capita

(Regular service passengers (linked trips) divided by service area population reported annually)

- 2029 Target: 16.0

Revenue to Cost Ratio

(Total operating revenues divided by total direct operating expenses reported annually)

- 2029 Target: 25% (Note: this may need to be modified given the implementation of fare free initiatives)

Route Guidelines

Service Types

- **Frequent Transit Network (FTN):** Major corridor routes that operate at a frequency of 15 minutes or better every day from at least 0700 to 2100 and may be less frequent at other times.

- **Primary Network:** Major corridor routes that operate at a frequency of 15 minutes weekdays from 0700 to 1900 and less frequent at other times depending on demand. May develop into future FTN routes.

- **Base Network:** Local routes and On-Demand Service that connect with and serve the areas between the FTN and Primary Transit Networks. These services would operate at a frequency of 15 minutes during weekday peaks and less frequent at other times.

- **Special Purpose Routes:** School Specials, Industrial and Express Routes. Frequency and hours of operation would vary depending on demand.

    - Express services can be considered if they meet 2 criteria:
        - The express service design saves at least 15% of travel time relative to the current service design and;
        - The majority of passengers can board and alight at express stops

Route Performance

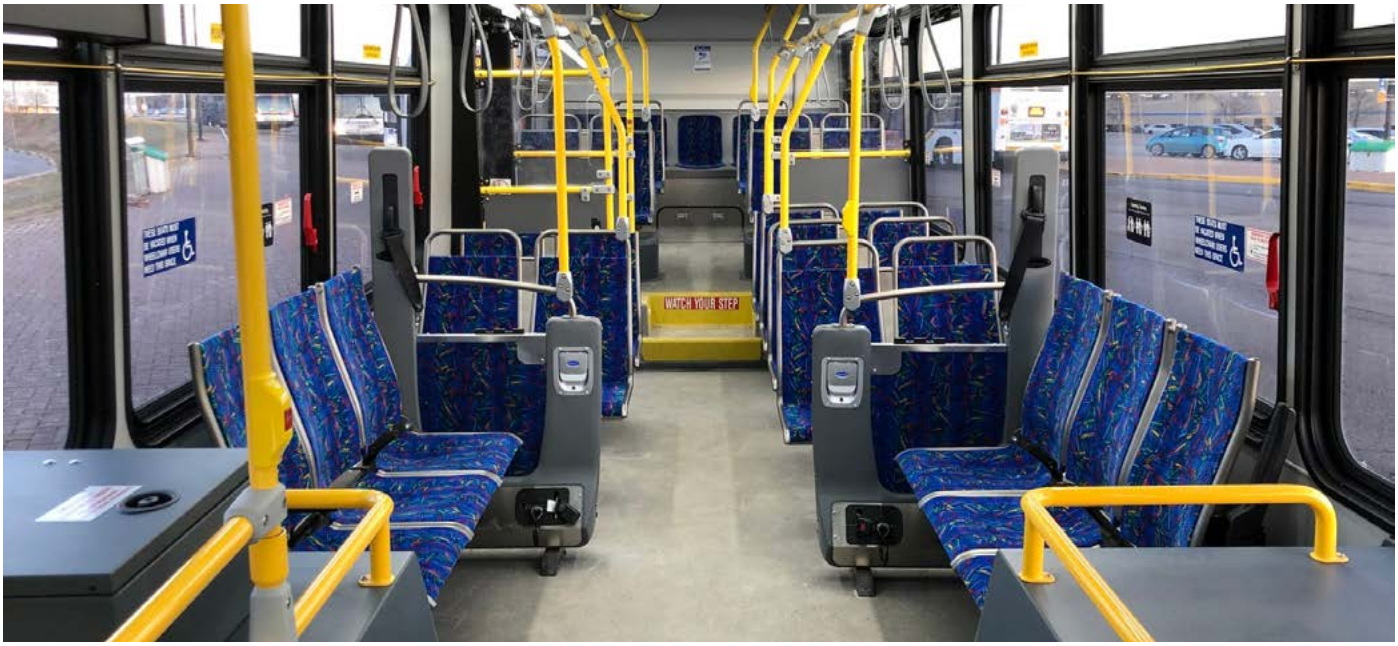
Boarding Passengers (unlinked trips) per Operating Hour

(Boarding passengers (unlinked trips) per route divided by route operating hours reported monthly)

- Minimum 25 on a Frequent Transit Network and Primary Network route.
- Minimum 15 on a Local route.
- Minimum 20 on Express and Industrial routes.
- Minimum 10 on a School Special route.
- Minimum 2.5 trips per hour on On-Demand services.

On-Time Performance

- Target: 90% of trips depart time points within 0 to -3 minutes of schedule reported monthly.



Planning Criteria

Service Coverage

Within the urban area of the Town as defined by the Official Plan, 90% of residents within 400 meters of a bus stop. Areas may be considered for transit service if they are beyond a 400-meter walk from an existing transit route. The Transit system shall serve the urban area of the Town as defined by the Official Plan, subject to the provisions of the approved service design standards and recognizing the need to operate limited service beyond Town limits to facilitate and encourage service integration with neighboring communities.

Routes should be designed for optimal customer service with consideration to geographical coverage, minimal duplication of services, convenient transfers and waiting time between transfers, ease of system use, optimization of fleet resources and minimum travel time (directness of routes).

All routes should operate on consistent headways throughout the day, with increased frequency on designated routes during peak operating times. As well, routes should remain unchanged throughout the periods of operation.

Accessibility

Oakville Transit will provide travel information to all potential care-A-van (para- transit) passengers, to encourage use of conventional transit service whenever possible, thereby enabling specialized door to door services to better serve those that do not have a choice.

Winter control activities at bus stop landing areas shall be scheduled within 48 hours of a snowfall.

In all matters of accessibility, staff will refer to the Annual Accessibility Plan for identification of barriers and strategies to eliminate same. Standards will be reviewed and adjusted as required by Accessibility for Ontarians with Disabilities Act (AODA) standards being developed.

The accessibility of bus stops is identified in the bus stop design guidelines ensuring compliance with the AODA Built Environment Standards, Transportation Standards, and Information and Communications Standards.

Span of Service

- **Weekdays:** 06:00 to 24:00
- **Saturdays:** 07:00 to 24:00
- **Sundays:** 08:00 to 20:00

Vehicle Capacity / Passenger Loads

- The maximum load of a 12 or 16-metre bus should be 150% of its seated capacity. If trips regularly exceed this passenger load, then additional service should be considered.
- Service on high-speed highways should be limited to seated loads.
- On-demand and Specialized Service should be limited to seated loads.

New Service Implementation

The implementation of new transit service should be based on the following considerations:

- Service implementation should be subject to the provision of streets appropriately located and constructed for transit use.
- The location of a new service area should be contiguous to an existing service area so that a route would have ridership generation potential along the entire length.
- A new route or route extension should only proceed if the minimum policy ridership target can be achieved.
- Expansion of service should be staged by the service periods based on achieving a minimum ridership target. While the sequencing is subject to the individual characteristics of the service area and customer demand, transit service within a service area should generally be implemented in the sequence as follows:

1. Weekday AM and PM Rush Hours.
2. Weekday midday service between the AM and PM Rush Hours.
3. Saturday service.
4. Evening service on all weekdays and Saturdays.
5. Sunday service.

New Routes

Services introduced in new areas not previously served should be guaranteed for a minimum of 12 months to ensure enough time for travel patterns to adjust. At the end of the 12-month period, the service must meet the minimum Route Performance threshold.

Extensions to existing routes

Extension to existing routes will be evaluated against existing services and implemented on a priority basis, subject to budge availability for a period of 6 months. After 6 months of operation, routes are reviewed to determine if they quality for continuation based on current data.

Routes whose performance does not meet approved standards shall undergo substantial review and revision to improve their economic performance to bring them within the limits of the standards. If such revisions are not possible, discontinuation of service on the route shall be recommended by staff.

Route Changes

Routing proposals must meet 4 principal routing criteria

1. Routes must be safe and operationally feasible
2. There should be no major deviation of a corridor service, except at the end of routes
3. The route should serve an area not already served
4. There should be no avoidable duplication of service

If any of these criteria cannot be met, the proposal should be reconsidered. If it passes the initial criteria, the proposal should be further assessed to ensure that it has a positive net benefit; that more riders would benefit from the change those who would be inconvenienced. Finally, the additional cost of the new route, route portion, or routing change, and the economic performance are calculated. If the economic performance is above average, the change can be implemented, subject to the availability of funds within the approved transit operating budget.

Operational Criteria

Operational Criteria should be monitored monthly, and a trend analysis should be performed to understand how these metrics are changing over time.

- Missed Trips or 'Trips not Accounted For" (trips not delivered as scheduled due to mechanical breakdowns, operator sick/late, traffic, accident, Police, Fire and Emergency Services, and inclement weather per month and annually)
- Mean Distance Between On Road Failures (revenue vehicle kms / on road failures per month and annually)
- Vehicle Accident Rate / Vehicle In Contact With An Object (vehicle accidents per month and annually)
- Passenger Accident Rate (number of reported passenger slips, trips, and falls per month and annually)
- Customer Service Concerns (number of customer concerns registered per month and annually)

Other Criteria

Additional criteria to be considered and monitored include:

- Crimes Against Property (number of reported transit property crimes/ incidents per month and annually)
- Crimes Against People (number of reported crimes against transit customers per month and annually)

Contact us

Call
905-815-2020

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Office hours
Monday to Friday,
8:30 a.m. to 4:30 p.m.
Closed statutory holidays.

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Appendix D – Bus Stop Design Guidelines

Oakville Transit

Five-Year Business Plan

Bus Stop Design Guidelines

Oakville Transit

July 22, 2024

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1 Overview

Bus stops are pivotal points in the transportation network, that mark the beginning and end of transit journeys. The design and functionality of bus stops should promote a sense of safety, pride, and system ownership, encouraging ridership and influencing the overall success of the transit system.

Best practice in bus stop planning indicates that stops should be designed and situated as follows:

- Adjacent to major trip generators/destinations or 300-500 meters apart along the route; however, this is highly dependent on the community's urban form.
- Generally, in pairs along the route to accommodate both outbound and homebound trip ends.
- Equipped with a bus stop identification post or pylon, including a highly visible sign or other identification.
- Designed with walkable and barrier-free access for all individuals.
- Typically located on the far side of an intersection, subject to site-specific circumstances.
- Providing a safe and comfortable waiting environment.
- Prohibiting public parking or stopping within bus zones.
- Including passenger waiting pads within the zone between the roadway curb and the right-of-way property line. This zone may also accommodate boulevard greenery, trees, sidewalks, cycle paths, streetlighting, signage, and driveway accesses.

The width of the bus stop zone, the relationship to the adjacent built environment, and the need for pedestrian access also have a significant influence on the scale of the stop and integration of the stop within the local community. Bus stops are the permanent street element that announces the transit presence in the community, assist with wayfinding, and assures transit customers that they have arrived at the portal to transit service.

Bus stops are the initial point where transit customers interact with transit. Therefore, it is crucial that the design of bus stops facilitates efficient pedestrian flow to and through the stop area, enabling passengers to board and alight from buses seamlessly. Additionally, ensuring a safe and comfortable waiting environment is essential to enhance the overall experience for transit users.

The guidelines described below aim to ensure that Oakville Transit bus stops are strategically located, well-designed, and equipped with amenities to enhance the transit experience, encourage ridership, and integrate effectively with the town's transportation and transit system.

2 Oakville Transit Bus Stop Design Guidelines

It is recommended that Oakville Transit work towards achieving the following Guidelines over the 2025 to 2029 period.

2.1 Stop Placement

- Far-side bus stop locations are preferred unless there are unique safety, operating or other concerns. For existing bus stops, farside locations should be prioritized in cases where retrofitting becomes possible through road reconstruction or route realignment. **Figure 1** to **Figure 5** illustrate typical examples of stop layouts.
- In-line bus stop bulbs are preferred to bus bays (except at timing points and layby areas).

2.2 Stop Spacing

- Minimum stop spacing of 400m for major corridor routes and local routes (Frequent Transit Network (FTN), Primary Network, Base Network).
- Minimum stop spacing of 800m for School Specials, Industrial and Express Routes. (Special Purpose Routes).
- When relocation of existing stops is feasible due to road reconstruction or route realignment, the spacing between stops should adhere to the minimum spacing requirements based on the route type.

2.3 Bus Stop Infrastructure and Amenities

- Currently, most of the Oakville transit stops consist of short landing pads. Where feasible, all future bus stops should be constructed to the recommended 9m pad length to accommodate a 12.2m bus.
- Standardize minimum pad widths and lengths to match the bus stop design criteria provided in **Section 2.6** and **Section 2.7**.
- Passenger amenities are prioritized based on the local environment and stop usage.

2.4 Active Transportation Integration

- All bus stops should, if possible, be connected to the active transportation network to accommodate pedestrian and cyclist access to transit.

2.4.1 Integration with Cycling Facilities

The current Transit Stop Design Guidelines focus mainly on standard bus stops, but there is an increasing trend of integrating cycling facilities with bus stops. Several design manuals address the integration of cycling facilities with various types of bus stops, including Island Boarding Stops, Shared Cycle Track Stops, Lay-By Stops, and Curbside Stops.

For comprehensive guidance, refer to the following resources:

- Ontario Traffic Manual – Book 18: Cycling Facilities
- Transportation Association of Canada (TAC) – 2017 Design Guidelines
- TransLink Bus Stop Design Guidelines
- National Association of City Transportation Officials (NACTO) Guidelines
- Cycling Infrastructure and People with Sight Loss Report by CNIB and WSP Canada

2.5 Bus Priority Measures

- Implement standard bus priority measures, where appropriate, including signal priority, queue jump lanes, and bus bulbs.

2.6 Design Criteria

Recognition of available space, the relationship to the surrounding built environment, and the required functionality have traditionally guided the development of bus stop elements and design criteria.

The following bus stop design criteria establish the basic bus stop design requirements:

- Defined Pull-In, Berth, and Pull-Out within the Bus Stop Zone
- Stop Identification Signpost
- Pad Length – Standard 9.0 m
- Pad Width – Minimum 1.8 m clear width, additional width required for shelter

- Front Door Passenger Loading Zone – Minimum 1.8 m width and 2.4 m depth
- Pad Height – Flat faced curb with 150 to 200 mm height
- Pad Cross Slope –not to exceed 2%
- Pad Running Slope – Same as Adjacent Road or Max. 4%
- Pad should connect to an adjacent sidewalk or path.
- Shelter for environmental protection (Optional). (Minimum shelter placement 1.8m back of curb and 1.8m from of end of pad. See **Figure 5**).
- Area Lighting (Typically provided as part of community street lighting)
- Bench (Desirable)
- Bike Stand (Desirable)
- Waste Receptacle (Required at higher volume stops)
- Information Panel (Optional static or digital shelter panel or stand-alone)
- Advertising Panel (Optional, shelter panel or stand-alone blade)

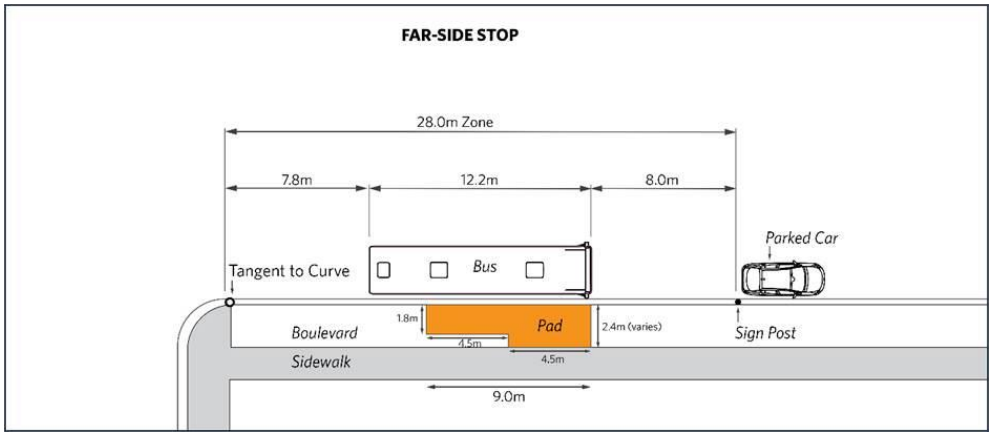
2.7 Bus Stop Layouts[1]

2.7.1 Farside Stops

Farside stops are preferred. If physical conditions do not suit a farside stop, a nearside stop may be provided.

[1] . All stop layouts are designed for a 12.2-metre bus.

Figure 1: Farside Bus Stop

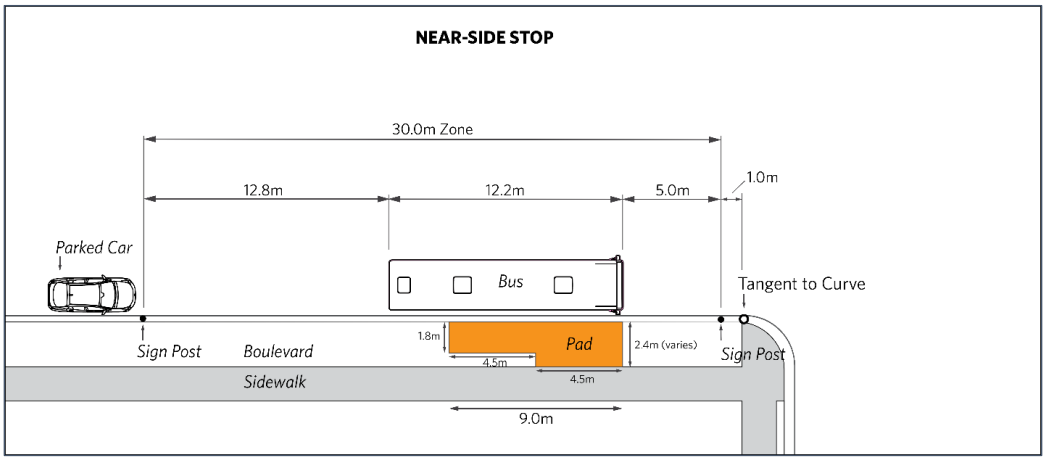


2.7.2 Nearside Stops

Bus stops should only be placed near-side under the following conditions:

- Sidewalk infrastructure, space constraints, irregular alignment, or other features (such as a driveway) do not safely permit a farside bus stop.
- If the servicing bus route proceeds straight through the intersection (does not turn left or right at the intersection).

Figure 2: Nearside Bus Stop

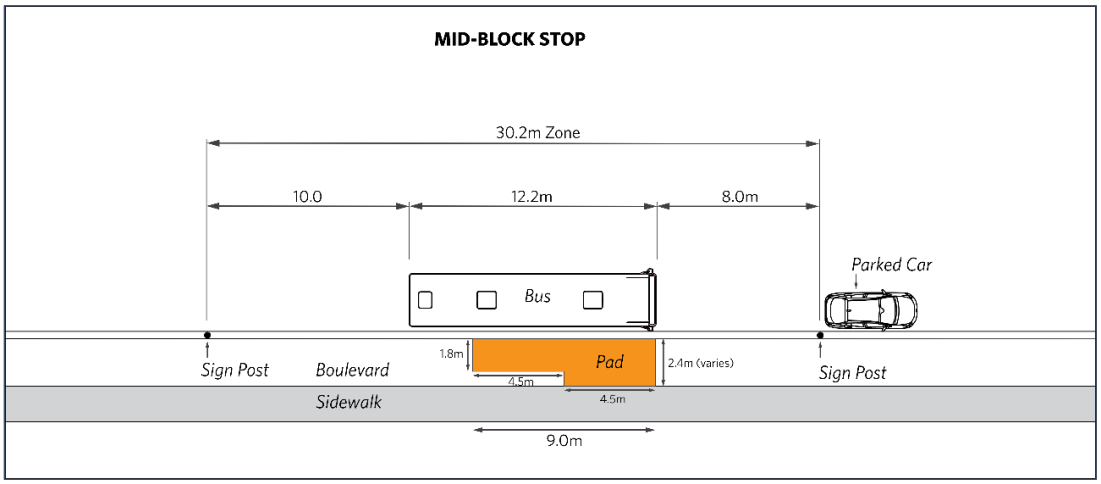


2.7.3 Mid-Block Stops

Generally, mid-block bus stops are not preferred and should be avoided. Mid-block stops may be employed where intersection-adjacent stops are not supported, near priority origins/destinations, or where the spacing between intersections would not allow for appropriate walking distance to a bus stop [2].

[2] Defined as greater than 400 meters to a bus stop.

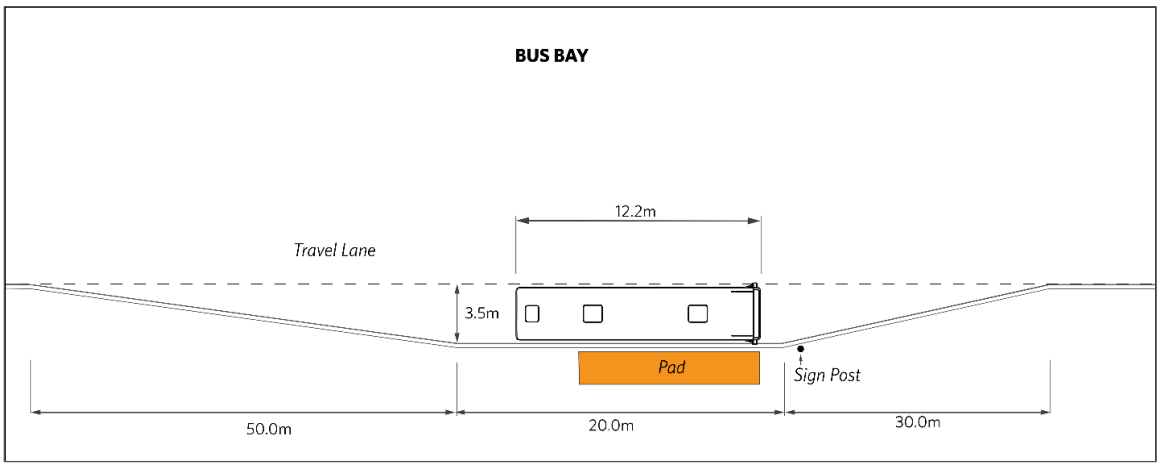
Figure 2: Mid-Block Bus Stop



2.7.4 Recessed / Indented Bays

Recessed bays (see **Figure 3**) may include indented curb lines or be placed between areas with curbside parking. Buses must negotiate re-entry back into the traffic lane.

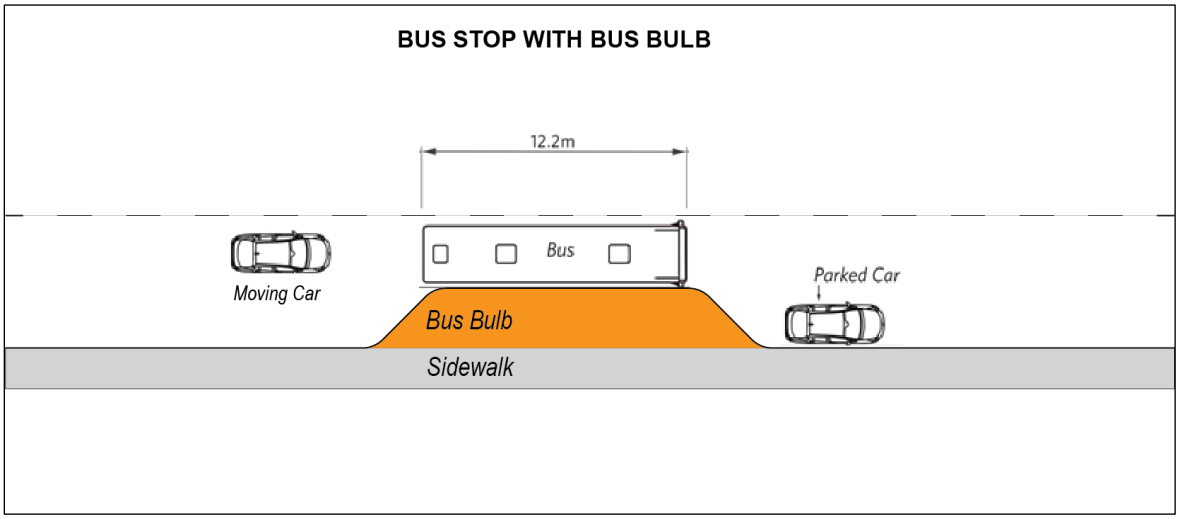
Figure 3: Recessed (indented) Bus Bay



2.7.5 In-Line/In-Lane Bays

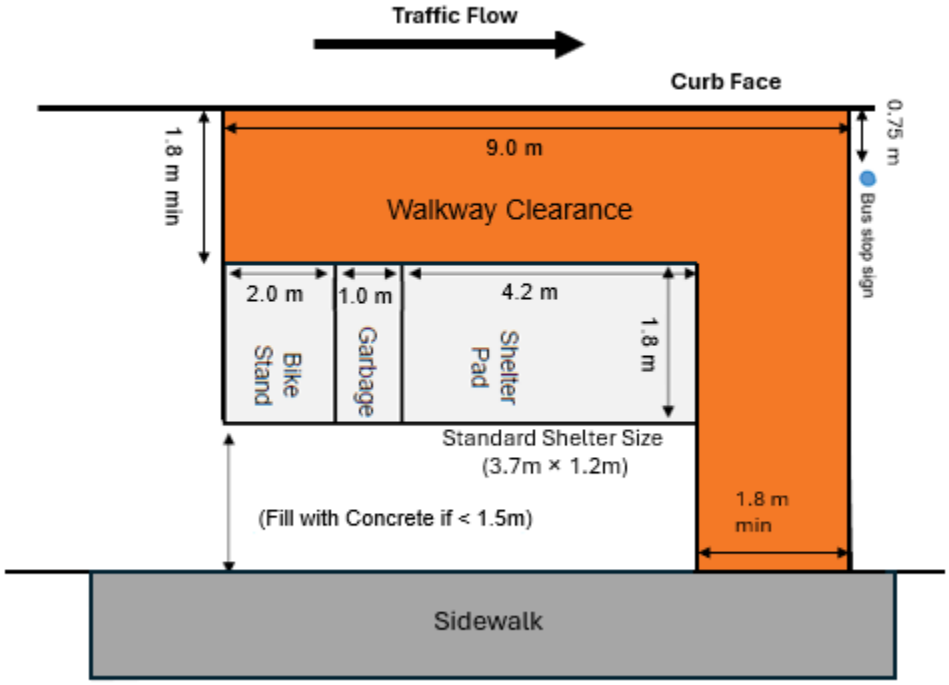
An In-Lane or Bus Bulb stop **Figure 4** gives the bus priority-of-place and does not require the bus pull out of the travel lane. General traffic stops behind the bus. Bus Bulbs are not recommended for timing points or layover stops.

Figure 4: In-Line / Bus Bulb Stop



2.7.6 Standard Pad Layout

Figure 5: Standard Pad Layout



Appendix E – Ridership Growth Initiatives

Oakville Transit

Five-Year Business Plan

Ridership Growth Initiatives

Oakville Transit

July 19, 2024

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1 Purpose of the Ridership Growth Initiatives (RGI) and Guiding Principles

This memo explores strategic initiatives to enhance transit ridership in the Town of Oakville. Detailed background and contextual information specific to the service enhancements outlined in the accompanying Oakville Transit Five-Year Business Plan. The primary focus of the Ridership Growth Initiatives will be on those initiatives that Oakville Transit may control or influence directly. Additionally, the RGI initiatives will provide a foundation for the preparation of the Oakville Transit Five-Year Business Plan.

2 Community Growth

The Town of Oakville has witnessed a steady rise in its population, with projections indicating substantial growth in the upcoming years. According to the 2021 Census, Oakville's population stood at 220,143 residents. Projections suggest a further increase to 296,000 by 2031 and a significant jump to 378,000 by 2041, as per the Best Planning Estimates. This demographic surge lays the groundwork for various developmental initiatives within the town, including its transit services.

Oakville Transit recorded 2,832,847 revenue riders in 2023 (first Post-Covid service year). This translates to 12.1 revenue passengers per capita, indicating a recovery from the COVID years, though still below the pre-COVID levels of 15 to 17 revenue passengers per capita.

Building upon the demographic data from the 2021 Census and the 2023 Best Planning Estimate for 2031, projections estimate Oakville's population for the intervening years. It is anticipated that by 2025, 2027, and 2029, the population will reach 247,520, 262,730, and 279,440, respectively. Leveraging this foundational data, in **Table 2** and **Table 3**, projections are made for both population growth and its subsequent impact on transit service within the framework of the Five-Year Business Plan.

Considering a static revenue passengers per capita criterion of 12.3, and based on the aforementioned population estimates, Oakville Transit's ridership would rise to 3,044,496, 3,231,579, and 3,437,112 in 2025, 2027, and 2029, respectively. These estimates highlight the direct correlation between population growth and transit ridership, serving as a basis for strategic planning and resource allocation within the transit system.

Oakville Transit's ambitions extend beyond mere population-driven projections. In alignment with the town's developmental vision, plans and studies are underway to enhance transit services, as evidenced by the ongoing development of the Five-Year Business Plan. This comprehensive strategy is expected to outline recommendations for service enhancements and expansions, aimed at further stimulating ridership growth through targeted initiatives.

Anticipating the implementation of these service improvements, projections suggest a corresponding increase in revenue passengers per capita to 16.5, 19.5, and 22.5 for the years 2025, 2027, and 2029, respectively. Coupled with the forecasted population growth and implementation of the recommended service scenario, Oakville Transit anticipates a substantial rise in annual revenue passengers, estimated at 4,084,080 5,123,235, and 6,287,400 for 2025, 2027, and 2029, respectively.

Table 1: Past Population and Revenue Passenger Data (2016-2023)

Year	Population	Revenue Passengers	Passengers Per Capita
2016	193,832	2,851,368	14.70
2017	194,000	2,945,877	15.20
2018	202,500	3,502,207	17.30
2019	211,000	3,376,070	16.00
2020	214,200	1,601,253	7.50
2021	220,143	1,245,304	5.65
2022	225,000	2,130,808	9.40
2023	230,890	2,832,847	12.10

Table 2: Projected Population and Revenue Passenger Data (2025-2029)

Projected Population Effect			
Year	**Population**	**Revenue Passengers**	**Passengers Per Capita**
2025	247,520	3,044,496	12.3
2027	262,730	3,231,579	12.3
2029	279,440	3,437,112	12.3

Table 3: Forecasted Population and Revenue Passenger Data with Recommended Service Enhancements (2025-2029)

Projected Population and Service Effect			
Year	**Population**	**Revenue Passengers**	**Passengers Per Capita**
2025	247,520	4,084,080	16.5
2027	262,730	5,123,235	19.5
2029	279,440	6,287,400	22.5

3 Provincial, Regional, and Local Trends that Create Ridership Opportunities

Building on a strong policy foundation, the Oakville Transit Five-Year Business Plan aims to integrate Transit Oriented Development ("TOD") initiatives with provincially mandated Growth Plans, local municipal plans, and regional/municipal Transportation Master Plans.

Considering the limitations on road capacity highlighted in the 2017 Transportation Master Plan (TMP), the ongoing TMP 24 update (to be completed in Q4 2024) emphasizes the need for sustainable transportation solutions beyond reliance on private automobiles.

As an integral part of the Oakville Transit Five-Year Business Plan, the RGI will chart a comprehensive roadmap for sustained transit ridership growth throughout the Town of Oakville. This strategic approach ensures that the Business Plan not only aligns with current policies and plans but also serves as a forward-looking catalyst for promoting the use of public transit in the town of Oakville.

The following section provides a high-level overview of initiatives in the Ontario, Greater Toronto and Hamilton Area, the Halton Region, adjacent municipalities, and the town of Oakville that impact transit ridership.

3.1.1 Provincial and Greater Toronto and Hamilton Area Initiatives

The provincial transportation plans and initiatives, including the Greater Golden Horseshoe Transportation Plan, the proposed 407 Transitway, Fare & Service Integration, Grade Separations, and the Dundas BRT, collectively underscore a key theme: connectivity and accessibility. The overarching goal is to develop a well-connected and accessible transit system that enhances the overall mobility experience for Greater Golden Horseshoe residents. These plans emphasize the importance of seamless travel, improved

connections, and transit-friendly communities, all contributing to a more integrated and efficient transit network.

3.1.2 Halton Initiatives

Halton Region's mobility initiatives, encompassing the "Mobility Management Strategy for Halton (2017)" and "Defining Major Transit Requirements (DMTR) in Halton (2019)," share a key theme: integrated, multi-modal transportation planning. The "Mobility Management Strategy" advocates for "Mobility-as-a-Service," presenting a region-wide network of Transit Priority Corridors and Mobility Links for enhanced connectivity. The subsequent "DMTR" study refines this network, proposing a mix of transit infrastructure for 2031 and 2041.

The ongoing "Transit Operationalization Strategy" aims to support the evolution of transit priority corridors, emphasizing alternatives for governance model and service delivery options.

Together, these initiatives underscore the overarching vision of a seamless, interconnected transit system within Halton Region that adapts to evolving urban mobility needs for approximately the next 25 years.

Figure 1 shows the location of different types of strategic growth areas[1] within Halton Region.

[1] Strategic growth areas are nodes like Urban Growth Centers and Major Transit Station Areas, and corridors intended to be the focus of concentrating population and job growth.

Figure 1: Regional Urban Structure

3.1.3 Adjacent Local Municipalities

The transit initiatives in adjacent municipalities reflect a common emphasis on enhancing efficiency, sustainability, and strategic development, as follows:

- Burlington Transit is transitioning to a grid-based system, prioritizing 15-minute headways on key routes, exploring alternative service delivery, and collaborating with regional plans.
- In Halton Hills, the Transit Service Strategy recommends more fixed-route services in high-demand areas, along with planning for a mobility hub near Steeles Avenue and Trafalgar/Ninth Line.
- Milton Transit focuses on streamlined routes, increased frequency, support for regional corridors, and the introduction of alternative transportation models.

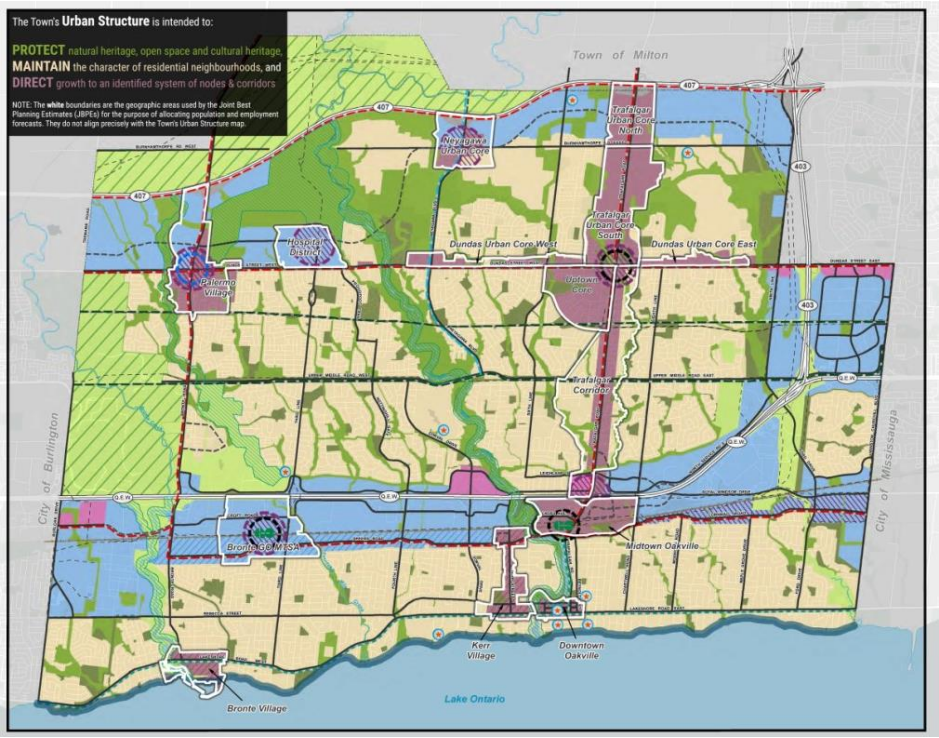
- The City of Mississauga is strategically leveraging its robust employment base to collaborate with neighbouring municipalities, concentrating efforts on leveraging multimodal transit hubs and constructing and maintaining a Higher Order Transit integrated network. This network includes the Hurontario LRT, Lakeshore, and Dundas BRT, as well as expansions into neighbouring cities.

3.1.4 Town of Oakville

Oakville's official plan comprises the Livable Oakville Plan and the North Oakville Secondary Plans. It outlines the Council's policies for land use and long-term growth management, including projections for population and employment until 2051. Currently, the plan is undergoing review to ensure alignment with provincial and regional policies and to integrate the North Oakville areas into the Livable Oakville Plan.

In addition to the official plan, ongoing planning projects and studies are implemented through official plan policies or zoning by-law regulations. One of these studies, which can inform the Oakville Transit Five-Year Business Plan, is the Urban Structure Review. This review determines the best approach for managing development within the town's existing boundaries. As shown in **Figure 2**, it assesses population projections, potential development zones such as Trafalgar Corridor, Palermo Village, Midtown Oakville and the vicinity of Oakville GO and Bronte GO Stations —relevant to the transit plan— preservation of residential stability and natural heritage, infrastructure delivery, and criteria for identifying new growth areas.

Figure 2: Town of Oakville's Urban Structure



The town also is undertaking a new Transportation Master Plan to update the 2018 Transportation Master Plan and 2017 Active Transportation Master Plan. The process will utilize the Urban Mobility and Transportation Study to develop a new plan accommodating growth up to 2051. The TMP is expected to be completed by the end of 2024 and shared with the public in early 2025.

The updated TMP aims to create walkable, cycle/transit-friendly neighbourhoods with integrated and accessible transportation choices for all residents. It will recommend a comprehensive set of guidelines to enhance the town's transportation system, addressing the needs of all stakeholders and supporting Oakville's vision of being a vibrant and livable community for all. These measures will not only enhance the efficiency and effectiveness of transit services but also contribute to Oakville's vision of becoming a vibrant and livable community for all.

Furthermore, the Town of Oakville is proactively advancing its transit network with key initiatives aimed at sustainability, efficiency, and strategic development. The following are endorsed as the Town of Oakville's priority transit initiatives:

1. Trafalgar Bus Rapid Transit (BRT):
    - Strategic alignment with regional plans and The Big Move.
    - Advocacy for High Occupancy Vehicle (HOV) lanes to expedite BRT adoption.

2. Dundas Bus Rapid Transit:
    - Integration into Metrolinx's regional transportation plan.
    - Collaboration with Metrolinx for the phased implementation of BRT.
3. Palermo Transit Terminal:
    - Identification of Palermo as a major transit hub.
    - Strategic importance for connecting with future developments and higher-order transit services.
    - Need for optimal site location to accommodate local and regional transportation plans.
4. Midtown including Oakville GO modifications:
    - Positioned as the Urban Growth Center, Midtown's development centered on Trafalgar Road is a priority, emphasizing strategic growth and infrastructure modifications.
5. Enhanced and Expanded On Demand Transit Services:
    - Potential applications include early transit introduction to new communities, replacing conventional fixed route service in off peak times, serving historically low-demand areas, and acting as feeder service for high frequency conventional service.
6. Regional Express Rail on the Lakeshore West line:
    - GO Rail Expansion aims to transform the transportation network in Greater Toronto and Hamilton Area, with Metrolinx planning a comprehensive upgrade for two-way, all-day service every 15 minutes. However, realizing the full benefits of Regional Express Rail (RER) poses challenges for local transit providers like Oakville Transit, as matching the 15-minute frequency for trips back to Oakville may be difficult. Increased service levels on routes connecting to GO Stations are essential for efficient and reliable connectivity with the rail line.

3.1.5 Oakville Transit

Oakville Transit last completed a transit business plan in 2015. This review covered conventional and specialized transit services, administration, support services, and the development of new transit services. The primary objectives included enhancing transit efficiencies through innovative approaches, implementing industry best practices, increasing overall ridership, and maximizing cost recovery.

Since the completion of the Oakville Transit Service Review in 2015, several proposed initiatives and strategies have been put into action. Yet, ongoing evaluations are continuously underway to assess whether these initiatives should be further developed or if they are no longer deemed necessary to pursue.

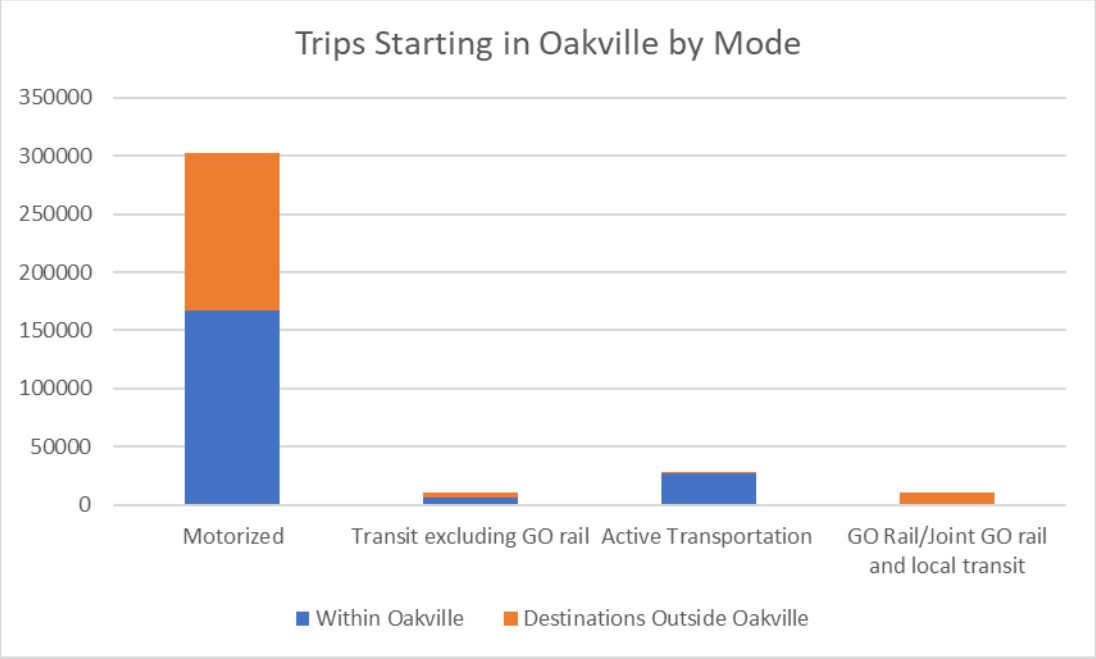
4 Oakville Transit Needs and Opportunities

4.1 Existing Travel Pattern

The available data for analyzing existing travel patterns in Oakville relies on the Transportation Tomorrow Survey (TTS) conducted in 2016, which provides valuable insights into the mode choices of Oakville residents. Currently, this is the only dataset available. The next survey results, expected in 2024, will include the impact of COVID-19 on travel behavior, thereby offering updated insights.

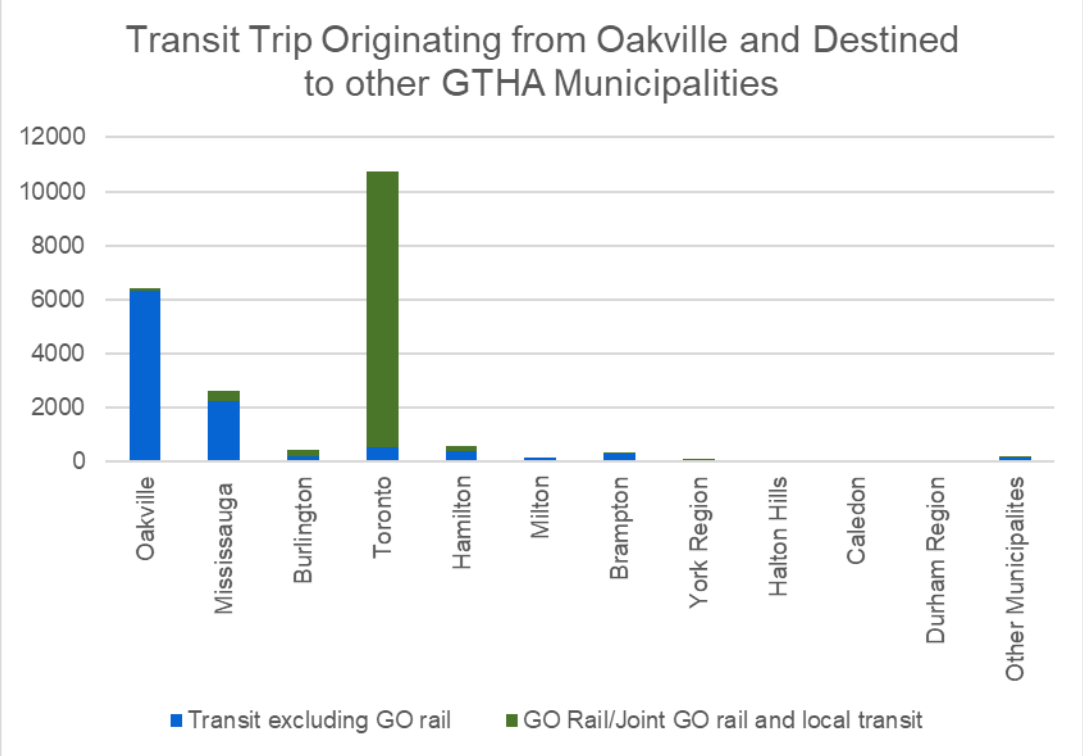
As shown in **Figure 3**, the analysis of TTS 2016 findings reveals that motorized transportation remains the predominant choice among residents, particularly within the town itself. While motorized vehicles continue to dominate, there's a notable potential for growth in transit services, especially within Oakville's boundaries. This emphasizes the importance of developing strategies to encourage greater utilization of public transit options and promote sustainability.

Figure 3: Trips Starting in Oakville by Mode



As shown in **Figure 4**, for transit trips destined outside of Oakville, Mississauga emerges as a major destination for local transit usage, while the City of Toronto stands out as the primary destination for GO transit trips. Given the significant number of trips originating from Oakville and destined to Toronto by GO Transit, integration with GO Transit is crucial. There is a recognized need for initiatives and improvements aimed at enhancing connections to GO trains and facilitating cross-boundary transit trips between Oakville and Mississauga.

Figure 4: Transit Trips Originating from Oakville and Destined to other GTHA Municipalities



This analysis provides an overall summary of travel patterns in Oakville. To obtain a more thorough understanding of travel behaviors—such as trip direction, time of day, and user characteristics—the forthcoming TTS 2024 data will be crucial for developing targeted transit strategies and policies.

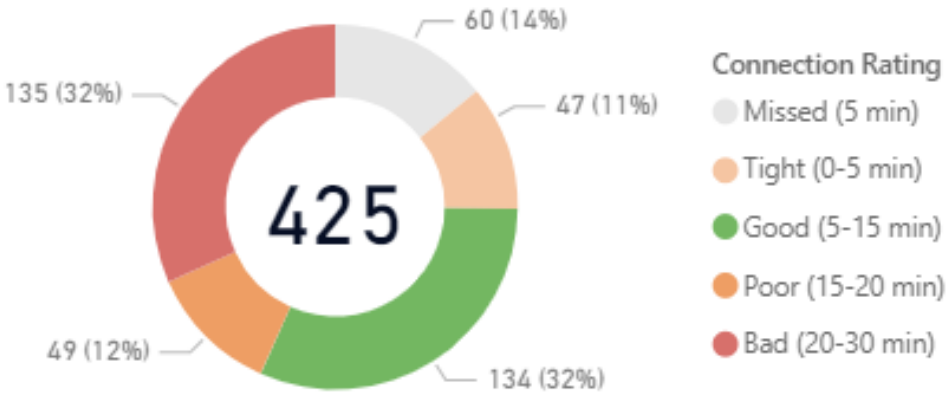
4.2 Status of Existing Connection to GO Transit [2]

Using data from the Metrolinx GTFS tool for February 2023 reveals that only 32% of Oakville Transit routes destined for Bronte GO, weekdays between 7 am and 6 pm, arrived within the optimal window of 5 to 15 minutes prior to the departure of the next train in all directions. The remaining trips either arrived in less than 5 minutes (25%) or required passengers to wait for more than 15 minutes (44%) for the next train.

Similarly, for routes arriving at the Oakville GO station only 40% of connections were within the 5 to 15-minute window prior to the next train.

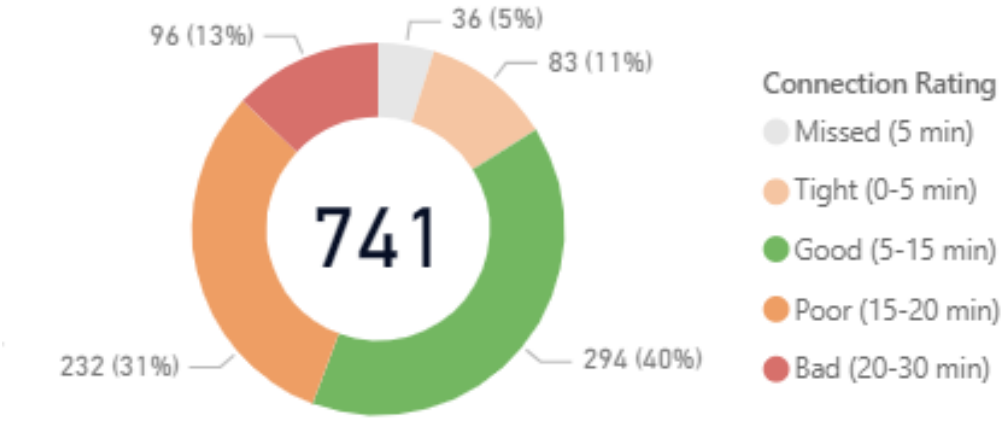
These results were detailed in **Figure 5** and **Figure 6**, which illustrated the connection efficiency at Bronte and Oakville GO stations, respectively.

Figure 5: Oakville Transit Connections to GO Train at Bronte GO Station in all directions between 7 am to 6 pm (Source: Metrolinx GTFS tool, February 2023)



2 Metrolinx GTFS Tool - Regional Transit. This was a data analytics project for Metrolinx to develop a tool that leverages General Transit Feed Specification (GTFS) data (static and real-time) from municipal service providers (MSPs) and GO Transit to measure and track changes to service levels, transfer connectivity, and travel-time performance of the regional transit network.

Figure 6: Oakville Transit Connections to GO Train at Oakville GO station in all directions between 7 am to 6 pm (Source: Metrolinx GTFS tool, February 2023)



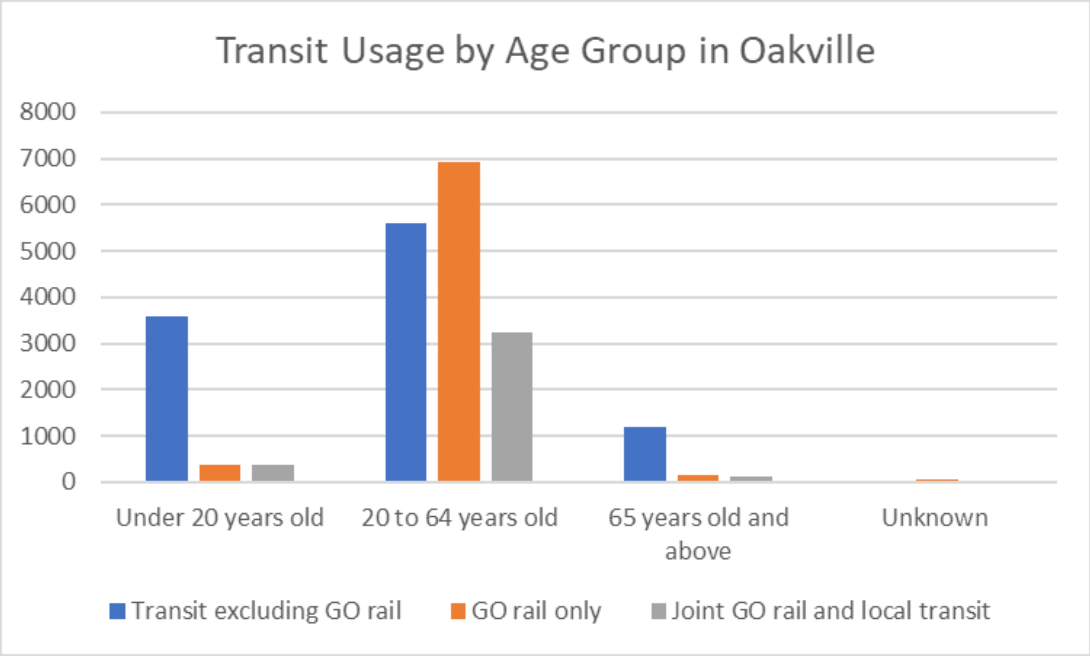
Subsequent analysis with updated data could offer a more recent examination of Oakville Transit connections to additional GO stations, including Appleby GO and Clarkson GO, as well as specific directions for developing targeted transit strategies and policies.

4.3 Understanding Transit Usage Among Demographic Categories in Oakville

4.3.1 Age Groups

- Analysis of Transportation Tomorrow Survey (TTS) data reveals distinct transit usage patterns across age groups in Oakville. As shown in **Figure 7** individuals aged 20 to 64 demonstrate the highest usage of transit services, with a significant portion opting for GO Rail exclusively. Whereas younger residents under 20 years old and seniors prefer using transit options within Oakville. This data underscores the importance of tailored strategies to meet the diverse transportation needs of Oakville residents across different age demographics.

Figure 7: Transit Usage for Trips Starting in Oakville by Age Group



4.3.2 Income Groups

Oakville is a relatively affluent community, with 2020 average personal and family incomes approximately 45% higher than province-wide data. Despite this, Halton's income inequality and poverty report indicates that Oakville exhibits a wide gap between the very rich (highest decile) and the very poor (lowest decile) as of 2015. **Table 4** compares the percentage of total income by highest and lowest decile in both Oakville and Halton.

Table 4: Percentage of Total Income by Highest and Lowest Decile in Oakville and Halton

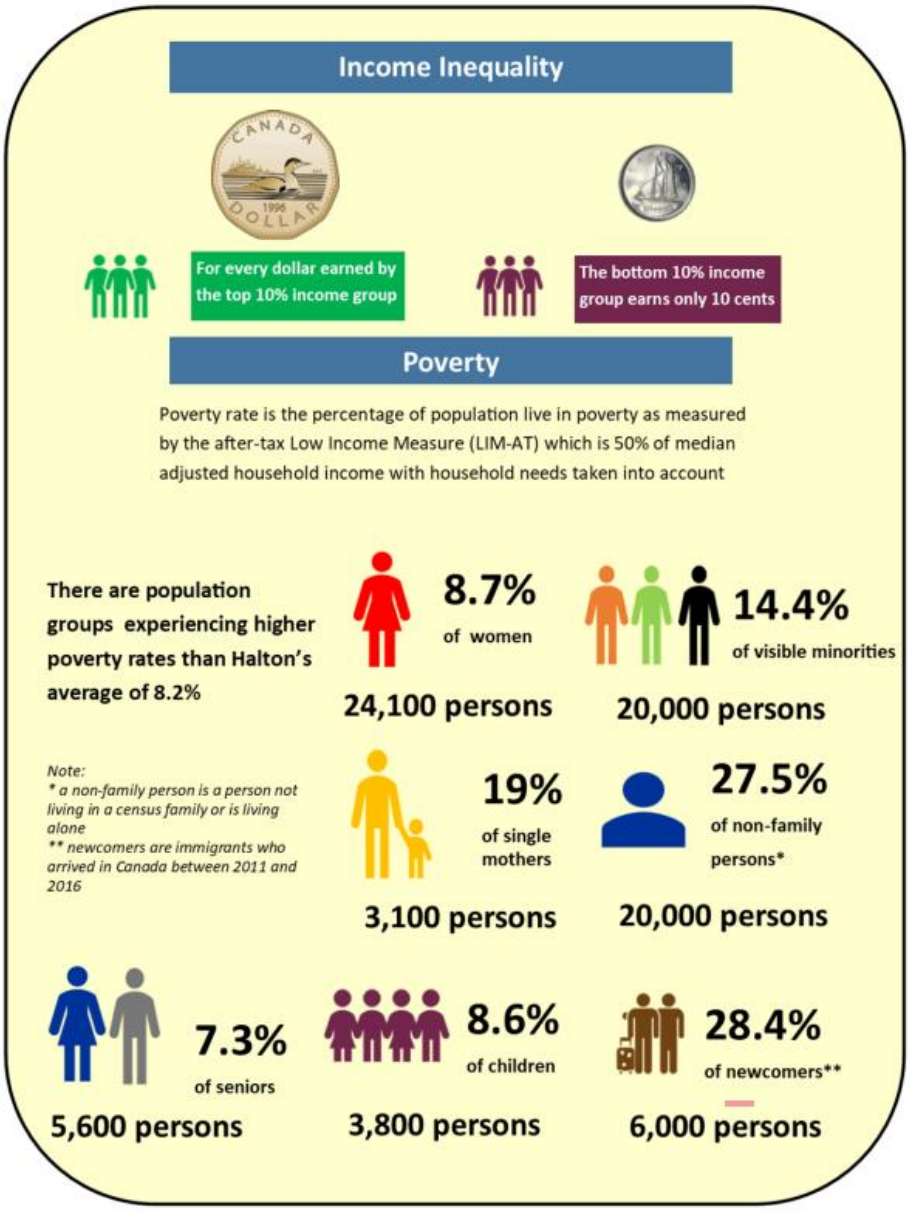
	Lowest Decile	Highest Decile
Oakville	2%	30.8%
Halton Region	2.7%	26.8%

Source: Our Halton 2018 Income Inequality and Poverty

In Halton, the average disposal income for the highest decile (top 10%) was 10 times higher than the lowest (bottom 10%) decile. To put it in perspective, for every after-tax dollar earned by individuals in the top decile, those at the bottom decile earned only 10 cents. In Oakville, this disparity is even more pronounced, with individuals in the bottom decile earning only 6.7 cents for every dollar earned by those in the top decile.

The following infographic captures and summarizes income inequality and poverty in Halton.

Figure 8: Income Inequality in Halton Region (Source: our Halton 2018 income inequity and poverty, 2018)



- Halton's local municipal transit systems address some of these disparities through the Subsidized Passes for Low Income Transit (SPLIT) pass system. This initiative offers eligible low-income Halton residents a 50% subsidy for their local transit travel expenses.
- Within the Region each transit agency administers the SPLIT program independently. Burlington has chosen to subsidize the customer portion whereas in Oakville and Milton the customer pays 50% for the pass.
- The table below presents the breakdown of Oakville Transit users who utilized SPLIT passes or tickets in 2023, categorized by age group.

Table 5: Monthly SPLIT Passes & Tickets Distribution by Oakville Transit Customer Demographics

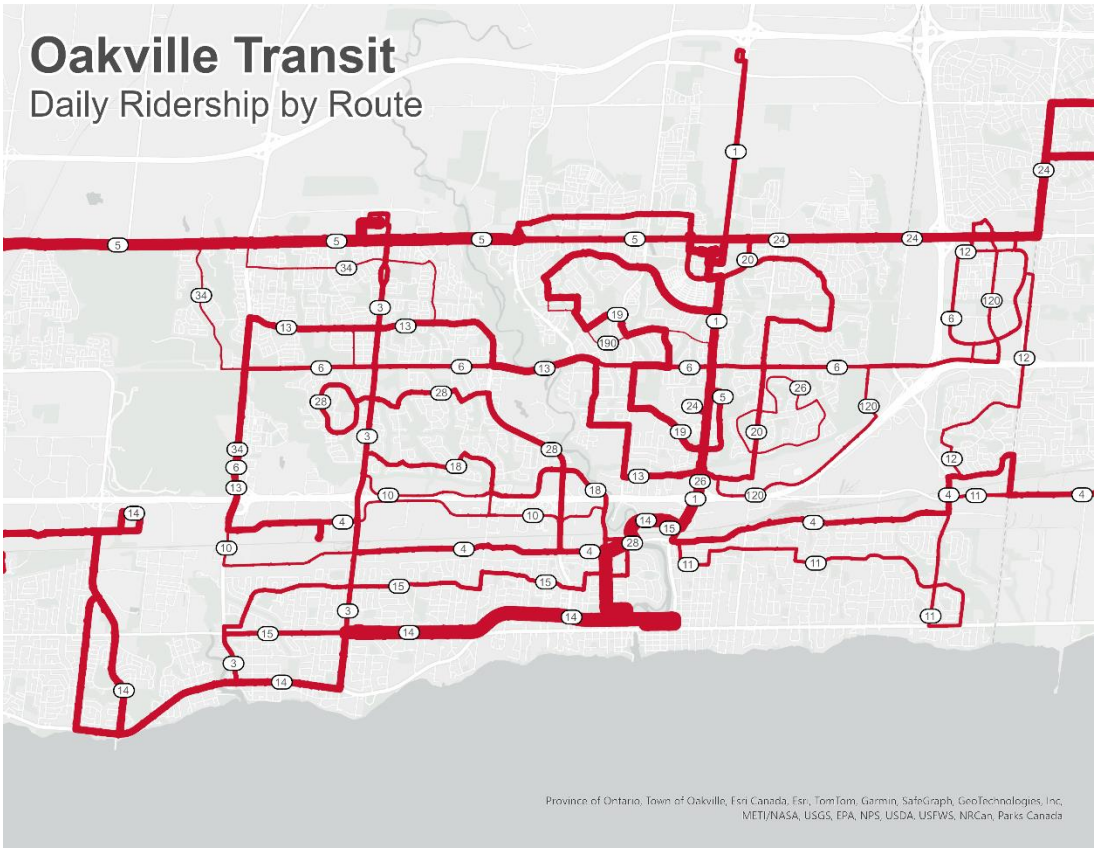
SPLIT PASSES	Adults	Seniors	Youth	TOTAL
Monthly Average	17	2	0	20
TICKETS - Number of customers	**Adults**	**Seniors**	**Youth**	**TOTAL**
Monthly Average	58	8	5	72
TICKETS - Number Of Strips Of Tickets Purchased	**Adults**	**Seniors**	**Youth**	**TOTAL**
Monthly Average	113	16	11	139

The relatively low average monthly usage of SPLIT passes and tickets may be attributed to Oakville Transit's policy of not covering the remaining unsubsidized portion of the fare or insufficient knowledge of the program.

4.4 Ridership Activity in Oakville

Figure 9 depicts transit usage patterns throughout the day, highlighting the routes that experience the highest levels of activity. The map reveals that Dundas Street, Trafalgar Road, Rebecca Street, and the vicinity of Oakville GO station are among the most heavily travelled routes.

Figure 9: Oakville Transit Heat Map



4.5 Customer Feedback

As detailed in the first public consultation summary report, feedback collected during the Oakville Transit public consultations held between November 20, 2023, and December 7, 2023, identified key areas for improvement, including:

- Schedule Frequency
- On-Time Performance
- Driver Behavior
- Integration with GO Trains
- Direct Routes
- Passenger Shelters

5 Ridership Growth Initiatives

The preceding sections offer a comprehensive overview of Oakville's transit landscape, covering demographic trends, regional and local initiatives, existing transit patterns, and customer feedback. These insights serve as a foundation for the initiatives outlined below, which are aimed at enhancing ridership and improving transit services in Oakville.

Some of the following Ridership Growth Initiatives have budget implications which will be addressed in the Oakville Transit Five-Year Business Plan.

5.1 Initiatives in Response to Community Growth

5.1.1 Service Guidelines

- The Service Guidelines provided the metrics to plan and manage Oakville Transit. The Guidelines include System, Route, Planning, Operational and Other metrics. The System and Route Guidelines for 2022 and the target for 2029 are noted below.

5.1.2 System Guidelines

- Hours of Operation Per Capita (2022 = 0.9, 2029 = 1.2)
- Passengers Per Operating Hour (2022 = 12.8, 2029 = 20.0)
- Passengers Per Capita (2022 = 9.5, 2029 = 16.0)
- Revenue to Cost Ratio (2022 = 20%, 2029 = 25%)

5.1.3 Route Guidelines

- Boarding Passengers per Operating Hour (25 on FTN and Primary Routes, 15 on Base Routes)
- On-Time Performance (90% within 0 to -3 mins of schedule)

Recommendation 1 – Applying Service Guidelines

It is recommended that Oakville Transit work towards achieving the Service Guidelines for planning and managing an improved Oakville Transit service over the 2025 to 2029 period. Specifically, an increase in operating hours per capita, improved on-time performance and more effective transfer connections will increase ridership.

5.2 Initiatives in Response to Provincial, Regional, and Local Trends that Create Ridership Opportunities

Oakville's transit network development intersects with various visions and plans at the provincial, regional, and local levels. These encompass broader transportation strategies, urban development initiatives, and transit expansion projects. Aligning Oakville Transit's plans with these broader frameworks is essential for achieving seamless integration and maximizing the effectiveness of transit services.

Recommendation 2 – Aligning Transit Network Plans

Oakville Transit should maintain close collaboration with federal and provincial transit bodies, particularly Metrolinx, to ensure alignment and consistency in developing the transit network and its infrastructure. This includes keeping Metrolinx informed about Oakville Transit's plans and remaining updated on Metrolinx's initiatives and future plans, all aimed at aligning future networks with regional and provincial long-term plans and leveraging funding opportunities to enhance the frequent transit network and increase ridership. Over the longer-term planning and operational alignment with other agencies will create a more effective transit network, improve transit travel opportunities, and increase ridership.

Recommendation 3 – Aligning with Halton Region and the Town of Oakville Transportation Master Plan

Oakville Transit should prioritize collaboration and communication with Halton Region and internal departments within the Town of Oakville. This involves ensuring that updates regarding future transit services are shared, maintaining consistency in messaging, and aligning the Oakville Transit Five-Year business Plan with Halton Region Integrated Master Plan and Oakville Transportation Master Plan. As with Recommendation 2, over the longer-term planning and operational alignment with other agencies will create a more effective transit network, improve transit travel opportunities, and increase ridership.

5.2.1 Active Transportation

All transit customers begin and end their transit journey as pedestrians, wheelers, or cyclists. The principles of 5A (Always Available for All Ages & Abilities) Network Guiding Principles and Universal Design Standards are useful guides for assessing Active Transportation access.

Recommendation 4 – Active Transportation Review

As outlined in the Stop Design Guidelines, it is recommended that Active Transportation access to and from all bus stops be considered in the bus stop planning process.

5.2.2 Transit Priority Measures

Transit Priority Measures (TPM) are initiated to improve transit speed, reliability, and the overall customer experience. Typical measures for conventional transit include signal priority, queue jump lanes and bus bulbs. Halton Region is currently reviewing TPM planning issues as part of its Integrated Transportation Master Plan. Given that many of Oakville Transit's major transit routes operate on Halton regional roads it is important that the Town of Oakville coordinate their TPM planning with Halton Region.

Recommendation 5 – Transit Priority Measures

It recommended that the Town of Oakville coordinate TPM planning on the Regional Roads (Dundas, Trafalgar, Upper Middle Road) with Halton Region.

As well, on a Town of Oakville road a before and after study should be implemented to understand the implications of moving a bus stop from a nearside right turn bay to a curb farside stop.

5.2.3 Accessibility for Ontarians with Disabilities Act (AODA)

Continuing to ensure that all transit vehicles and stops are accessible will enhance opportunities for all citizens to use transit.

Recommendation 6 – AODA Compliance

It is recommended that Oakville Transit continue to review its compliance with the applicable AODA (Accessibility for Ontarians with Disabilities Act) Standards and implement additional bus stop and active transportation access improvements where feasible.

5.3 Initiatives in Response to Oakville Transit Needs and Opportunities

The recommendations, aimed at enhancing service quality in response to customer feedback, are outlined below.

Recommendation 7 – Increase Schedule Frequency

It is recommended that Oakville Transit selectively increase schedule frequencies on the initial Frequent Transit Network (FTN) and Primary

Network routes over the 2025 to 2029 period, subject to budget and route guidelines. The recommended service frequencies and additional hours of operation are identified in the route service summary, as part of the accompanying Transit Five-Year Business Plan.

Recommendation 8 – Service Delays and On-Time Performance

It is recommended that Oakville Transit develop a program of assessing on-time route performance in accordance with the Route Guidelines criteria. A root cause analysis of problem routes, time points, route supervision or operators should be conducted to determine the cause. Remedial action, subject to available staff and funding, should be implemented to ensure routes meet on-time performance guidelines.

Recommendation 9 – GO Train Transfers

The Metrolinx GTFS tool, and Customer and Oakville Transit staff feedback highlight inadequate or unsatisfactory transfer times between Oakville Transit and GO Train services. The issue may be caused by a misalignment between Oakville and GO Board Periods which are fixed times when a transit system reschedules services and assigns operators to runs. It is difficult to quickly change a large number of route schedules if another connecting service announces schedule changes. It is recommended that Oakville Transit continue to discuss solutions for schedule coordination with GO Transit. It is also recommended that Oakville Transit define morning and afternoon directional transfer priorities to provide a focus on prioritizing transfers in the major travel directions.

Recommendation 10 – Operator Behavior

Transit Operators are the “face” of a transit system. Due to various factors, concerns may arise regarding perceptions of Operator behaviour. All customer feedback related to Operator behaviour should continue to be investigated. Additionally, there should be initial and remedial training available to reinforce the importance of professional and courteous interaction between operators and customers. Operator training should prioritize ensuring operators understand their responsibilities to deliver safe service, provide friendly customer service, and uphold commitments to service excellence (Be Safe, Be Nice, Meet Your Commitments).

Recommendation 11 – Bus Stops

All customers use a bus stop to start and end their transit journey. It is recommended that Oakville Transit adopt the new Bus Stop Design Guidelines for all new or retrofitted stops.

It is recommended that Oakville Transit continue to closely engage with the Town's planning department when reviewing development applications. This collaboration should involve reviewing active transportation connections and utilizing the Bus Stop Design Guidelines to integrate bus stop locations into neighbourhood designs.

Recommendation 12 – Future Proposed Route Network

It is recommended that Oakville Transit adopt the Route Design Guidelines, and the Future Proposed Route Network (FPRN). The Network would be composed of Frequent Transit Network, Primary, Base Special Purpose Routes and On Demand services. The FPRN will provide more direct routes, fewer transfers, better service to growth areas, corridors, and nodes, improved cross-boundary connections, and access to GO Transit and Downtown.

Recommendation 13 – On Demand Service

It is recommended that Oakville Transit continue to implement Ride On-Demand service as a low intensity alternative transit service that provides a cost-effective way to serve developing communities or low demand areas where fixed route services are not effective.

It is also recommended that Oakville Transit investigate the On-Demand Hub to Stop model with designated pick-up stops located throughout the community to minimize On-Demand bus circulation. This would require customers to walk to a bus stop, similar to regular routes. Establishing these bus stops along a "phantom" route within the community could facilitate the use of overloaded buses and support the development of future regular route services.

5.3.2 Loyalty or Fare Incentive Opportunities

Oakville Transit has implemented free fares for Children, Youth and Seniors. Adults continue to pay full fares. In a broad-based free fare environment, there is a limited opportunity for loyalty programs or fee-based ridership initiatives. However, a 100% SPLIT (Subsidized Pass for Low Income Transit) subsidy for low-income individuals could have a positive influence on ridership. As discussed in the **section 4.3.2,** the relatively low average monthly usage of SPLIT passes in Oakville indicates that this program has not been fully utilized by Oakville low-income residents.

The 100% SPLIT Pass subsidy would offer free fares for low-income pass applicants, with 50% funding from Halton Region and a new 50% contribution from Oakville.

This 100% subsidy would encourage ridership among low-income residents and promote equity compared to regular free fare customers.

This subsidy would not only encourage ridership among low-income residents but also promote equity compared to other non-fare customers.

Recommendation 14 – SPLIT Pass Subsidy

It is recommended that Oakville Transit implement a full subsidy for SPLIT Passes (50% funding from Halton Region and 50% from Oakville). Additionally, in collaboration with Halton Region marketing campaigns should be launched to promote the SPLIT Pass program.

5.3.3 Data Management and Technological Advancements

Recommendation 15 –Technological Advancements

Understanding the location and schedule adherence of buses, and passenger boarding and alighting activities at stops are key information requirements to effectively manage a transit system.

Oakville Transit has Automatic Vehicle Location (AVL) technology and is completing implementation of Automatic Passenger Counting (APC) technology across its entire fleet. APC systems accurately track passenger boardings and alightings, providing essential data for optimizing route planning, scheduling, and resource allocation. By having a full AVL / APC system Oakville Transit can enhance operational efficiency, improve resource allocation, and better meet the evolving needs of its ridership. As noted in Recommendation 19 it is critical that the implementation of AVL/APC technology be supported by adequate Transit Analyst capabilities.

Recommendation 16 – Customer's Demographic Data

Oakville Transit currently does not collect demographic data from its customers. To address this gap, it should consider implementing targeted surveys or outreach programs to gather demographic information. This comprehensive approach will provide valuable insights into ridership demographics, travel behaviour, and preferences, thereby facilitating informed decision-making and service improvements.

5.3.4 Customer Experience

Recommendation 17 – Customer Feedback

Oakville Transit currently offers a Customer Services Feedback line. However, it is recommended that QR (Quick Response) codes be placed on buses, shelters, and other fixed assets to provide an easy way for customers

to get information and provide feedback. This additional avenue for customer feedback would enable Oakville Transit to better understand customer preferences and effectively improve its services.

Recommendation 18 – Transit Charter

It is recommended that a Transit Charter be created which would define Oakville Transit's commitment to service excellence, and transit customer rights and responsibilities. The intent of a Charter is to promote accountability, enhance customer satisfaction, and improve the overall transit experience.

5.3.5 Organizational Capacity

Recommendation 19 – Marketing and Data Management Staff

To increase the understanding of transit operating performance, customer behavior and encourage ridership Oakville Transit should create new Junior Transit Planner / Transit Analyst and Marketing / Customer Service Representative positions. Presently, the existing Transit Analyst position may not be sufficient to adequately handle the volume of data and data sources and available information.

Recommendation 20 – Travel Trainer

Oakville Transit has the opportunity to engage more residents in utilizing its services. While some residents may lack basic transit trip planning information or feel apprehensive about initiating a transit trip, offering them basic transit travel information, training, and instilling confidence in new or novice riders can pave the way for increased and sustained transit usage.

It is recommended that Oakville Transit create a new Travel Trainer position and initiate a Transit Travel Training program aimed at assisting youth, adults and seniors to become transit users. This program may offer travel training to individuals or groups.

Appendix F – Revenue and Fare Strategy

Oakville Transit 5-Year Business Plan

Revenue and Fare Strategy

Oakville Transit

August 12, 2024

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1 Introduction

This memo examines Oakville Transit's current revenue and fare structure, as well as cross-boundary fare and service integration. It also reviews industry best practices regarding customer incentives and loyalty programs. Additionally, the review includes a review of non-fare revenue streams and innovative strategies aimed at augmenting overall revenue generation for Oakville Transit.

2 Review of Oakville Transit's Current Fare Structure

Oakville Transit's current fare categories include:

- **Child (12 and under):** Ride free[1] with a PRESTO card or when travelling with a parent/guardian.
- **Youth (13 to 19 years):** PRESTO single: Free[2] with a valid PRESTO card, $4 per ride with exact cash fare.
- **Adults:** Exact cash fare: $4 per ride, PRESTO single: $3.30 per ride, PRESTO monthly pass: $139 per month. University, college, and adult education students 20 years and over must pay adult fare.
- **Seniors:** PRESTO single: Free[3] with a valid PRESTO card, $4 per ride with exact cash fare.
- **Low Income:** Subsidized Passes for Low Income Transit (SPLIT) pass system, a Halton Region initiative, provides eligible low-income Halton residents with a 50% subsidy. Oakville Transit participants responsible for the remaining 50%.

GO Transit passengers have a seamless transfer to Oakville Transit without any additional cost, whether through a GO ride ticket or PRESTO card. Oakville Transit offers time-based transfers valid for 2 hours, facilitating smooth transfers within Oakville and to/from Burlington Transit and MiWay (Mississauga Transit) services.

Passengers are also provided with multiple payment options, including the PRESTO e-tickets mobile app and contactless credit/debit cards.

3 Oakville Transit Funding Structure and Sources

The amount of transit service provided to residents (hours of service per capita) is directly determined by the size of the agency's operating budget (fuel, parts, operating

1 Free fares for Children (12 and under) were introduced in 2021

2 Free fares for Youth (13 to 19) were introduced on May 01, 2023.

3 Free fares for Seniors (65+) were introduced on May 01, 2023.

and maintenance labour, etc.), cost per operating hour, and population. Over time the cost and amount of service provided is impacted by inflation and population growth.

In Ontario, transit agency operating budgets are currently funded through a combination of passenger revenues, miscellaneous sources (such as charters, advertising, fines, etc.), municipal contributions, provincial contributions, federal contributions, and debt servicing contributions. In 2023, Oakville Transit's operating budget received funding from various sources, including passenger revenue (21%), miscellaneous revenue (3%), municipal contributions (71%), and provincial contributions (5%).

3.1 Cross Boundary Fare and PRESTO Program Review

Oakville has cross-recognition of transfers with neighbouring municipalities, as well as routes connecting with GO stations.

Oakville has contractual obligations through the Metrolinx 905 PRESTO agreement until November 2027. The contract binds the City to use only PRESTO as a fare payment system, achieve an 80% adoption rate, and maintain a minimum average fare.

The PRESTO Operating Agreement contains a Vision Statement which provides an understanding of the relationship between Metrolinx and the municipal transit agencies in that they will collaborate to identify ways to integrate fares, routes, customer experience, transportation modes, and long-term planning to create a truly seamless travel experience.

It is the stated intent of Metrolinx that, through its PRESTO business, it will provide a provincial electronic fare collection system, providing fare collection, settlement, information management and scheme management services. And each Transit Agency agrees that the PRESTO Service will be the exclusive interoperable electronic fare payment system used by the agency.

The PRESTO Service is planned to include a variety of Fare Media. The PRESTO Card is a contactless smartcard with stored value capabilities for a dollar amount, number of rides or period pass.

The Operating Agreement for PRESTO outlines the details and responsibilities of Metrolinx and the Transit Agencies. An overview is provided below.

The Initial Term of the agreement will continue until November 27, 2027 and may be renewed for one subsequent five year Renewal Term.

Each Transit Agency agrees to purchase, and Metrolinx agrees to perform and provide the Core Services, 905 Common Core Services, Optional Services and Project Work, in accordance with the Agreement. In essence, the Transit Agencies pay the capital and operating costs of the PRESTO system and Metrolinx facilitates the services.

The Agreement includes a number of conditions:

- By a defined Adoption Date 80% of a Transit Agency’s revenue trips must be processed through the PRESTO system.
- Transit Agencies must submit monthly revenue ridership data to Metrolinx.

- PRESTO Cards are purchased from Metrolinx for $3.00 and are currently sold to customers for $4.00.
- A Minimum Payment Protection clause states that if the Average Fare of a Transit Agency decreases by more than 10% from the preceding year, and the Transit Agency has decreased one or more fare products and/or fare rules specified in the Services Portfolio the Transit Agency must pay Metrolinx a True-Up Amount.
- The Agreement includes definitions of Critical Service Levels, Key Performance Measures, branding guidelines, communications protocols, and arbitration guidelines.

The Metrolinx compensation for the Core Services and 905 Common Core Services are 9% of a Transit Agency's Gross Receipts. Gross Receipts are defined as the aggregate dollar value of a Transit Agencies PRESTO fare product transactions.

Core Services includes all hardware, software and services forming part of the Metrolinx centralized provincial electronic fare payment system provided to the Transit Agencies.

The 905 Common Group means the Corporation of the City of Brampton, the Corporation of the City of Burlington, The Regional Municipality of Durham, the City of Hamilton, the Corporation of the City of Mississauga, the Corporation of the Town of Oakville, and The Regional Municipality of York.

Each Transit Agency within the 905 Common Group agrees that it shall be responsible for all capital costs associated with the purchase of PRESTO Devices, and that the Common Core Services Fee is payable in respect of only the operating costs associated with the performance of the 905 Common Core Services.

A Transit Agency is required to pay 100% of the cost of Optional Services requested from Metrolinx.

The provision of an integrated electronic fare system within the GTHA is a valuable undertaking. Firstly, electronic fare collection is a basic requirement for efficient transit operations, and the convenience of electronic fare collection and regional fare integration is of significant benefit to transit customers. However, the cost and complexity of the PRESTO system is significant.

4 Industry Best Practice Scan

4.1 Free Transit:

Free transit involves removing transit fares, with funding provided entirely by a public sector entity. This could mean eliminating fares across the entire transit system or partially removing them. Partial free transit may be applied to specific geographic areas or timeframes, and/or for certain concession groups.

4.1.1 SALT LAKE CITY, UT

Salt Lake City's "Fare Free February" initiative in 2022 offered a month of free transit to celebrate the 20th anniversary of the 2002 Olympic Games. The initiative resulted in significant ridership increases across weekdays (16.2%), Saturdays (58.1%), and

Sundays (32.5%). Feedback from riders was overwhelmingly positive, with a notable portion being first-time users (21.8%). This initiative highlights the potential of short-term fare-free promotions to attract new riders and garner public support for transit initiatives.

4.1.2 BOSTON, MA

In March 2022, Boston launched a pilot program eliminating fares on three popular bus routes in neighbourhoods home to many immigrants, low-income individuals, and Black residents. This initiative aimed to address climate change and racial justice goals. Initial results showed a significant increase in ridership (22%) and improved bus efficiency, emphasizing the potential of targeted fare-free programs to enhance accessibility and promote equity in transit systems.

4.1.3 ALBUQUERQUE, NM

Albuquerque's year-long pilot of fare-free transit in 2022, influenced by a 2017 survey highlighting the demographics of transit ridership, has shown promising results. The survey revealed that 84% of riders reported an annual household income of under $35,000, and 67% of transit riders were visible minorities. As of February 2022, transit ridership has increased substantially compared to the previous year. This initiative underscores the importance of understanding the local context and demographic needs when implementing fare-free transit programs, highlighting the potential to increase ridership and improve accessibility for underserved communities.

4.1.4 TALLINN, ESTONIA

A decade ago, in 2013, Tallinn embarked on a groundbreaking initiative by inviting its 426,000 residents to utilize buses, trains, and trams without any fare requirements. However, the case study of Tallinn, Estonia, provides a sobering reflection for cities considering fare-free transit initiatives. Despite the removal of fare barriers, transit's share of local commutes has experienced a steady decline over the past decade, particularly among low-income residents. This decline has coincided with a notable surge in car ownership and usage, posing challenges to the intended goals of emissions reduction and equity promotion. Tallinn's experience underscores the complexity of transit behaviour and the limitations of simply eliminating fares without complementary policies to address car dependency and enhance transit service quality. It emphasizes the necessity of reallocating resources towards improving service quality and speed as a more effective strategy for attracting riders and reducing reliance on automobiles[4].

4.1.5 Fare-Free Transit Program Considerations

A review of over 20 free-fare programs, as summarized in the Traveler Response to Transportation System Changes Handbook, Third Edition: Chapter 12, Transit Pricing and Fares, indicates that these initiatives often result in significant increases in ridership, surpassing the predictions made by conventional fare elasticity models such as the Simpson & Curtin rule (Hodge, Orrell, and Strauss, 1994). While the evidence supporting

[4] https://www.fastcompany.com/90968891/estonias-capital-made-mass-transit-free-a-decade-ago-car-traffic-went-up

these increases is primarily anecdotal, it suggests that CBD (Central Business District) free-fare programs tend to attract more ridership than expected based on average bus fare elasticity values. However, it's important to note that the effectiveness of fare-free programs may vary depending on factors such as city size and demographics. Overall, while some programs show promising results, others fall within normal ranges of ridership response to fare adjustments or alterations.

As the best practices suggest, the fare-free transit strategy offers advantages such as universal access regardless of income. However, it poses significant challenges, including a loss of operating revenue, hindering the transit agency's ability to maintain service levels and scale operations. Uncertainty surrounding demand and the potential for increased disorder incidents are also notable risks.

4.2 Promotional Fares

Promotional fares are special discounts or offers designed for specific time periods or locations, aimed at increasing awareness or generating temporary injection of fare revenue. These initiatives can be one-time occurrences or recurring programs.

4.2.1 Topeka Metropolitan Transit Authority

In May 1988, the Topeka Metropolitan Transit Authority provided a promotional month of free bus service in Topeka, Kansas. Ridership surged, with an 83 percent increase on weekdays, 153 percent on Saturdays, and 156 percent on the downtown circulator route (Topeka Metropolitan Transit Authority, 1988). These findings strongly suggest that a significant portion of the ridership increase was during off-peak hours and for non-work purposes.

4.2.2 METROLINX

Metrolinx launched weekend passes — $10 for a day, or $15 for the whole weekend — for unlimited travel across southern Ontario in 2021. The promotion was specifically designed to encourage leisure travel, and it came just as Ontario began lifting pandemic restrictions that had limited most transit usage to essential travel only. Data on the weekend pass usage is not available.

4.2.3 WHISTLER, B.C.

In June 2022, Whistler city council approved a staff recommendation for a Return to Transit Loyalty Program composed of a limited period of free transit, followed by time-limited discounts on transit passes. Monthly passes were discounted at 30% off, half-year passes discounted at 40% off, and yearly passes at 50% off, thereby encouraging riders to buy longer passes. These promotional fares were largely in response to a prolonged labour disruption that suspended transit service in the city. The staff report noted that the municipality’s net savings during the job action should be able to cover the cost of the promotional program, with a longer free transit period possible if there is additional funding from other sources.

4.2.4 CALGARY, AB

In 2022, Calgary launched discounted monthly passes for August and September. The promotion offered a 50% discount for adult monthly passes and a 30% discount for youth passes. As part of the announcement, the City of Calgary highlighted a wide variety of activities and events throughout the city that were accessible by transit.

4.2.5 Promotional Fares Program Considerations

A promotional fare strategy offers advantages such as its ability to be time-limited and targeted to re-attract riders, as well as its ease of communication, akin to common promotional pricing methods in other sectors. However, it comes with the potential disadvantage of lost revenue from existing customers during the promotional fare period, and risks such as the creation of expectations for future promotional fare programs and short-term surges in passenger demand leading to crowding and service issues for regular users. Implementation considerations include clearly defining target market segments, providing internal orientation on the promotional fare product, and ensuring comprehensive information dissemination at points of sale for customers.

4.3 Concession Programs

Concession programs are specialized discounts or benefits tailored for specific demographics within a population. Transit agencies commonly implement concession programs, often providing reduced fares for seniors, students, children, and/or low-income individuals. However, there are also various other options available within concession programs to cater to specific groups' needs and circumstances.

4.3.1 Calgary, Alberta

Calgary Transit offers a range of concession fares, encompassing discounts for youth aged 6 to 17, a low-income monthly pass, and a senior yearly pass. In 2012, adults paying full fares comprised 59% of ridership and contributed 79% of revenue, while youth constituted 19% of ridership and 13% of revenue; the remaining groups accounted for 22% of ridership and 8% of revenue. As of 2022, Calgary Transit's concession programs maintain the same structure, albeit with increased prices. Noteworthy is Calgary's utilization of a sliding scale to determine the fare for low-income individuals, with the Low-Income Monthly Pass offered at varied price points based on the purchaser's income. A similar program is offered in Edmonton. Both Calgary and Edmonton receive Province of Alberta funding for their low-income transit pass programs.

4.3.2 Hamilton, Ontario

In Hamilton, Ontario, the Hamilton Street Railway (HSR) has concession agreements with local post-secondary institutions to furnish transit passes for students. For example, as of 2022, each McMaster University student pays approximately $230 per year for a mandatory transit pass, substantially discounted from the regular price of $110 per month or $1,320 per year. In this arrangement, some students may not utilize transit, effectively subsidizing those who do. Reduced fares are facilitated by the HSR's receipt

of guaranteed revenue from full-time students, with students voting every three years on whether to renew the agreement.

4.3.3 Concession Program Considerations

Concession programs play an important role in transit fare strategies, offering targeted discounts to specific groups such as youth, students, seniors, and low-income individuals. While advantageous for providing affordable access to transit services, concession programs can result in reduced fare revenue, necessitating increased subsidy from municipal taxes or external funding sources. Furthermore, the implementation of concession programs may prompt requests for similar fare discounts from other rider groups. Effective implementation requires careful consideration of revenue projections, marketing efforts to raise awareness, adjustments to administrative processes, and ongoing evaluation to gauge program effectiveness. Overall, concession programs represent a balancing act between enhancing accessibility and managing financial sustainability within transit agencies.

4.4 Examination of Fare and Service Elasticities

Service elasticities provide valuable insights into how transit ridership responds to various factors such as fare, convenience, frequency, speed, and comfort. Technically, elasticity values are both imprecise and uncertain. However, the elasticity values developed for multiple North American studies provide reasonable guidance in understanding the effects of price and service changes on transit ridership demand.

Elasticity is defined as the percentage change in consumption caused by a 1% change in price or service, all else held constant. A high elasticity value means that a relatively small change causes a large change in consumption. A low elasticity value indicates that a change has less effect on consumption. The degree of responsiveness refers to the absolute value, regardless of whether it is positive or negative.

- Unit Elasticity- Absolute value of 1.0: This means demand is perfectly responsive to changes in price or service and changes cause proportional changes in consumption.
- Inelastic- Absolute value less than 1.0 (Highly unresponsive): This means that price or service changes cause less than proportional changes in consumption.
- Elastic- Absolute value greater than 1.0 (Highly responsive): This indicates that price or service changes cause more than proportional changes in consumption.

Numerous studies have examined transit price and service elasticities, including Alam, Nixon, and Zhang (2015), Dunkerley, et al. (2018); Pham and Linsalata (1991); Oum, Waters, and Yong (1992); Goodwin (1992); Luk and Hepburn (1993); Pratt (1999); Dargay and Hanly (1999), TRACE (1999), Booz Allen Hamilton (2003), TRL (2004) and Watkins, et al. (2021), and APTA (2008). Todd Litman's paper "Transit Price Elasticities and Cross-Elasticities" (2023) provides a summary of much of the research on transit elasticities.

A summary of APTA and international values are noted below:

- The Simpson-Curtin rule, which implies that a 3% increase in fare reduces ridership by 1%. This is outdated and not suggested for current planning and modelling.
- The American Public Transportation Association (APTA) values. Studies are based on different transit and economic levels. Data was collected from 52 agencies across North America.
- International transportation elasticity values from multiple studies.

Table 1 summarizes bus fare elasticity values published by the American Public Transportation Association and widely used for transit planning and modelling in North America. This is based on a study of the short-run (less than two years) effects of fare changes in 52 U.S. transit systems during the late 1980s.

Table 1: Fare Elasticity Based on Size of Urban Area and Time of Day

	Large Cities (More than One Million Population)	Smaller Cities (Less than One Million Population)
Average for All Hours	-0.36	-0.43
Peak Hour	-0.18	-0.27
Off-Peak	-0.39	-0.46
Off-peak Average	-0.42	
Peak Hour Average	-0.23	

In most communities (particularly outside of large cities) most people don't rely on public transit. Instead, they have the choice to drive. To encourage transit use, strategies like lowering fares, offering discounted passes, and making driving costlier with tolls or parking fees are crucial. However, it's essential to recognize that while these measures can boost transit ridership, their impact on reducing car usage isn't always straightforward. On average, about a quarter to half of the increase in transit ridership can be attributed to reduced automobile travel, although this proportion varies significantly based on the specific circumstances of each community (Litman, 2023).

Table 2 provides a summary of recommended generic values derived from extensive research in this field. It's important to note that actual elasticities may vary depending on specific circumstances.

Table 2: Recommended Transit Elasticity Values Market Segment

		Short Term	Long Term
Transit ridership WRT[5] transit fares	Overall	–0.2 to –0.5	–0.6 to –0.9

[5] ("WRT" = With Respect To).

		Short Term	Long Term
Transit ridership WRT transit fares	Peak	–0.15 to –0.3	–0.4 to –0.6
Transit ridership WRT transit fares	Off-peak	–0.3 to –0.6	–0.8 to –1.0
Transit ridership WRT transit fares	Suburban Commuters	–0.3 to –0.6	–0.8 to –1.0
Transit ridership WRT transit service	Overall	0.50 to 0.7	0.7 to 1.1
Transit ridership WRT auto operating costs	Overall	0.05 to 0.15	0.2 to 0.4
Automobile travel WRT transit costs	Overall	0.03 to 0.1	0.15 to 0.3

Source: (Litman, 2023)

The general demand elasticity estimate for the GTHA region is -0.45 (suggesting that a 10% fare increase results in a 4.5% decrease in ridership), for calculating ridership changes based on fare changes (AECOM, 2013). In economic terms, as all known observed values of fare elasticities fall in the range between 0 to -1.0, rider response to fare changes is generally inelastic. This means that fare increases have only a small and always less than proportionate impact on ridership (Transportation Research Board, 2004).

The research underscores a significant conclusion: transit elasticity values aren't universally applicable. Several factors influence sensitivities, such as user demographics, trip characteristics, service quality, geographical context, time frame, and pricing. While demand elasticity factors aren't precise predictors, they offer valuable insights into the general direction and extent of change.

4.5 Considerations in the Fare Elasticity and Policy

Based on the review of best practices and case studies of relevant fare policies, a summary of key findings is as follows:

- Transit should be priced appropriately at the “value of the service”, relative to the cost of competitive and alternative transportation options.
- Based on empirical studies of fare increase and service expansion elasticities, transit customers value the provision and quality of service higher than the cost of service (deep discounts should not be provided at the expense of reduced service).
- Fare discounts should consider reflecting the transaction costs associated with various fare payment media to provide benefits to the transit agency. Cash transactions impose the greatest cost, and tickets/tokens require material, sales, and

distribution costs. Smartcards, often topped up online through credit cards, could be encouraged for fewer transactions and with higher upload values per transaction. In addition, smartcard technology allows fares to be rounded to a smaller denominator (i.e. $0.05 rather than $0.25)

- Social issues regarding discounts for child, student, and seniors pricing are a concern across many transit agencies. Although fare discounts should be equitable, they should not erode fare revenues and the ability to provide service.
- Fare increases should be equitable in terms of horizontal equity, such that those who pay also benefit from the additional services. However, increases are generally inequitable across income groups as lower income groups bear a greater burden of the fare increases.
- Fare subsidy programs should focus on user-side subsidies to target individuals, rather than system-wide supply-side subsidies. For example, pass programs for low-income individuals should be considered, rather than deep discounts for all seniors.
- Although discounts for prepayment of multi-ride tickets provide up-front revenue, the discount should be minimized as they also provide customers the benefit of convenience.
- Fare categories in the GTHA are commonly differentiated based on rider characteristics but can also be differentiated based on trip characteristics, including trip distance, trip duration, quality of service, time period, etc.
- The Province of Ontario and Metrolinx are pursuing a Fare and Service Integration strategy aimed at enhancing connectivity, affordability, and convenience for transit travel within the Region.

4.6 Fare Revenue Streams and Strategies

Traditionally, Canadian transit systems have relied on revenue sources beyond passenger fares, such as charter services, advertising, and concession rentals. However, according to CUTA research published in 2015, there are over twenty-four innovative ideas currently employed worldwide. Below are six major categories along with examples of non-passenger funding mechanisms. Sources marked with an asterisk (*) are applicable for generating operating revenue.

Note: It is important to note that many of these initiatives are not within the direct ability of local transit agencies to Implement and would require senior government support.

4.6.1 Vehicle Use-Based Charges

User Based Charges are levied on those who use the services and resources.

- Carbon Tax – Tax levied on carbon dioxide emissions from fuel usage for transportation and other purposes
- Car Rental Levy* – Fee charged daily for vehicle rentals
- Cordon Charge – Toll on drivers entering or exiting a zone or crossing a cordon during a specific time of the day

- High Occupancy Toll* – Toll for the use of a designated highway lane used jointly with high occupancy vehicles
- Highway Toll – Toll for the use of a particular road infrastructure such as a bridge crossing or tunnel
- Vehicle Kilometer Travelled Fee* – Charge to drivers for every kilometre travelled within a designated area or in all areas

4.6.2 Vehicle Ownership Charges

- Vehicle Ownership Charges are levied on owners of motor vehicles.
- Auto Insurance Tax* – Fee paid by vehicle owners through auto insurance payments.
- New Vehicle Sales Tax* – Fee paid by vehicle owners at the time of first registration of such vehicle.
- Vehicle Registration Fee* – Fee paid by vehicle owners upon registering a new vehicle and renewing that registration annually.

4.6.3 Land-Based Charges

Land Based Charges are levied on properties irrespective of their proximity to transit facilities.

- Land Transfer Tax – Tax on homebuyers for the purchases of property within a designated area.
- Parking Sales Levy* – Tax levied on paid parking transactions in addition to sales tax.
- Parking Sites Levy – Daily charge to owners of all non-residential, off-street parking spaces within a designed area.

4.6.4 Non-User-Based Charges

Non-User Based Charges are levied on households and individuals in the region:

- Employer Payroll Tax* – Tax withheld by employers and remitted to the government
- Utility Levy* – Monthly fee collected from all utility accounts within the region

4.6.5 Land Value Capture

- Land Value Taxation – Tax on the land value to more generally capture the values created by the provision of public goods and services
- Negotiated Exaction – In-kind contributions for local public goods and services in return of development approval
- Special Assessment District – Self-imposed property tax within a defined district that benefits from public transit improvements
- Station Air Rights – Sale or lease of the rights to develop above or below transit facilities

- Tax Increment Financing – Leverage future tax revenue increases to finance current infrastructure projects within an area
- Transportation Utility Fee***** – Fee that treats transportation improvements as utilities and is applied to all properties within a district

4.6.6 Other Charges

- Crowdfunding – Fund raised through the collection of small contributions from the general public
- Hotel and Accommodation Levy* – Hotel tax charged along with accommodation fees
- Monetization of City Assets – Selling of City-owned assets that are not considered as core to the City's operations and responsibilities
- Driver's License Tax* – Tax levied on drivers upon issuance or renewal of their driver's license

5 Fare and Revenue Strategies for Oakville Transit

Based on industry best practices and the current status of the fare and revenue strategy for Oakville Transit, three potential revenue and fare scenarios may be considered.

These scenarios should be considered in addition to ensuring that Oakville Transit is receiving the maximum available miscellaneous revenues from the current charter, advertising, and potential sponsorship initiatives.

5.1 Scenario 1: Status Quo

Currently, Oakville Transit relies on fare revenue from adult passengers, while seniors, youth and children travel for free. Oakville Transit also generates 3% of total revenues from charters, advertising, and fines.

Before the COVID-19 pandemic, Canadian transit agencies covered a more significant portion of their operating costs with passenger fare revenue. Post-pandemic, these numbers have declined significantly, with Oakville Transit experiencing a decrease in its revenue-to-cost ratio from 31% to 24% between 2016 and 2023—a 22.1% decline in the proportion of expenses covered by revenue. This decrease is attributed to structural changes in funding, including declines in passenger revenue due to COVID-19 and free fare initiatives.

Moreover, Oakville Transit faces additional challenges in maintaining its service levels due to inflation, population growth, and inconsistent operating contributions from the province. There has been a $2 million (56%) decrease in Provincial Operating Contribution from 2022 to 2023, further exacerbating the financial strain on municipal finances.

The status quo of relying on Adult fares as the major revenue source is not sustainable. To address this challenge Oakville Transit needs to move towards a multifaceted strategy of optimizing existing revenue streams while exploring new sources of non-passenger revenue. By enhancing its revenue generation efforts, Oakville Transit may improve its revenue-to-cost ratio and ensure long-term financial sustainability, thereby effectively meeting the community's transit needs.

5.2 Scenario 2: Free Transit for All

The potential implementation of fare-free transit systems hinges on understanding transit ridership's complex dynamics and how it responds to various factors such as fare, convenience, frequency, and service quality. Historically, fare elasticity studies have shown that reducing transit fares can lead to increased ridership, particularly during off-peak and leisure travel times. However, the effectiveness of fare reductions varies depending on factors such as user demographics, trip characteristics, and service quality. While fare reductions may stimulate short-term ridership increases, long-term sustainability and effectiveness require a comprehensive approach that balances fare policies with investments in service quality improvements.

In the case of Oakville Transit, in the public consultation and surveys conducted, there was notably no significant feedback indicating that fare served as a barrier to transit usage. Participants did not express fare concerns as a primary reason for not utilizing transit services. This absence of commentary suggests that while fare affordability may not be a prominent issue for the community, other factors such as service frequency, reliability, and coverage might play more significant roles in influencing transit ridership decisions.

One of the primary challenges of implementing fare-free transit for all in the Town of Oakville is securing sustainable funding sources to cover the costs of operating transit services. This includes not only maintaining current service levels and scaling operations but also meeting the community's demand for higher service quality, especially in the face of population growth, all without fare revenue. The loss of operating revenue could significantly impact Oakville Transit's ability to maintain services and expand operations, potentially resulting in service cuts or disruptions.

5.3 Scenario 3: Loyalty or Incentive Opportunities for Oakville

Despite Oakville's affluent status, it faces significant income disparity, boasting the widest gap between the very rich and the very poor in the Halton Region. In response, Halton Region implemented the Subsidized Passes for Low Income Transit (SPLIT) pass system, in partnership with the local municipal transit systems, offering eligible low-income residents a 50% subsidy for their local transit expenses. However, Oakville Transit currently does not cover the remaining fare for SPLIT pass users. This implies that individuals categorized as low-income adults are obliged to cover 50% of the fare, whereas individuals in the youth or senior categories with higher income thresholds benefit from free transit services in Oakville. The usage data for SPLIT passes and tickets in 2023 reveals relatively low monthly uptake, possibly due to the remaining 50% of the fare not being covered or insufficient marketing efforts to promote the program to

low-income individuals. In alignment with the Town's Equity and Accessibility policy, it is recommended to explore the implementation of a free transit policy, covering the remaining 50% of SPLIT fares for eligible low-income individuals. Such an initiative has the potential to stimulate ridership growth and ensure equitable access to transit services for all community members, regardless of financial constraints.

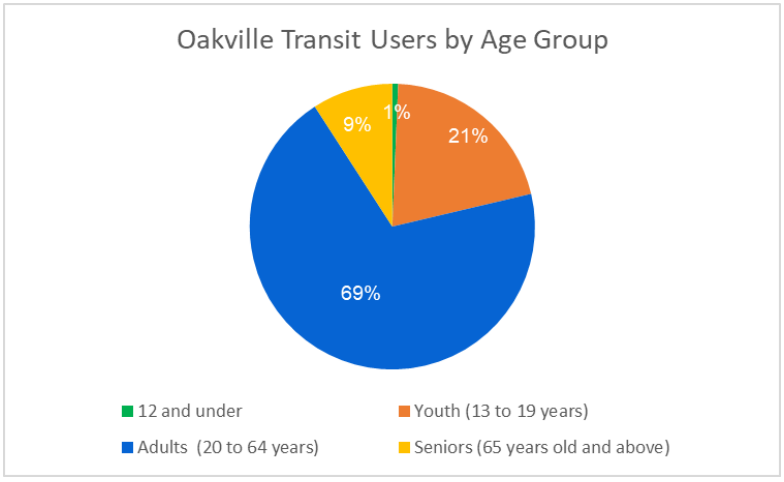
The current free fare program for Child, Youth and Senior is a post-COVID strategy to provide a community benefit and increase ridership during a time when the community was under significant stress.

In addition to subsidizing transit fares for low-income individuals through the SPLIT program, Oakville Transit should reevaluate the provision of free transit for Youth and Seniors to ensure that investments in transit deliver maximum community benefit.

As shown in **30%** of Oakville Transit users consist of seniors and youth, making it imperative to review the financial implications of offering free transit to these demographics. Based on available data most seniors and youth do not require a fare subsidy. This is consistent with a focus on user-side subsidies to target low-income individuals rather than system-wide supply-side subsidies. Although offering free transit regardless of income has been a strategy to increase ridership, especially in the context of Oakville's recovery from COVID-19, it may not align with generating sufficient revenue to maximize transit service to the community.

Figure 1, 30% of Oakville Transit users consist of seniors and youth, making it imperative to review the financial implications of offering free transit to these demographics. Based on available data most seniors and youth do not require a fare subsidy. This is consistent with a focus on user-side subsidies to target low-income individuals rather than system-wide supply-side subsidies. Although offering free transit regardless of income has been a strategy to increase ridership, especially in the context of Oakville's recovery from COVID-19, it may not align with generating sufficient revenue to maximize transit service to the community.

Figure 1: Oakville Transit Users by Age Group



Source 1: the Transportation Tomorrow Surveys (TTS) 2016

Another strategy for Oakville Transit could be a Monthly Fare Cap program. This initiative would involve programming PRESTO to cap monthly fares at 40 times the regular fare,

totaling $132 per month, which is $6.00 less than the current Monthly Pass. Once an individual reaches 40 trips in a month, any additional rides would be free. Fare capping is effective in removing the high up-front cost of monthly transit passes.

Notwithstanding the free fare program for Youth 19 and under, Oakville Transit should continue to explore future opportunities to implement a U-Pass program for post-secondary students at Sheridan College, as well as considering similar transit pass programs for employees through discounted monthly pass programs with major employers within the Town of Oakville. These initiatives have proven to be effective in increasing ridership in other jurisdictions.

5.4 Other Revenue Related Recommendations

- Review fare revenue annually and adjust fares accordingly. An annual assessment should consider ridership impact, revenue from different fare categories, and comparisons with peer transit fares to inform fare policy changes.
- Given that Oakville Transit currently reviews fares annually, ensuring adjustments to address inflation gradually and avoid sudden increases is recommended. A large, disproportionate increase can negatively impact the image of Oakville Transit and its ridership.

5.5 Non-Revenue Strategies for Oakville Transit

In addition to fare programs, Oakville Transit should explore non-revenue strategies to enhance its financial sustainability and support the expansion of transit services. These strategies focus on leveraging alternative sources of funding to supplement traditional fare revenue and government subsidies. The traditional initiatives of advertising on transit vehicles and property, vehicle charters, fines, and sponsorships of transit property or events should continue to be developed.

The following initiatives are more challenging and would require the Town of Oakville's leadership to implement. Despite these challenges, they have the potential to significantly increase Town and Transit revenues. By implementing the following approaches, the Town of Oakville and Oakville Transit can diversify their revenue streams and ensure long-term viability while meeting the evolving needs of the community:

- Explore opportunities to increase digital shelter advertising beyond the current six advertising panels being developed with a current supplier. Additional capital investment would be required; however, the program has potential to generate more revenue that static advertising displays.
- Explore opportunities for on bus digital advertising (either geo fenced or general) by using the new digital information screens being installed in the new Electric Bus fleet.
- Explore opportunities for space rental income by adding retail outlets (i.e. coffee kiosk) to terminal locations.
- Explore opportunities for sponsorship of special event service. For example, sponsorship of the shuttle bus service on Canada Day.

- Explore monetization of electrifying the transit service by the sale of Clean Fuel Regulation Credits as a result of using electricity and decreasing diesel fuel emissions.

6 Conclusion

In conclusion, the analysis of revenue and fare strategies for Oakville Transit presents an understanding of the challenges and opportunities facing Oakville Transit. Through the exploration of potential scenarios, including maintaining the status quo, implementing free transit for all, and introducing loyalty or incentive opportunities, it becomes evident that Oakville Transit must adapt to changing circumstances to ensure its long-term revenue sustainability and meet the evolving needs of the community.

Although each scenario brings its own set of advantages and obstacles, adopting a gradual approach to reevaluating the current fare system and enhancing investments in increasing service and ridership, alongside identifying sustainable revenue sources, appears to offer the most promising way forward. This strategy entails optimizing current revenue channels, investigating novel non-passenger revenue streams, and carefully reviewing and adjusting fare policies to ensure a balance between increasing service, bolstering ridership and maintaining financial stability.

Appendix G – Travel Training White Paper

Oakville Transit Five-Year Business Plan

White Paper: Travel Training Program

Oakville Transit

July 23, 2024

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1 Overview

People who have never used public transportation often have real concerns and fears about public transit. A transit travel training program that teaches residents how to use public transportation and become confident users will encourage the use of public transit.

Oakville Transit has conducted multiple transit travel training sessions with community groups, seniors, and youths; however, it does not have a formally structured travel training program or the required dedicated staff to consistently deliver a program.

This memo outlines the framework for developing an effective Transit Travel Training Program (TTTP), with a primary focus on encouraging diverse demographic groups, particularly students, to actively embrace and utilize Oakville Transit services for their transportation needs.

2 Background and Review of Demographic Trends in Oakville

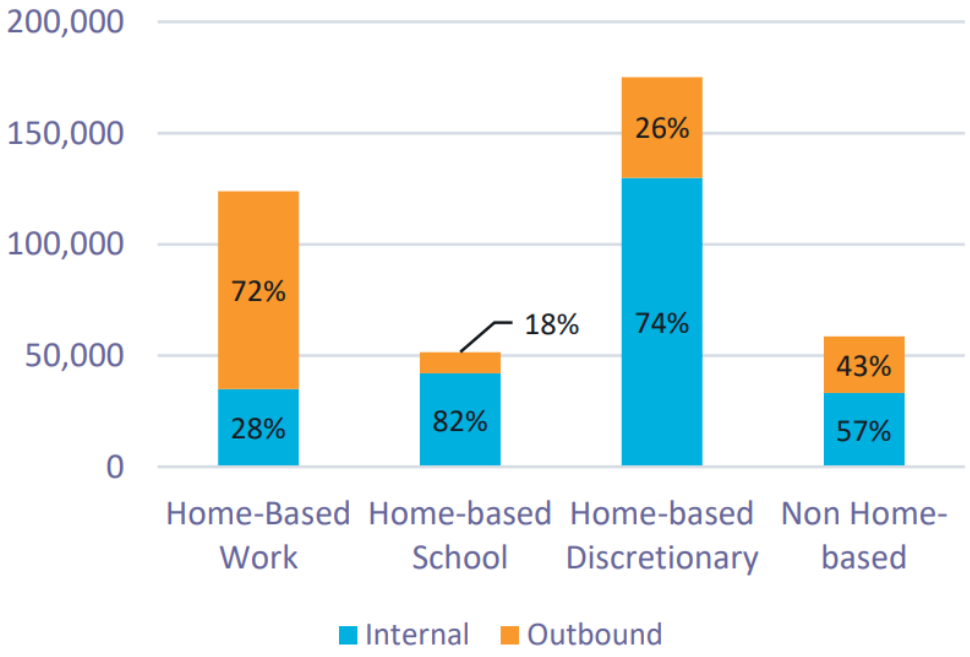
Understanding Oakville's demographic landscape is fundamental for crafting a travel training program tailored to the community's unique needs. According to Census 2021, Oakville's population stood at 213,759 with an employment of 91,500. The demographic characteristics of Oakville shed light on its transportation demands:

- Population Breakdown: Oakville's population encompasses various age groups and socio-economic segments. Notably, it comprises approximately 18% individuals aged 0 to 14 years, 66% adults aged 15 to 64 years, and 15% seniors aged 65 years and above.
- Trip Generation: Each day, Oakville residents generate over 400,000 trips within and external to Oakville, with an additional 170,000 trips made to Oakville from other parts of the Greater Toronto and Hamilton Area (GTHA).
- Types of Trips in Oakville: As shown in **Figure 1**, Trips originating in Oakville can be categorized into several distinct types based on their purpose and destination:
    - Home-Based Work (HBW): These trips involve travel between a person's residence and their place of work, and vice versa. Home-Based Work trips constitute 30% of all trips generated by Oakville. Interestingly, the majority (72%) of these trips are outbound to other

parts of the region, suggesting that only 28% of Oakville residents work within the town.

- Home-based School (HBS): Trips categorized under HBS include travel between a person's residence and their place of education, such as schools or educational institutions. The vast majority (82%) of Home-Based School trips generated by Oakville are internal to the town. However, approximately 18% of Home-Based School trips are external to Oakville.
- Home-based Discretionary (HBD): HBD trips encompass travel between a person's residence and other locations for non-essential purposes, such as shopping, recreation, medical or social activities. These trips make up 38% of all trips to/from Oakville, representing the largest share of all trips. The majority (74%) of HBD trips generated by Oakville remain internal to the town, indicating that residents frequently engage in local shopping, leisure, entertainment, and personal appointment activities.
- Non-Home-based (NHB): This category comprises trips that do not involve a person's residence as either the origin or destination. NHB trips may include travel for work-related purposes, medical appointments, or other activities that do not start or end at home. Non-Home-Based Trips generated by Oakville are roughly split – 57% stay internal to the town, while 43% leave the town.

Figure 1: Trip Purpose by Destination Type | All-Day



Source 1: Oakville Urban Mobility & Transportation Strategy, 2021

- Mode of Travel: Auto-based modes dominate Oakville's travel landscape, with 74% of daily trips made by individuals driving cars. Transit usage is relatively lower, comprising a smaller proportion of trips, particularly for Home-Based Work and Home-Based Discretionary purposes.
- Transit Utilization: In 2023, Oakville recorded 2,832,847 trips on the conventional transit system and 78,646 trips on the specialized system. These statistics underscore the potential opportunity for transitioning specialized transit users to conventional modes through targeted travel training programs, for those residents who are able. It's important to note that not all specialized transit customers may transition to conventional transit.
- Seniors: Oakville's senior population, comprising 15% of the total population, represents a significant demographic segment with unique transportation needs. Travel training programs should focus on providing seniors with personalized guidance and resources to navigate public transit systems effectively, promoting independence and mobility.
- Low-Income Residents: Approximately 8% of Oakville's population falls under the low-income category, highlighting the importance of ensuring equitable access to transportation services. Travel training initiatives

should address the specific challenges faced by low-income residents, such as affordability concerns and limited access to private vehicles.

- Visible Minorities: Given that over 42.5% of Oakville's population is identified as visible minorities, along with 41.2% of immigrants according to the 2021 Census, cultural sensitivity and inclusivity are crucial considerations in the design of travel training programs.

This comprehensive review of Oakville's demographic trends underscores the importance of tailoring transit training initiatives to address the diverse needs and preferences of its residents, particularly seniors, students, low-income individuals, and visible minorities. By identifying key trip types, destinations, and demographic segments, the travel training program can be strategically developed to enhance transit accessibility and utilization across the community.

2.1 Challenges Impeding Transit Utilization in Oakville

- **Awareness and Perception:** Many Oakville residents may not fully appreciate the value of public transit due to a lack of awareness about its benefits. There is a need to educate the community about the advantages of using transit, such as cost savings, environmental benefits, reduced traffic congestion, and increased mobility options.
- **Dependency on Cars:** A significant barrier is the prevalent dependency on cars among residents. Some may be accustomed to the convenience and comfort of private vehicles, while others may not realize that transit options are available or viable alternatives for their transportation needs.
- **Lack of Familiarity:** Many residents may lack confidence in using public transit due to a lack of familiarity with the system. They may be unfamiliar with route maps, schedules, fare structures, and transfer procedures, as well as essential elements such as knowing their current location, identifying bus stops, determining the direction of travel, transfer location, and understanding safety protocols. Providing clear and accessible information about transit routes, schedules, and payment methods, along with comprehensive training on basic transit elements such as boarding procedures, interacting with bus drivers, and signaling to get off, can help alleviate this barrier.
- **Persons with Disabilities:** Individuals with physical or mental disabilities may face additional challenges in using Oakville Transit effectively.

3 Best Practices in Transit Training Programs

In this section, insights from transit training programs in other transit agencies within Canada and US are explored to inform Oakville's travel training program development.

3.1 Calgary Transit

Calgary Transit offers two programs to help seniors, people with disabilities, and youth with transportation disabilities use public transit safely and independently:

Individual Travel Training:

These sessions typically span three to five short one-on-one meetings. The program aims to provide personalized instruction tailored to the specific needs and abilities of each participant. Trained instructors guide participants through essential transit skills such as trip planning, route navigation, fare payment, boarding, and alighting safely. The overarching goal is to empower participants to feel confident utilizing Calgary's public transit system while building crucial wayfinding skills.

"Get On Board" Summer Camp:

The "Get On Board" Summer Camp is a unique three-day program offered by Calgary Transit, specifically designed for youth aged 12-19 with transportation disabilities. Each day of the camp spans three hours, totaling nine hours of engaging activities spread over the duration of the program. The camp curriculum includes a variety of interactive sessions aimed at empowering participants to use Calgary's public transit system independently. Highlights of the camp include safety tips from a Calgary Transit Peace Officer, a tour of the Oliver Bowen Maintenance Facility to provide insights into transit operations, trip planning instruction, and a presentation from Calgary Transit Customer Service to address inquiries and provide additional information. Through hands-on experiences and knowledge-sharing, the camp fosters independence, confidence, and essential transit skills among participants.

3.2 Kingston Transit

Kingston Transit in association with the Seniors Association provide Transit Travel Training sessions to seniors. Following successful completion of the program individuals receive a free 24-ride Kingston Transit Pass.

Kingston also has the Kingston Model for Youth Transit Programing which focuses on giving students the skills and confidence to use transit. Each

September a bus visits each high school and Grade 9 students are taught the ins and outs of using transit. The program has been very successful in increasing student ridership.

Kingston Transit also has a statement on Rider Etiquette which provides courtesy and safety tips and defines that it requires the cooperation of both bus operators and customers to make each ride a safe and enjoyable experience.

3.3 Grand River Transit

Grand River Transit (GRT) offers the following travel training programs to help people with disabilities, seniors, and those new to the community learn how to use public transit confidently and safely:

- Presentations: Tailored presentations for community groups on the accessibility features of the GRT system.
- Basic Orientation: A shortened training for individuals or groups who already have some basic transit skills.
- Mobility Device Sessions: Practical, on-bus training for people using wheelchairs and scooters to practice boarding and exiting the bus.
- One-on-One Training: Individualized, multi-session training for customers who find it challenging to use conventional transit services. The goal is for them to ride independently (with an attendant if required).
- Service Provider Workshops: Training and resources for agency staff and volunteers to help their clients use transit independently.

The travel training programs cover trip planning, reading schedules and maps, recognizing bus numbers/stops/landmarks, boarding with mobility devices, paying fares, and transferring between routes. The trainers have in-depth knowledge of GRT services and prioritize participant safety and comfort.

3.4 York Region Transit

The 'myRide' program offered by York Region Transit (YRT) is a travel training initiative that assists individuals of all ages and abilities who require additional knowledge and skills to use YRT independently.

The key components of the "myRide" program include:

- Train-the-Trainer Presentations
- Individual Travel Training

- Transit overview presentations to community organizations

The program aims to empower participants facing transit barriers with the knowledge and skills required to navigate YRT's system safely and independently, with training tailored to their specific needs.

3.5 Greater Cleveland Regional Transit Authority (RTA)

The Greater Cleveland Regional Transit Authority (RTA) offers Travel Training, also referred to as travel instruction, providing both one-on-one and group training sessions tailored to empower seniors and individuals with disabilities to navigate fixed-route public transit safely and independently, encompassing trains and buses operating on regular routes.

In one-on-one sessions, participants receive personalized instruction from their Travel Trainer, who adapts the training program to their abilities and needs. Training focuses on destination-specific skills or provides general riding instruction, covering essential topics such as trip planning, reading route maps and schedules, navigating bus stops and rapid stations, fare payment, using mobility devices, and accessing trip planning resources.

Group training sessions, suitable for settings like homes, housing facilities, senior centers, and schools, extend over several weeks (4-6 weeks). They address various topics including the Americans with Disabilities Act, benefits of public transportation, transportation options, destination information, bus features, fare purchasing, map reading, safety tips, and trip planning. Each session concludes with a trip on public transportation to utilize the skills learned.

3.6 National Aging and Disability Transportation Center

The NADTC has published a "Best Practices Compendium" that provides guidelines and recommendations for transit agencies and human service providers on how to establish effective travel training programs for older adults and individuals with disabilities.

3.7 Toronto Transit Commission

The Toronto Transit Commission (TTC) offers one-on-one travel training for their Wheel-Trans customers to help them learn how to use the conventional transit system. The program, conducted in-person by trained travel trainers, aims to enhance customers' travel skills and confidence on TTC's accessible buses, streetcars, and subways. Personalized one-on-one sessions, spanning up to four sessions, are tailored to individual needs. The program covers trip planning, wayfinding, PRESTO usage, boarding, requesting

accessible features, and problem-solving strategies for unexpected challenges.

4 Key Lessons and Program Alternatives to Guide the Oakville Transit Program Development

As evidenced by various agencies, most travel training programs focus on catering to people with transportation disabilities and seniors. Key program types and components are summarized below:

4.1 Individual Training Sessions

Individual training sessions provide personalized instruction to participants, focusing on their specific needs and abilities. These sessions are typically conducted one-on-one, allowing for tailored guidance and support. Individual training sessions are particularly beneficial for people with transportation disabilities and seniors who may require additional assistance and attention to build confidence in using public transit.

4.2 Group Presentations

Group presentations offer an interactive learning experience for newcomers to the community or those seeking basic transit education. These sessions cover essential topics such as trip planning, fare payment, and navigating transit routes. Group presentations foster community engagement and provide participants with the opportunity to ask questions and learn from each other's experiences.

4.3 "Train the Trainer" Programs

"Train the Trainer" programs aim to equip community organizations, such as immigrant aid organizations and disability advocacy groups, with the knowledge and skills to deliver effective transit training to their clients. Transit systems collaborate with these organizations to provide specialized training to their staff or volunteers, empowering them to serve as transit trainers within their communities. These programs enhance the reach and accessibility of transit travel training initiatives.

4.4 Specialized Training for Transit Users with Mobility Devices

Specialized training programs cater to individuals using mobility devices such as wheelchairs and scooters. These sessions focus on boarding and exiting vehicles safely, navigating accessibility features on public transit, and understanding the specific challenges associated with using mobility devices in transit settings. Practical, on-bus training ensures participants gain confidence and proficiency in using public transit with their mobility devices.

5 Recommendations for Oakville Transit

It is recommended that Oakville Transit develop a Travel Training Program (TTP) tailored to the diverse needs of its clients and the various services offered, including conventional fixed routes, care-A-van, and Ride On-Demand services. The program should be rolled out sequentially, starting with transit awareness initiatives and targeting specific demographics:

5.1 Transit Awareness

As we discussed in **Section 2**, Oakville residents often rely on driving, even for short trips. This tendency may be attributed to a lack of awareness regarding the benefits of public transit and available transit options within their neighbourhoods or within walking distance. To address this issue, Oakville Transit can implement the following strategies:

- Utilize diverse communication channels such as news media, social media platforms, and outreach initiatives to promote awareness of transit services.
- Tailor presentations to specific groups, such as community leaders, social service or newcomer and immigrant organizations, to highlight transit advantages relevant to each audience.
- Create informative videos, website posts, and email newsletters to reach a broader audience and keep them informed about transit developments.
- Participate in community events to interact with residents and promote transit services.
- Focus advertising efforts on key time periods or events, such as service changes, special promotions, or national transit-themed initiatives.

By utilizing communication channels, Oakville Transit can effectively raise awareness, shape public perception, and garner support for its services within the community.

5.2 Targeted Transit Training Programs

5.2.1 Students

Oakville Transit should consider developing a comprehensive travel training program specifically designed for students in the Youth fare category. This program aims to equip youths with the necessary skills and confidence to navigate public transportation systems safely and independently. Led by a qualified travel trainer and bus driver, the program will commence with an informative in-class presentation covering transit fundamentals. Subsequently, students will have the opportunity to apply their knowledge practically through a short bus ride experience.

Key components of the program include:

- Benefits of using public transportation
- Transportation options
- Destination Information
- Bus features
- Bus fare and ticket purchasing
- Reading maps and schedules
- Safety tips and behavior
- Trip planning

5.2.2 Newcomers, Immigrants, and Non-English Speakers

To support newcomers and immigrants navigating language and cultural barriers on Oakville Transit, collaborative partnerships with immigrant aid groups should be established. Tailored transit training programs should be developed, addressing specific challenges newcomers face, such as route planning and fare payment. Priority should be given to delivering these programs in the top five spoken languages among newcomers. A "train the trainer" initiative should empower leaders within immigrant aid groups to provide independent transit support.

Culturally sensitive outreach efforts should promote inclusivity, fostering a welcoming environment within Oakville's transit community.

5.2.3 Individuals with Transportation Disabilities

To promote the inclusion of individuals with transportation disabilities in regular transit systems rather than relying solely on specialized services, it's essential to offer specialized travel training programs tailored to their unique needs. These programs should focus on assessing individual abilities and requirements, and then customizing training to build confidence and proficiency in using regular transit options.

5.2.4 New Riders or New Residents

For new riders or residents unfamiliar with Oakville's transit system, introductory training sessions should be provided to acquaint them with essential transit information and resources. These sessions may include familiarizing participants with transit routes, fare payment methods, accessing route maps and schedules, understanding bus features, and safety protocols. Additionally, online resources can be utilized to provide convenient access to transit information for new riders or residents. Collaboration with community organizations and local businesses can facilitate outreach efforts to educate this group to utilize public transportation as a viable mode of travel within Oakville.

5.2.5 Older Adults

To assist older individuals who may be unable, should not or choose not to use private vehicles, personalized training programs should be developed to introduce them to transit options. These programs should offer hands-on experience and individualized guidance to familiarize older adults with navigating public transit systems effectively. Additionally, providing educational materials and resources tailored to their specific needs can help build confidence and encourage regular transit use. Collaborating with senior centers, retirement communities, and local organizations focused on aging issues can facilitate outreach efforts and ensure that transit training reaches those who need it most.

6 Staffing, Resource Needs, Productivity, and Costs

This section provides an overview of the staffing, resource requirements, and costs associated with implementing the travel training program:

- Travel Trainer: A full-time position with an $80,000 annual salary (inclusive of wage and benefits), supplemented with 10% overtime compensation,

and provision of a cell phone and laptop (salary to be based on Oakville Transit staff rates).

- Vehicle: Accessible van to facilitate transportation needs during training sessions.
- Transit Operator and Full-Sized Bus: Coordination with transit operators for three two-hour weekday mid-day assignments per week.
- Print and Promotional Material: Allocation of resources for marketing support, including the production of print and promotional materials.

7 Travel Training Program Implementation Workplan

This section outlines the step-by-step plan for implementing the travel training program.

7.1 Develop Program Implementation Workplan

- Create a detailed workplan outlining the key tasks and timelines for each stage of program implementation.

7.2 Develop Position Description and Recruit Travel Trainer

- Craft a comprehensive position description for the Travel Trainer role, emphasizing the required skills, responsibilities, and salary.
- Initiate recruitment efforts to identify suitable candidates for the position, with a focus on experience working with diverse individuals, particularly students and those with disabilities.

7.3 Develop Program Content

7.3.1 Transit Charter

Develop a Transit Charter which would define Oakville Transit's commitment to service excellence, and transit customer rights and responsibilities. The intent of a Charter is to promote accountability, enhance customer satisfaction, and improve the overall transit experience.

7.3.2 Program Content Development

The following training materials should be developed to support the Travel Training Program, offering comprehensive guidance and resources:

- **Trip Planning Guide:** This guide provides step-by-step instructions for planning a trip using Oakville Transit. It encompasses various methods, including utilizing the Oakville Transit mobile app, exploring the official website, accessing route maps, checking schedules online, and utilizing available trip-planning tools.
- **Fare Payment Guide:** Learn how to pay fares, obtain PRESTO cards, SPLIT passes, and transfer between Oakville buses to neighboring municipalities and the GO train.
- **Accessibility Tips**: Step-by-step instructions are provided for utilizing Oakville Transit's accessibility features, catering to various mobility needs, including wheelchairs, active transportation, and micromobility tools. It covers boarding procedures, securing mobility devices, and navigating the transit system safely and comfortably.

7.3.3 Program Delivery

Establish methodologies for delivering various types of programs tailored to the needs of different audiences.

In-person Training

In-person training is particularly suitable for students, people with disabilities, and those who benefit from hands-on learning experiences. The following supplementary components enhance the effectiveness of in-person training:

- Interactive Activities
- Visual Aids
- Printed Materials
- Feedback Forms

Online Training

Online training offers flexibility and accessibility, catering to adults, new riders, and new residents seeking transit education. Designed to be self-paced, online courses allow individuals to complete training modules at their convenience. The following features enhance the effectiveness of online training:

- Interactive Modules

- Live Support
- Discussion Forums

7.4 Promote the Program to Target Audience

Implement marketing strategies to raise awareness of the program among the target audience, utilizing various channels such as social media, community events, and partnerships.

7.5 Deliver Program to Target Audience

Execute the delivery of the program to the identified target audience, ensuring adherence to the established timelines and program content.

7.6 Expand the Program through "Train the Trainer"

Develop a "Train the Trainer" initiative to empower selected individuals within the community to deliver the program independently, thereby expanding its reach and sustainability.

Appendix H – Relationship Between Fare Increases and Passenger Revenue

Memo

Date:	Thursday, September 26, 2024
Project:	Oakville Transit Five-Year Business Plan
To:	Joanne Phoenix – Town of Oakville
From:	HDR – John Hubbell, Sophia Saedi
Subject:	White Paper: Relationship Between Fare Increases and Passenger Revenue

Introduction

Passenger fare revenue is a critical component in funding the operational costs of a transit system. The total fare revenue is influenced primarily by two factors: the volume of passengers and the pricing of fares. This white paper examines the relationship between fare increases and passenger fare revenue for Oakville Transit. Through an analysis of historical data, recent trends, and future projections, this white paper aims to provide insights into how fare adjustments impact overall revenue. Understanding these dynamics is essential for making informed decisions that balance financial sustainability while enhancing accessibility and equity for all passengers.

The White Paper also discusses general considerations related to Low Income Fares and Fare Policies.

Historical Context and Current Data

Before the COVID-19 pandemic, Canadian transit agencies funded approximately 55% of their operating costs through passenger fare revenue. However, this ratio was higher for very large systems (62%) and lower for mid-sized systems like Oakville (41%). Post-pandemic, these numbers have dropped significantly to 32%, 35%, and 25% for Canada, large, and mid-sized transit agencies, respectively.

For Oakville Transit, the revenue to cost ratio dropped from 33% in 2016 to just 20% in 2022. Over the five-year period from 2017 to 2022, Oakville Transit's percentage of total operating costs covered by passenger revenue decreased from 29.4% to 17.3%. Simultaneously, the average revenue per passenger fell from $2.55 to $2.16, reflecting a downward trend in both passenger numbers and fare revenue.

Fare Structure Changes in Oakville

Oakville Transit has implemented several fare structure changes over the years to address rising operational costs while striving to maintain affordability for various

passenger categories. These changes include increases in cash fares and adjustments to monthly pass pricing. The current fare categories are outlined below:

- Child (12 and under): Ride free with a PRESTO card or when travelling with a parent/guardian.
- Youth (13 to 19 years): PRESTO Single Ride: Free[1] with a valid PRESTO card, $4 per ride with exact cash fare.
- Adults: Exact cash fare: $4 per ride, PRESTO Single Ride: $3.40 per ride, PRESTO Open Payment: $4.00, PRESTO monthly pass: $139 per month. University, college, and adult education students 20 years and over must pay adult fare.
- Seniors: PRESTO Single Ride: Free[2] with a valid PRESTO card, $4 per ride with exact cash fare.
- Low Income: Subsidized Passes for Low Income Transit (SPLIT) pass system, a Halton Region initiative, provides eligible low-income Halton residents with a 50% subsidy. Oakville Transit participants responsible for the remaining 50%.

GO Transit passengers have a seamless transfer to Oakville Transit without any additional cost, whether through a GO ride ticket or PRESTO card. Oakville Transit offers time-based transfers valid for 2 hours, facilitating smooth transfers across the GTHA with reciprocal transfer agreements between agencies.

Passengers are also provided with multiple payment options, including the PRESTO e-tickets mobile app and contactless credit/debit cards.

Table 1 illustrates the fare history for Oakville Transit from 2017 to 2024, outlining the changes in cash fares and monthly passes across various fare categories.

Table 1: Fare History

Year	Adult Cash Fare	Children Cash Fare	Youth	Seniors (65+)	Adult PRESTO Single Ride	Adult PRESTO Open Payment	Adult Monthly Pass	Youth Monthly Pass	Senior Monthly Pass
2017	$3.75	Free (under 5)	$3.75	$3.75	N/A	N/A	$120	$75	$55
2022	$4.00	Free (under 5)	$4.00	$4.00	N/A	$4.00	$136.50	$87.20	$65.40
2024	$4.00	Free (under 12)	Free	Free	$3.40	$4.00	$143	Free	Free

1 Free fares for Youth (13 to 19) were introduced on May 01, 2023.

2 Free fares for Seniors (65+) were introduced on May 01, 2023.

Passenger Fare Revenue Analysis

In 2022, Oakville Transit served 2,130,808 annual revenue passengers, generating $4,702,265 in revenue, which covered 17.7% of its operating costs. The breakdown of this revenue by fare category was as follows:

- Adult: 83%
- Youth: 13%
- Senior: 5%
- Child: 0%

The average revenue per passenger was $2.16 in 2022. This fare category breakdown mirrors the pre-COVID-19 data from 2018; however, the adult revenue contribution is overstated, as all cash fares are attributed to the adult fare category.

Population vs. Fare Payment Distribution

To gain a clearer understanding of revenue contributions, it is important to consider the population age cohorts within the Oakville community compared with the changes in fare payment distribution by fare category (Adult, Youth, Senior, Child) over time. Refer to **Table 2**.

Table 2: Comparison of Oakville Transit Fare Payment Distribution vs. Population Distribution (2021 Census Data)

Category	2021 Census Population Distribution	2017-2022 Avg. Fare Payment Distribution	2023 Fare Payment Distribution	2024 (Projected) Fare Payment Distribution
Adult	58%	74%	60.9%	54.6%
Youth	21%	18%	25.3%	32.4%
Senior	16%	8%	12.4%	12.0%
Child	4%	<1%	<1%	<1%

The comparison data reveals the following key trends:

- Adults: The proportion of adults using Oakville Transit is significantly higher than their representation in the general population. However, this proportion is declining over time, particularly following the fare changes in 2023.
- Youth: Youth have a lower representation in fare payments compared to their population proportion, but their share has increased significantly with the recent fare changes.
- Seniors: Seniors represent a smaller proportion of fare payments relative to their population share, though their contribution has increased.

- Children: Children, who make up 4% of the population, contribute nothing to fare payments.

The Oakville Transit fare data for 2023 and 2024 is influenced by COVID-19 recovery and free fare changes. To eliminate the bias of data variations, a generic Fare Model was constructed to test various fare change options.

Additionally, fare payment types have changed significantly over time. Comparing fare payment types in 2019, 2022, and 2024 provides insights into how the fare system is evolving.

Table 3: 2019 vs. 2022 vs. 2024 Fare Payment Comparison

Fare Type	2019	2022	2024
Cash	13%	11%	5%
PRESTO Single Ride	74%	76%	73%
PRESTO Open Payment	0%	1%	12%
Tickets	3%	3%	1%
Monthly Pass	10%	9%	8%

This table highlights the evolution of fare payment types, with a notable increase in the use of PRESTO Open Payment, reflecting a growing preference for convenience over price. Currently, 85% of adult fares are paid via PRESTO Single Ride or PRESTO Open Payment.

Fare Model

A comprehensive spreadsheet Fare Model was developed using passenger type and fare payment type data from 2023 and 2024, based on an example of 4 million annual revenue passengers (2024 annual revenue passengers is estimated to be 3,200,000). This model allows for adjustments to various variables to test multiple fare scenarios, providing a robust tool for forecasting revenue changes under different fare structures and ridership.

Passenger Type Distribution:

- Adult 58%
- Youth 29%
- Senior 12%
- Child 1%

Fare Payment Types:

- Cash 5%
- PRESTO Single Ride 73%
- PRESTO Open Payment 12%

- Tickets 1%
- Passes 8%

As illustrated in **Table 4** The Fare Model spreadsheet can be used to investigate multiple fare change scenarios by changing select data cells related to revenue passengers, percentage of Adult, Youth, Senior and Child passengers (total 100%), percentage of fare payment types (total 100%) and existing and new fares for each fare category.

Table 4: Fare Base Model

MODEL: Fare Base

Revenue by Fare Category

Category	Fare Type	2024 Payment Distribution (%)	2024 Fare Type Distribution (%)	2024 Passengers	2024 Fare	2024 Revenue	Hypothetical Fare	Net Fare Change	Revenue from Hypothetical Fare	Net Revenue Change
Adult	Cash	58%	5%		$ 4.00	$ 464,000	$ 4.00	$ -	$ 464,000	$ -
	PRESTO Single E-purse		73%		$ 3.40	$ 5,758,240	$ 3.40	$ -	$ 5,758,240	$ -
	PRESTO Open Payments		12%		$ 4.00	$ 1,113,600	$ 4.00	$ -	$ 1,113,600	$ -
	Tickets		1%		$ 34.00	$ 78,880	$ 34.00	$ -	$ 78,880	$ -
	Pass		8%		$ 143.00	$ 663,520	$ 143.00	$ -	$ 663,520	$ -
	Total		100%	2,320,000		$ 8,078,240		$ -	$ 8,078,240	$ -
Youth	Cash	29%	5%		$ -	$ -	$ -	$ -	$ -	$ -
	PRESTO Single E-purse		73%		$ -	$ -	$ -	$ -	$ -	$ -
	PRESTO Open Payments		12%		$ -	$ -	$ -	$ -	$ -	$ -
	Tickets		1%		$ -	$ -	$ -	$ -	$ -	$ -
	Pass		8%		$ -	$ -	$ -	$ -	$ -	$ -
	Total		100%	1,160,000		$ -		$ -	$ -	$ -
Senior	Cash	12%	5%		$ -	$ -	$ -	$ -	$ -	$ -
	PRESTO Single E-purse		73%		$ -	$ -	$ -	$ -	$ -	$ -
	PRESTO Open Payments		12%		$ -	$ -	$ -	$ -	$ -	$ -
	Tickets		1%		$ -	$ -	$ -	$ -	$ -	$ -
	Pass		8%		$ -	$ -	$ -	$ -	$ -	$ -
	Total		100%	480,000		$ -		$ -	$ -	$ -
Child	Cash	1%	0%		$ -	$ -		$ -	$ -	$ -
	PRESTO Single E-purse		0%		$ -	$ -		$ -	$ -	$ -
	PRESTO Open Payments		0%		$ -	$ -		$ -	$ -	$ -
	Tickets		0%		$ -	$ -		$ -	$ -	$ -
	Pass		0%		$ -	$ -		$ -	$ -	$ -
	Total		1%	40,000		$ -		$ -	$ -	$ -
Total Passenger Revenue						$ 8,078,240		$ -	$ 8,078,240	$ -
Revenue Passengers				4,000,000		4,000,000			4,000,000	$ -
Revenue per Passenger						$ 2.02			$ 2.02	$ -

The spreadsheet with the description of each cell can be found in **Appendix A.**

How to use the Model?

The Fare Model analysis spreadsheet allows users to explore various fare change scenarios by adjusting specific data cells related to annual revenue passengers, percentages of Adult, Youth, Senior, and Child passengers (totaling 100%), percentages of fare payment types (totaling 100%), and existing and new fares for each fare category.

1. **Select Annual Total Revenue Passengers** (Input the ridership volume you wish to test. The example model uses 4,000,000 annual revenue passengers vs an estimate of 3,200,000 revenue passengers for 2024.)
2. **Confirm Payment Distribution:** Ensure **Payment Distribution** for Adult, Youth, Senior, and Child passengers total 100%.
3. **Confirm Fare Type Distribution:** Check that each passenger type's fare distribution totals 100%.
4. **Enter Current Fares:** Input the existing fares for Adult, Youth, Senior, and Child.
5. **Enter New Fares:** Input the proposed new fares for Adult, Youth, Senior, and Child.
6. **Note Net Fare Changes:** Review the changes in fares and their impact on total revenue.
7. **Note New Average Revenue per Passenger**: Determine the new average revenue based on the adjusted fares.

The following scenarios illustrate potential revenue changes based on different fare adjustments in the Fare Model (Base numbers are for 2024)[3].

Oakville Transit reviews transit fares annually. The Fare Model may be used to test the impact of various ridership and fare changes.

[3] Cells highlighted in yellow indicate the changes in scenarios.

Scenario 1: Increase in PRESTO Single Ride Discount

- Assumption: Increase PRESTO Single Ride fare by $0.20.
- Impact: Generates an additional $338,720 in revenue per year.

MODEL: Plus $0.20 Adult PRESTO

Revenue by Fare Category

Category	Fare Type	2024 Payment Distribution (%)	2024 Fare Type Distribution (%)	2024 Passengers	2024 Fare	2024 Revenue	Hypothetical Fare	Net Fare Change	Revenue from Hypothetical Fare	Net Revenue Change
Adult	Cash	58%	5%		$ 4.00	$ 464,000	$ 4.00	$ -	$ 464,000	$ -
	PRESTO Single E-purse		73%		$ 3.40	$ 5,758,240	$ 3.60	$ 0.20	$ 6,096,960	$ 338,720
	PRESTO Open Payments		12%		$ 4.00	$ 1,113,600	$ 4.00	$ -	$ 1,113,600	$ -
	Tickets		1%		$ 34.00	$ 78,880	$ 34.00	$ -	$ 78,880	$ -
	Pass		8%		$ 143.00	$ 663,520	$ 143.00	$ -	$ 663,520	$ -
	Total		100%	2,320,000		$ 8,078,240		$ 0.20	$ 8,416,960	$ 338,720.00
Youth	Cash	29%	5%		$ -	$ -	$ -	$ -	$ -	$ -
	PRESTO Single E-purse		73%		$ -	$ -	$ -	$ -	$ -	$ -
	PRESTO Open Payments		12%		$ -	$ -	$ -	$ -	$ -	$ -
	Tickets		1%		$ -	$ -	$ -	$ -	$ -	$ -
	Pass		8%		$ -	$ -	$ -	$ -	$ -	$ -
	Total		100%	1,160,000		$ -		$ -	$ -	$ -
Senior	Cash	12%	5%		$ -	$ -	$ -	$ -	$ -	$ -
	PRESTO Single E-purse		73%		$ -	$ -	$ -	$ -	$ -	$ -
	PRESTO Open Payments		12%		$ -	$ -	$ -	$ -	$ -	$ -
	Tickets		1%		$ -	$ -	$ -	$ -	$ -	$ -
	Pass		8%		$ -	$ -	$ -	$ -	$ -	$ -
	Total		100%	480,000		$ -		$ -	$ -	$ -
Child	Cash	1%	0%		$ -	$ -		$ -	$ -	$ -
	PRESTO Single E-purse		0%		$ -	$ -		$ -	$ -	$ -
	PRESTO Open Payments		0%		$ -	$ -		$ -	$ -	$ -
	Tickets		0%		$ -	$ -		$ -	$ -	$ -
	Pass		0%		$ -	$ -		$ -	$ -	$ -
	Total		1%	40,000		$ -		$ -	$ -	$ -
Total Passenger Revenue						$ 8,078,240		$ 338,720	$ 8,416,960	$ 338,720
Revenue Passengers				4,000,000		4,000,000			4,000,000	$ -
Revenue per Passenger						$ 2.02			$ 2.10	$ 0

Scenario 2: Elimination of PRESTO Single Ride Discount

Assumption: Remove the PRESTO Single Ride discount and increase ticket and pass price to be multiples of the cash fare.

Impact: Generates an additional $1,108,960 in revenue per year.

MODEL: PRESTO Single $4.00

Revenue by Fare Category

Category	Fare Type	2024 Payment Distribution (%)	2024 Fare Type Distribution (%)	2024 Passengers	2024 Fare	2024 Revenue	Hypothetical Fare	Net Fare Change	Revenue from Hypothetical Fare	Net Revenue Change
Adult	Cash	58%	5%		$ 4.00	$ 464,000	$ 4.00	$ -	$ 464,000	$ -
	PRESTO Single E-purse		73%		$ 3.40	$ 5,758,240	$ 4.00	$ 0.60	$ 6,774,400	$ 1,016,160
	PRESTO Open Payments		12%		$ 4.00	$ 1,113,600	$ 4.00	$ -	$ 1,113,600	$ -
	Tickets		1%		$ 34.00	$ 78,880	$ 40.00	$ 6.00	$ 92,800	$ 13,920
	Pass		8%		$ 143.00	$ 663,520	$ 160.00	$ 17.00	$ 742,400	$ 78,880
	Total		100%	2,320,000		$ 8,078,240		$ 23.60	$ 9,187,200	$ 1,108,960
Youth	Cash	29%	5%		$ -	$ -	$ -	$ -	$ -	$ -
	PRESTO Single E-purse		73%		$ -	$ -	$ -	$ -	$ -	$ -
	PRESTO Open Payments		12%		$ -	$ -	$ -	$ -	$ -	$ -
	Tickets		1%		$ -	$ -	$ -	$ -	$ -	$ -
	Pass		8%		$ -	$ -	$ -	$ -	$ -	$ -
	Total		100%	1,160,000		$ -		$ -	$ -	$ -
Senior	Cash	12%	5%		$ -	$ -	$ -	$ -	$ -	$ -
	PRESTO Single E-purse		73%		$ -	$ -	$ -	$ -	$ -	$ -
	PRESTO Open Payments		12%		$ -	$ -	$ -	$ -	$ -	$ -
	Tickets		1%		$ -	$ -	$ -	$ -	$ -	$ -
	Pass		8%		$ -	$ -	$ -	$ -	$ -	$ -
	Total		100%	480,000		$ -		$ -	$ -	$ -
Child	Cash	1%	0%		$ -	$ -		$ -	$ -	$ -
	PRESTO Single E-purse		0%		$ -	$ -		$ -	$ -	$ -
	PRESTO Open Payments		0%		$ -	$ -		$ -	$ -	$ -
	Tickets		0%		$ -	$ -		$ -	$ -	$ -
	Pass		0%		$ -	$ -		$ -	$ -	$ -
	Total		1%	40,000		$ -		$ -	$ -	$ -
Total Passenger Revenue						$ 8,078,240		$ 1,108,960	$ 9,187,200	$ 1,108,960
Revenue Passengers				4,000,000		4,000,000			4,000,000	$ -
Revenue per Passenger						$ 2.02			$ 2.30	$ 0

Scenario 3: Flat Adult Fare with Discounts for Seniors and Youth

Assumption: Set a flat adult fare of $4.00 and apply a 50% discount for seniors and youth.

Impact: Generates an additional $4,356,160 in revenue per year.

MODEL: Seniros & Youth 50% +PRESTO Single $4.00

Revenue by Fare Category

Category	Fare Type	2024 Payment Distribution (%)	2024 Fare Type Distribution (%)	2024 Passengers	2024 Fare	2024 Revenue	Hypothetical Fare	Net Fare Change	Revenue from Hypothetical Fare	Net Revenue Change
Adult	Cash	58%	5%		$ 4.00	$ 464,000	$ 4.00	$ -	$ 464,000	$ -
	PRESTO Single E-purse		73%		$ 3.40	$ 5,758,240	$ 4.00	$ 0.60	$ 6,774,400	$ 1,016,160
	PRESTO Open Payments		12%		$ 4.00	$ 1,113,600	$ 4.00	$ -	$ 1,113,600	$ -
	Tickets		1%		$ 34.00	$ 78,880	$ 40.00	$ 6.00	$ 92,800	$ 13,920
	Pass		8%		$ 143.00	$ 663,520	$ 160.00	$ 17.00	$ 742,400	$ 78,880
	Total		100%	2,320,000		$ 8,078,240		$ 23.60	$ 9,187,200	$ 1,108,960
Youth	Cash	29%	5%		$ -	$ -	$ 2.00	$ 116,000	$ 116,000	$ 116,000
	PRESTO Single E-purse		73%		$ -	$ -	$ 2.00	$ 1,693,600	$ 1,693,600	$ 1,693,600
	PRESTO Open Payments		12%		$ -	$ -	$ 2.00	$ 278,400	$ 278,400	$ 278,400
	Tickets		1%		$ -	$ -	$ 20.00	$ 23,200	$ 23,200	$ 23,200
	Pass		8%		$ -	$ -	$ 80.00	$ 185,600	$ 185,600	$ 185,600
	Total		100%	1,160,000		$ -		$ 2,296,800	$ 2,296,800	$ 2,296,800.00
Senior	Cash	12%	5%		$ -	$ -	$ 2.00	$ 48,000	$ 48,000	$ 48,000
	PRESTO Single E-purse		73%		$ -	$ -	$ 2.00	$ 700,800	$ 700,800	$ 700,800
	PRESTO Open Payments		12%		$ -	$ -	$ 2.00	$ 115,200	$ 115,200	$ 115,200
	Tickets		1%		$ -	$ -	$ 20.00	$ 9,600	$ 9,600	$ 9,600
	Pass		8%		$ -	$ -	$ 80.00	$ 76,800	$ 76,800	$ 76,800
	Total		100%	480,000		$ -		$ 950,400	$ 950,400	$ 950,400.00
Child	Cash	1%	0%		$ -	$ -		$ -	$ -	$ -
	PRESTO Single E-purse		0%		$ -	$ -		$ -	$ -	$ -
	PRESTO Open Payments		0%		$ -	$ -		$ -	$ -	$ -
	Tickets		0%		$ -	$ -		$ -	$ -	$ -
	Pass		0%		$ -	$ -		$ -	$ -	$ -
	Total		1%	40,000		$ -		$ -	$ -	$ -
Total Passenger Revenue						$ 8,078,240		$ 4,356,160	$ 12,434,400	$ 4,356,160
Revenue Passengers				4,000,000		4,000,000			4,000,000	$ -
Revenue per Passenger						$ 2.02			$ 3.11	

Scenario 4: Uniform Fare Across All Categories

Assumption: Implement a $4.00 fare for all passenger categories.

Impact: Generates $7,603,360 in revenue per year.

MODEL: Flat $4.00 Fare										
Revenue by Fare Category										
Category	Fare Type	2024 Payment Distribution (%)	2024 Fare Type Distribution (%)	2024 Passengers	2024 Fare	2024 Revenue	Hypothetical Fare	Net Fare Change	Revenue from Hypothetical Fare	Net Revenue Change
Adult	Cash	58%	5%		$ 4.00	$ 464,000	$ 4.00	$ -	$ 464,000	$ -
	PRESTO Single E-purse		73%		$ 3.40	$ 5,758,240	$ 4.00	$ 0.60	$ 6,774,400	$ 1,016,160
	PRESTO Open Payments		12%		$ 4.00	$ 1,113,600	$ 4.00	$ -	$ 1,113,600	$ -
	Tickets		1%		$ 34.00	$ 78,880	$ 40.00	$ 6.00	$ 92,800	$ 13,920
	Pass		8%		$ 143.00	$ 663,520	$ 160.00	$ 17.00	$ 742,400	$ 78,880
	Total		100%	2,320,000		$ 8,078,240		$ 23.60	$ 9,187,200	$ 1,108,960
Youth	Cash	29%	5%		$ -	$ -	$ 4.00	$ 4.00	$ 232,000	$ 232,000
	PRESTO Single E-purse		73%		$ -	$ -	$ 4.00	$ 4.00	$ 3,387,200	$ 3,387,200
	PRESTO Open Payments		12%		$ -	$ -	$ 4.00	$ 4.00	$ 556,800	$ 556,800
	Tickets		1%		$ -	$ -	$ 40.00	$ 40.00	$ 46,400	$ 46,400
	Pass		8%		$ -	$ -	$ 160.00	$ 160.00	$ 371,200	$ 371,200
	Total		100%	1,160,000		$ -		$ 212	$ 4,593,600	$ 4,593,600
Senior	Cash	12%	5%		$ -	$ -	$ 4.00	$ 4.00	$ 96,000	$ 96,000
	PRESTO Single E-purse		73%		$ -	$ -	$ 4.00	$ 4.00	$ 1,401,600	$ 1,401,600
	PRESTO Open Payments		12%		$ -	$ -	$ 4.00	$ 4.00	$ 230,400	$ 230,400
	Tickets		1%		$ -	$ -	$ 40.00	$ 40.00	$ 19,200	$ 19,200
	Pass		8%		$ -	$ -	$ 160.00	$ 160.00	$ 153,600	$ 153,600
	Total		100%	480,000		$ -		$ 212	$ 1,900,800	$ 1,900,800
Child	Cash	1%	0%		$ -	$ -		$ -	$ -	$ -
	PRESTO Single E-purse		0%		$ -	$ -		$ -	$ -	$ -
	PRESTO Open Payments		0%		$ -	$ -		$ -	$ -	$ -
	Tickets		0%		$ -	$ -		$ -	$ -	$ -
	Pass		0%		$ -	$ -		$ -	$ -	$ -
	Total	100%	1%	40,000		$ -		$ -	$ -	$ -
Total Passenger Revenue						$ 8,078,240		$ 7,603,360	$ 15,681,600	$ 7,603,360
Revenue Passengers				4,000,000		4,000,000			4,000,000	$ -
Revenue per Passenger						$ 2.02			$ 3.92	

Scenario 5: Reverting to 2022 Fares and Payment Usage

Assumption: Apply 2022 fare structures and fare payment usage rates.

Impact: Generates $3,001,498 in revenue per year.

MODEL: 2022 Fares

Revenue by Fare Category

Category	Fare Type	2024 Payment Distribution (%)	2024 Fare Type Distribution (%)	2024 Passengers	2024 Fare	2024 Revenue	Hypothetical Fare	2022 Payment Distribution (%)	2022 Fare Type(%)	Projected Passengers	Net Fare Change	Revenue from Hypothetical Fare	Net Revenue Change
Adult	Cash	58%	5%		$ 4.00	$ 464,000	$ 4.00	83%	11%		$ -	$ 1,453,243	$ 989,243
	PRESTO Single E-purse		73%		$ 3.40	$ 5,758,240	$ 3.25		76%		$ (0.15)	$ 8,157,977	$ 2,399,737
	PRESTO Open Payments		12%		$ 4.00	$ 1,113,600	$ 4.00		1%		$ -	$ 132,113	$ (981,487)
	Tickets		1%		$ 34.00	$ 78,880	$ 32.50		3%		$ (1.50)	$ 322,025	$ 243,145
	Pass		8%		$ 143.00	$ 663,520	$ 136.50		9%		$ (6.50)	$ 1,014,380	$ 350,860
	Total		100%	2,320,000		$ 8,078,240			100%	$ 3,302,825	$ (8.15)	$ 11,079,738	$ 3,001,498
Youth	Cash	29%	5%		$ -	$ -		13%	11%		$ -	$ -	$ -
	PRESTO Single E-purse		73%		$ -	$ -			76%		$ -	$ -	$ -
	PRESTO Open Payments		12%		$ -	$ -			1%		$ -	$ -	$ -
	Tickets		1%		$ -	$ -			3%		$ -	$ -	$ -
	Pass		8%		$ -	$ -			9%		$ -	$ -	$ -
	Total		100%	1,160,000		$ -			100%	$ 502,545	$ -	$ -	$ -
Senior	Cash	12%	5%		$ -	$ -		5%	11%		$ -	$ -	$ -
	PRESTO Single E-purse		73%		$ -	$ -			76%		$ -	$ -	$ -
	PRESTO Open Payments		12%		$ -	$ -			1%		$ -	$ -	$ -
	Tickets		1%		$ -	$ -			3%		$ -	$ -	$ -
	Pass		8%		$ -	$ -			9%		$ -	$ -	$ -
	Total		100%	480,000		$ -			100%	$ 194,245	$ -	$ -	$ -
Child	Cash	1%	0%		$ -	$ -		0.01%	0%		$ -	$ -	$ -
	PRESTO Single E-purse		0%		$ -	$ -			0%		$ -	$ -	$ -
	PRESTO Open Payments		0%		$ -	$ -			0%		$ -	$ -	$ -
	Tickets		0%		$ -	$ -			0%		$ -	$ -	$ -
	Pass		0%		$ -	$ -			0%		$ -	$ -	$ -
	Total	100%	1%	40,000		$ -		100%	0.01%	$ 385	$ -	$ -	$ -
Total Passenger Revenue						$ 8,078,240					$ 3,001,498	$ 11,079,738	$ 3,001,498
Revenue Passengers				4,000,000		4,000,000				4,000,000		4,000,000	$ -
Revenue per Passenger						$ 2.02						$ 2.77	

Scenario 6: Implementation of Free Fares for All Categories

Assumption: Provide free fares for all passenger categories.

Impact: Results in a loss of $8,078,3240 in revenue per year.

MODEL: Free Fare

Revenue by Fare Category

Category	Fare Type	2024 Payment Distribution (%)	2024 Fare Type Distribution (%)	2024 Passengers	2024 Fare	2024 Revenue	Hypothetical Fare	Net Fare Change	Revenue from Hypothetical Fare	Net Revenue Change
Adult	Cash	58%	5%		$ 4.00	$ 464,000	$ -	$ (4)	$ -	$ (464,000)
	PRESTO Single E-purse		73%		$ 3.40	$ 5,758,240	$ -	$ (3.40)	$ -	$ (5,758,240)
	PRESTO Open Payments		12%		$ 4.00	$ 1,113,600	$ -	$ (4.00)	$ -	$ (1,113,600)
	Tickets		1%		$ 34.00	$ 78,880	$ -	$ (34.00)	$ -	$ (78,880)
	Pass		8%		$ 143.00	$ 663,520	$ -	$ (143.00)	$ -	$ (663,520)
	Total		100%	2,320,000		$ 8,078,240		$ (188.40)	$ -	$ (8,078,240)
Youth	Cash	29%	5%		$ -	$ -	$ -	$ -	$ -	$ -
	PRESTO Single E-purse		73%		$ -	$ -	$ -	$ -	$ -	$ -
	PRESTO Open Payments		12%		$ -	$ -	$ -	$ -	$ -	$ -
	Tickets		1%		$ -	$ -	$ -	$ -	$ -	$ -
	Pass		8%		$ -	$ -	$ -	$ -	$ -	$ -
	Total		100%	1,160,000		$ -		$ -	$ -	$ -
Senior	Cash	12%	5%		$ -	$ -	$ -	$ -	$ -	$ -
	PRESTO Single E-purse		73%		$ -	$ -	$ -	$ -	$ -	$ -
	PRESTO Open Payments		12%		$ -	$ -	$ -	$ -	$ -	$ -
	Tickets		1%		$ -	$ -	$ -	$ -	$ -	$ -
	Pass		8%		$ -	$ -	$ -	$ -	$ -	$ -
	Total		100%	480,000		$ -		$ -	$ -	$ -
Child	Cash	1%	0%		$ -	$ -		$ -	$ -	$ -
	PRESTO Single E-purse		0%		$ -	$ -		$ -	$ -	$ -
	PRESTO Open Payments		0%		$ -	$ -		$ -	$ -	$ -
	Tickets		0%		$ -	$ -		$ -	$ -	$ -
	Pass		0%		$ -	$ -		$ -	$ -	$ -
	Total	100%	1%	40,000		$ -		$ -	$ -	$ -
Total Passenger Revenue						$ 8,078,240		$ (8,078,240)	$ -	$ (8,078,240)
Revenue Passengers				4,000,000		4,000,000			4,000,000	$ -
Revenue per Passenger						$ 2.02			$ -	

5.5. Summary of Potential Revenue Changes

(Based on an example of 4,000,000 annual revenue passengers)

Scenario	Revenue Impact
Increase PRESTO Single Ride Discount by $0.20	+$338,720
Eliminate PRESTO Single Ride Discount	+$1,108,960
Flat Adult Fare with 50% Discounts for Seniors and Youth	+$4,356,160
Uniform $4.00 Fare for All Categories	+$7,603,360
Revert to 2022 Fares and Payment Usage	+$3,001,498
Implement Free Fares for All Categories	-$8,078,3240

These scenarios illustrate the potential financial outcomes of various fare policy adjustments, enabling Oakville Transit to make data-driven decisions that align with both revenue goals and passenger equity.

Low Income Fare Considerations

In 2024, only adults are required to pay a fare. For those using Presto, the individual adult fare is $3.40, and a Monthly Pass costs $143. Seniors, youth, and children ride for free. Cash fares without Presto are $4.00.

The Region of Halton also provides a “Subsidized Pass for Low Income Transit” or SPLIT Pass. The application for the SPLIT Pass is processed online and proof of low-income status is required. Halton Region subsides 50% of the individual SPLIT monthly pass.

Currently, a low-income adult pays full fare or uses a 50% SPLIT Pass, whereas possibly wealthier seniors or youths ride for free.

It is worth noting that Oakville’s population is more affluent than other GTA municipalities. Oakville’s median after-tax income is $108k (compared to $74k for the city of Toronto, and $85k for the GTA). Only 10% of Oakville households are considered low-income (LIM-AT Measure), compared to 17.7% in Toronto. Only 26.4% of Oakville households spend over one-third of their income on shelter costs (compared to 32% in the City of Toronto, 30% for GTA).

This data suggests that there may be less need for free fare programs that are directed at broad demographic population segments and a greater need for a focused approach directed at the low-income population segment.

The challenge for Oakville Transit is to address the specific needs of marginalized low-income residents and sustain or increase revenue to fund the requirements for increased transit service. Increased transit service will serve the entire community and increase access opportunities for low-income individuals.

Fare Policy Considerations

Based on the review of best practices and case studies of relevant fare policies there are key findings that should be considered when developing fare policies:

- Transit fares should be evaluated annually and adjusted in small increments rather than infrequent large adjustments.
- Transit should be priced appropriately at the “value of the service”, relative to the cost of competitive and alternative transportation options.
- Based on empirical studies of fare increase and service expansion elasticities, transit customers value the provision and quality of service higher than the cost of service (deep discounts should not be provided at the expense of reduced service).
- Fare discounts should reflect the transaction costs associated with various fare payment media to provide benefits to the transit agency. Cash transactions impose the greatest cost, and tickets/tokens require material, sales, and distribution costs. Smartcards or Fare Apps (PRESTO) should be encouraged for fewer transactions, higher upload values per transaction and lower processing costs. In addition, smartcard technology allows fares to be rounded to a smaller denominator (i.e. $0.05 rather than $0.25)
- Social issues regarding discounts for child, student, and seniors pricing are a concern across many transit agencies. Although fare discounts should be equitable, they should not erode fare revenues and the ability to provide service.
- Fare increases should be equitable in terms of horizontal equity, such that those who pay also benefit from the additional services. However, increases are generally inequitable across income groups as lower income groups bear a greater burden of the fare increases.
- Fare subsidy programs should focus on user-side subsidies to target individuals, rather than system-wide supply-side subsidies. For example, pass programs for low-income individuals should be considered, rather than deep discounts for all seniors.
- Although discounts for prepayment of multi-ride tickets provide up-front revenue, the discount should be minimized as they also provide customers the benefit of convenience.
- Fare categories in the GTHA are commonly differentiated based on rider characteristics but can also be differentiated based on trip characteristics, including trip distance, trip duration, quality of service, time period, etc.
- The Province of Ontario and Metrolinx are pursuing a Fare and Service Integration strategy aimed at enhancing connectivity, affordability, and convenience for transit travel within the Region.

Conclusion

The analysis presented in this white paper highlights the relationship between fare structures and passenger fare revenue for Oakville Transit. The significant decline in revenue-to-cost ratios post-pandemic underscores the necessity for strategic fare adjustments to ensure financial sustainability. While fare increases may bolster revenue, they must be balanced against the potential impact on passenger numbers, particularly among low-income residents.

The Fare Model scenarios provide valuable insights into how different fare strategies can influence overall revenue. For instance, uniform fare increases, or the removal of discounts can substantially enhance revenue streams. However, such changes must consider the socio-economic diversity of Oakville's population to maintain equitable access to transit services.

Moving forward, Oakville Transit should leverage these findings to develop fare policies that not only address financial challenges but also promote inclusivity and equity.

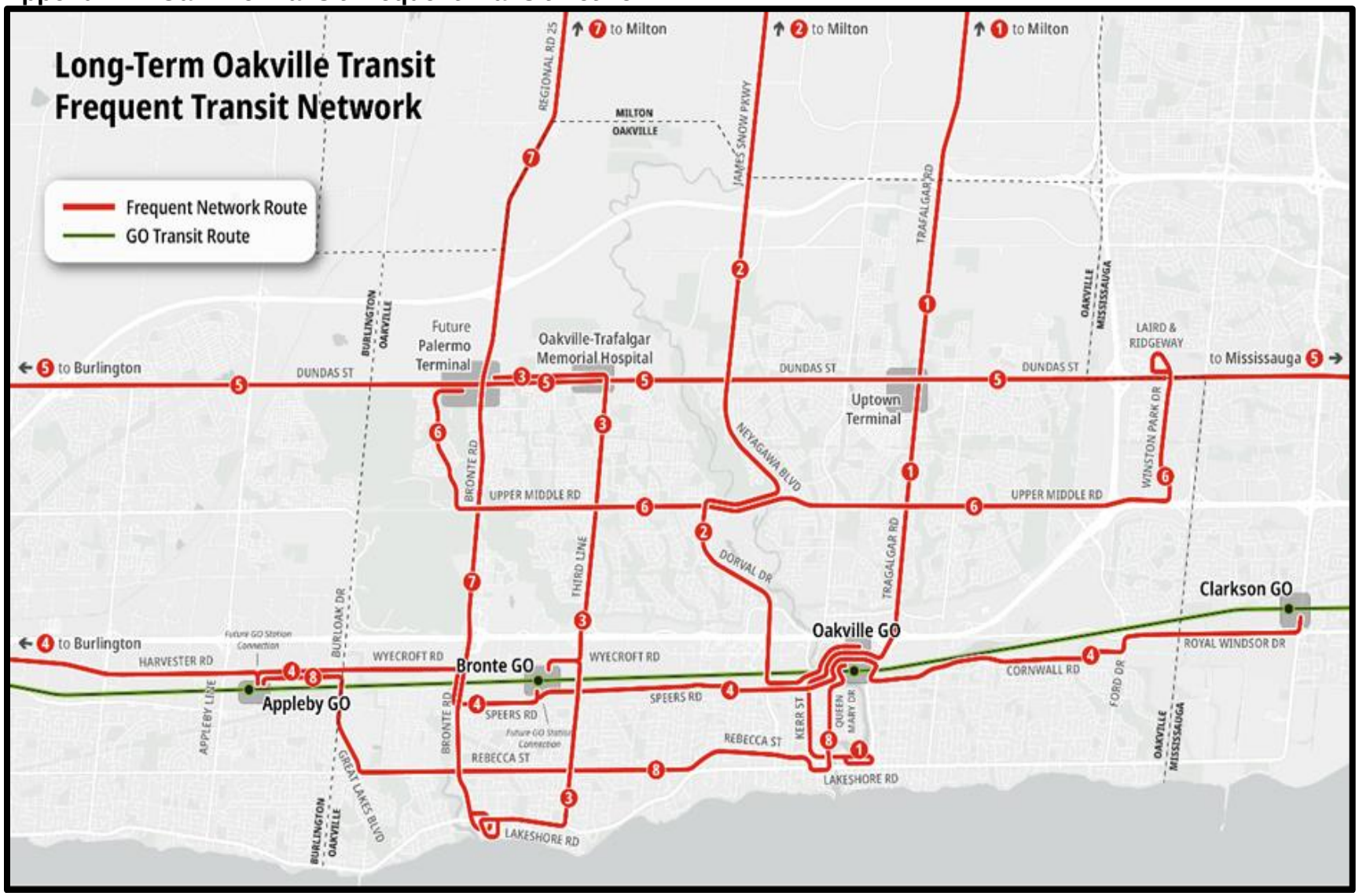
APPENDIX A: Fare Base Analysis Spreadsheet

MODEL: Fare Base

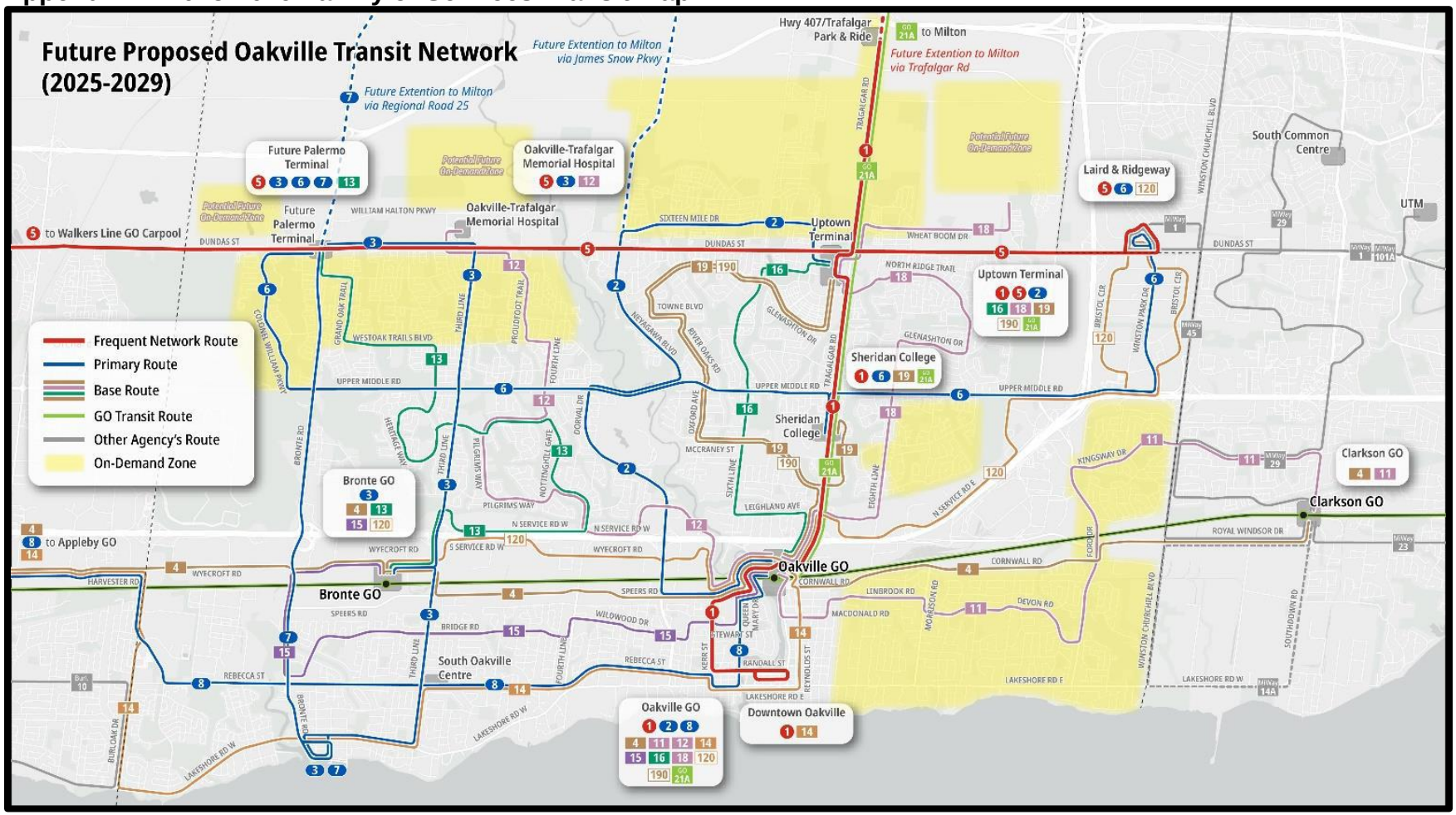
Revenue by Fare Category

Category	Fare Type	2024 Payment Distribution (%)	2024 Fare Type Distribution (%)	2024 Passengers	2024 Fare	2024 Revenue	Hypothetical Fare	Net Fare Change	Revenue from Hypothetical Fare	Net Revenue Change
Adult	Cash	58%	5%		$ 4.00	$ 464,000	$ 4.00	$ -	$ 464,000	$ -
	PRESTO Single E-purse		73%		$ 3.40	$ 5,758,240	$ 3.40	$ -	$ 5,758,240	$ -
	PRESTO Open Payments		12%		$ 4.00	$ 1,113,600	$ 4.00	$ -	$ 1,113,600	$ -
	Tickets		1%		$ 34.00	$ 78,880	$ 34.00	$ -	$ 78,880	$ -
	Pass		8%		$ 143.00	$ 663,520	$ 143.00	$ -	$ 663,520	$ -
	Total		**100%**	**2,320,000**		**$ 8,078,240**		**$ -**	**$ 8,078,240**	**$ -**
Youth	Cash	29%	5%		$ -	$ -	$ -	$ -	$ -	$ -
	PRESTO Single E-purse		73%		$ -	$ -	$ -	$ -	$ -	$ -
	PRESTO Open Payments		12%		$ -	$ -	$ -	$ -	$ -	$ -
	Tickets		1%		$ -	$ -	$ -	$ -	$ -	$ -
	Pass		8%		$ -	$ -	$ -	$ -	$ -	$ -
	Total		**100%**	**1,160,000**		**$ -**		**$ -**	**$ -**	**$ -**
Senior	Cash	12%	5%		$ -	$ -	$ -	$ -	$ -	$ -
	PRESTO Single E-purse		73%		$ -	$ -	$ -	$ -	$ -	$ -
	PRESTO Open Payments		12%		$ -	$ -	$ -	$ -	$ -	$ -
	Tickets		1%		$ -	$ -	$ -	$ -	$ -	$ -
	Pass		8%		$ -	$ -	$ -	$ -	$ -	$ -
	Total		**100%**	**480,000**		**$ -**		**$ -**	**$ -**	**$ -**
Child	Cash	1%	0%		$ -	$ -		$ -	$ -	$ -
	PRESTO Single E-purse		0%		$ -	$ -		$ -	$ -	$ -
	PRESTO Open Payments		0%		$ -	$ -		$ -	$ -	$ -
	Tickets		0%		$ -	$ -		$ -	$ -	$ -
	Pass		0%		$ -	$ -		$ -	$ -	$ -
	Total		**1%**	**40,000**		**$ -**		**$ -**	**$ -**	**$ -**
Total Passenger Revenue						**$ 8,078,240**		**$ -**	**$ 8,078,240**	**$ -**
Revenue Passengers				**4,000,000**		**4,000,000**			**4,000,000**	**$ -**
Revenue per Passenger						**$ 2.02**			**$ 2.02**	**$ -**

Appendix D: Oakville Transit Frequent Transit Network



Appendix E: 2025-2029 Family of Services Transit Map



Highlights of the 2025 – 2029 Family of Services Transit Map:

- More gridding of services
    - Aligning transit routes in a north/south and east/west direction
        - Examples include:
            - Route 7 – Bronte Road, Route 5 – Dundas, Route 1 – Trafalgar, Route 8 – Rebecca, Route 2 – Dorval/Neyagawa, Route 16 – Sixth Line

- New routings to be bi-directional, straight and direct (no looping)

- More services to destinations

    - Routes have been adjusted to start and end at destinations thereby increasing the usability of the routes
        - Examples include:
            - Route 6 – Upper Middle, Route 3 – Third Line, Route 7 – Bronte Road

- Better connections to key destinations in Oakville
    - Examples include:
        - Restructuring of Route 5 – Dundas to operate continuously along Dundas Street making connections between Burlington Transit in the west, Oakville Trafalgar Memorial Hospital, Uptown Core Terminal, and MiWay at Laird and Ridgeway in the east.
        - Restructuring of Route 1 – Trafalgar to operate between Downtown Oakville and the Highway 407/Trafalgar Park and Ride lot with connections to the Oakville GO station, Sheridan College, Uptown Core Terminal
        - Extension of Route 4 – Speers – Cornwall to connect with the Appleby GO Train station (post completion of Wyecroft extension)
        - Restructuring of the current Route 18 – Glen Abby South to begin operating as Route 12 to the Oakville Trafalgar Memorial Hospital

- Identifies future Ride On-Demand service areas
    - Currently identified in undeveloped or newly developed areas where conventional transit services are not operating.

- Transit service in North Oakville is planned to be further developed with Ride On-Demand service until transit demand warrants implementing conventional fixed route services and as the street network continues to develop.

REPORT

Council

Meeting Date: October 21, 2024

FROM:	Oakville Transit
DATE:	October 8, 2024
SUBJECT:	**Oakville Transit – Garage Facility Expansion - Budget Update**
LOCATION:	430 Wyecroft Road
WARD:	Townwide

RECOMMENDATION:

That the 2024 capital budget be amended to add $5,000,000 to project 54212307 Transit Facility Expansion funded through debt.

KEY FACTS:

The following are critical points for consideration with respect to this report:

- Oakville Transit is currently expanding its garage facility and electrifying its bus fleet. To undertake this work, the Town retained PowerON Energy Solutions and executed three contracts to deliver the electrification program.
- Council approved the budget for the Transit Facility Expansion in February 2023 for $18M, under project 54212307, funded by debt.
- In September 2024 staff received an updated cost estimate for expanding the Oakville Transit garage facility which identified a potential $5M shortfall from the approved budget.
- Design efficiencies have been implemented to date through value engineering exercises to reduce the cost of the project.
- Project delays may increase the cost of the expansion project
- Staff are pursuing other sources of project funding opportunities, notably grants such as the Zero Emission Transit Fund (ZETF), the Green Municipal Fund, and the Canadian Public Transit Fund to assist in funding the facility expansion.

BACKGROUND:

Town staff released RFP-48-2021 to electrify the Oakville Transit bus garage.

In June 2023, PowerON Energy Solutions was retained as the successful proponent to deliver and operate energy infrastructure as part of RFP-48-2021. The Town and PowerON Energy Solutions executed three contracts:

- **Energy Infrastructure Contract (EIC):** Valued at $58.1M over a 20-year period which includes the procurement and installation of charging infrastructure, energy equipment, electrical, and civil works (Oakville Transit garage and Uptown Terminal).
- **Energy Services Agreement (ESA):** Valued at $50.4M over a 20-year period and includes the provision of energy services, associated operating costs, and energy infrastructure maintenance costs.
- **CCDC-5A Construction Management (Agent) Contract:** Valued at $18.0M and includes the design and construction management services for expanding the transit garage to include bus storage lanes and 33 bus charging points.

The EIC, ESA, and CCDC-5A agreements collectively represent a cumulative value of $126.5M over a 20-year period.

The 2023 capital budget included $18 million for the Oakville Transit facility expansion funded through debt, under project 54212307.

COMMENT/OPTIONS:

Designs for the Oakville Transit facility expansion were completed and bid documents were tendered.

In July 2024, PowerON Energy Solutions prepared a Class B cost estimate for the cost of expanding the garage facility based on a 100% detailed design package and a projected shortfall of $5M has been identified. The design package is currently being tendered to general contractors and is expected to close in October 2024.

An independent cost consultant was retained to provide a third-party cost estimate review on the Town's behalf to ensure project costs were in line with industry standards. **Table 1** identifies the updated cost estimate at 100% detailed design stage based on the Class B and tender cost estimates.

Table 1: Updated Project Cost Estimate

Oakville Transit Facility Expansion – Class B Costs Estimate	
Total updated project costs	$23M
Approved budget	$18M
Estimated shortfall	$5M

The cost to complete the Oakville Transit garage facility expansion based on the most up-to-date construction design estimates is now $23M. The increased cost represents a shortfall of $5M from the current budget and will be verified when the tender for the construction of the facility closes.

Increased facility expansion costs were driven by several factors.

The following factors have been identified as the sources for the increased cost to expand the transit garage facility:

- The original estimate for expanding the transit garage facility was developed based on a concept, which was based on a 10-15% level of design.
- A design level at 30% is generally required to develop a capital budgetary estimate.
- Actual inflationary costs have been higher than the original estimated inflationary costs of the garage expansion.

Town staff identified project efficiencies to decrease the cost of building the facility expansion.

During the design stage, value engineering initiatives were implemented to reduce the construction costs of the facility which included:

- Decreasing the gross floor area (GFA) of the building expansion by 10%
- Decreasing the sizes of the electrical rooms
- Substituting building materials with more cost-effective options
- Reducing the building height at the entrance and changing roof type

Savings of approximately $2M have been identified as a result of the above value engineering initiatives for the design of the garage expansion.

To further mitigate cost increases, several general contractors were invited to bid on the garage expansion tender ensuring competitive pricing. Further cost reductions are planned to be implemented through value engineering exercises during the negotiations with shortlisted general contractors.

Construction in 2024 will mitigate potential project costs increases

Staff evaluated the potential cost impact to the project should the funding to expand the facility not be approved in 2024 and the project in turn is delayed. In consultation with PowerOn Energy Solutions, staff identified a potential increase to the project should the construction of the garage expansion be delayed. The increased project costs are related to the following:

- A schedule delay impact of 8-month (labour, material pricing, project commissioning)
- Delay in energy infrastructure implementation and electrification plan (timing of electric bus deliveries and ability to charge them)
- Risks associated with storage of equipment currently procured for the project (procured infrastructure to be housed in facility expansion before installation).

The above identified project costs have been estimated at $1.7M by the PowerOn Energy Solutions team should there be a delay in construction in 2024. Therefore, beginning the construction in 2024 is preferred to mitigate any further project costs.

Staff continue pursuing grant funding to decrease the Town's portion for expanding the transit garage facility.

Grant funding opportunities such as the Zero Emission Transit Fund (ZETF), Green Municipal Fund (GMF) and Canada Public Transit Fund (CPTF) are being pursued to assist in funding the facility expansion. As well, a portion of the growth-related component of the facility expansion cost may be eligible for development charges. The timing of debt issuance is based on the timing of capital project spending and will occur over the coming years. Funding from alternate sources would limit the amount of debt required for this project.

RECOMMENDATION

An amendment to the 2024 capital budget is being recommended

To continue the implementation of the Energy Infrastructure program at Oakville Transit, an amendment to the 2024 capital budget for an increase of $5M to project 54212307 Transit Facility Expansion is being recommended. The amendment to the budget will allow for the garage expansion construction work to begin in 2024.

CONSIDERATIONS:

(A) PUBLIC

Oakville residents and transit customers will benefit from battery electric bus environmental benefits, including the energy infrastructure used to charge the buses at the garage facility.

(B) FINANCIAL

A long-term financing plan has been identified to fund the expansion of the transit facility. Staff will continue to pursue grant funding opportunities and the use of development charges to limit the amount of debt required to fund the Oakville Transit garage facility expansion.

(C) IMPACT ON OTHER DEPARTMENTS & USERS

Transit staff are worked with the Facility Services and Finance team for this report.

(D) COUNCIL STRATEGIC PRIORITIES ON CLIMATE CHANGE/ACTION

Energy use and carbon emissions reductions directly affect our climate, as they are the main drivers for climate change mitigation. By electrifying transit vehicles, and being able to recharge them, the Town is addressing climate change mitigation through its corporate activities.

Prepared by:

Imtiyaz Pirmohamed, Program Manager, Oakville Transit

Submitted by:

Adrian Kawun, Director, Oakville Transit
Kendall Wayow, Director, Facility Services

Accessibility Advisory Committee

MINUTES

Date:	**September 12, 2024**
Time:	**4:00 pm**
Location:	**Council Chamber**
Members:	Julie Romanow, Vice-Chair Councillor Gittings Karen Bodolai Nora Lavell Deborah Metrakos
Regrets:	David Underwood, Chair Devin Bright
Staff:	A. Coyne, Manager of Elections, Policy and Print Services C.Tizzard, Manager of Urban Design A. Zeb, Transportation Engineering S. Stewart, Corporate Strategy Program Advisor E. Chan, Manager of Transportation Planning B. Smith, Project Leader Accessibility J. Radomirovic, Council and Committee Coordinator

A meeting of the Accessibility Advisory Committee was held on September 12, 2024, in the Council Chamber Room of the Oakville Municipal Building, commencing at 4:00 p.m.
These minutes will go forward to the Council meeting of October 21, 2024, for approval. Please view those minutes to note any changes Council may have made.

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1. Regrets

As noted above.

2. Declarations of Pecuniary Interest

No declarations of pecuniary interest were declared.

3. Confirmation of Minutes of Previous Meeting(s)

3.1 Minutes June 13, 2024

Moved by Deborah Metrakos

That the minutes of the Accessibility Advisory Committee meeting of June 13, 2024, 2024, be approved.

CARRIED

4. Discussion Item(s)

4.1 2024-2029 Multi-Year Accessibility Plan

Moved by Karen Bodolai

1. That the report dated September 3, 2024, entitled “2024-2029 Multi-Year Accessibility Plan”, be received.
2. That the draft 2024-2029 Multi-year Accessibility Plan be approved.

CARRIED

4.2 Oakville Transportation Master Plan Development

The following delegate spoke to this item:

Louis Pereux.

Moved by Deborah Metrakos

That the report dated September 3, 2024, entitled “Oakville Transportation Master Plan Development”, be received.

CARRIED

4.3 Kerr Village and Bronte Village Streetscape Studies

Moved by Karen Bodolai

That the report entitled ‘Kerr Village and Bronte Village Streetscape Studies’ from the Planning and Development Department, dated September 3, 2024, be received.

CARRIED

4.4 2024 Oakville Universal Design Standards (OUDS v3.0) Complete

Moved by Deborah Metrakos

The Accessibility Advisory Committee receive confirmation that the new Version 3.0 OUDS expected to be released in Fall 2024, replacing Version 2.1.

CARRIED

4.5 2026 Municipal Election Accessible Voting Initiatives

Moved by Karen Bodolai

That the report entitled ‘2026 Municipal Election Accessible Voting Initiatives’ from the Clerk’s department, dated September 3, 2024, be received.

CARRIED

5. Information Item(s)

5.1 Oakville Transit Annual Plan 2024-Memo

5.2 Resolution - Call to Action to Meet the Deadline of an Accessible Ontario by 2025

5.3 Prince Edward County - AODA Resolution

5.4 Electric Kick-Scooters Pilot Program Extension

Moved by Karen Bodolai

That the information item(s) be received.

CARRIED

6. Date and Time of Next Meeting

December 12, 2024
Oakville Municipal Building
Council Chamber - 4:00 p.m.

7. Adjournment

Moved by Deborah Metrakos

That this meeting be adjourned.

CARRIED

The meeting adjourned at 6:09 p.m.

DATE OF ITEM	September 04 - 10, 2024 COUNCIL INFORMATION INDEX CONTENT	DATE RECEIVED	PAGE
September 05, 2024	EMAIL – AMO Communications RE: AMO Watchfile, September 5, 2024	September 05, 2024	**1**
September 06, 2024	EMAIL- AMO Education RE: Time to Register for AMO Education Fall Workshops	September 06, 2024	**4**
September 06, 2024	EMAIL – AMO Policy Update RE: AMO Policy Update - Energy Procurements, AMO Community and Supportive Housing Event	September 06, 2024	**6**
April 05, 2024	EMAIL – Town of Kirkland Lake RE: Motion – Exotic Animals	September 09, 2024	**8**
September 06, 2024	EMAIL – Township of Springwater RE: Request for communications relating to the Standing Committee on Heritage, Infrastructure and Cultural Policy regarding the Study on Regional Governance	September 10, 2024	**10**
September 11, 2024	EMAIL – AMO Education RE: Cybersecurity for Municipal Councillors - September 24, 2024	September 11, 2024	**12**
September 11, 2024	INTERNAL – Office of the Mayor RE: Novae Res Urbis Vol. 27 No. 36	September 11, 2024	**13**

DATE OF ITEM	September 11 - 17, 2024 COUNCIL INFORMATION INDEX CONTENT	DATE RECEIVED	PAGE
September 10, 2024	EMAIL – Municipal Engineers Association RE: Notice of MEA Bursary Award	September 11, 2024	**1**
September 13, 2024	EMAIL – AMO Education RE: Navigating Conflict Relationships as an Elected Official (NCR 1.0)	September 13, 2024	**2**
September 17, 2024	INTERNAL MEMO – Clerk's Department RE: Municipal Clearance for Liquor Sales Licence	September 17, 2024	**4**
September 10, 2024	EMAIL – Municipality of Tweed RE: Canada Community-Building Funds - AMO Resolution	September 18, 2024	**5**
September 18, 2024	EMAIL – AMO Education RE: Elevate Your Leadership with AMO's Advanced Councillor Training Workshops	September 18, 2024	**6**

DATE OF ITEM	September 18 - 24, 2024 COUNCIL INFORMATION INDEX CONTENT	DATE RECEIVED	PAGE
September 12, 2024	EMAIL – AMO Communications RE: AMO Watchfile September 12, 2024	September 18, 2024	**1**
September 18, 2024	EMAIL – City of Burlington RE: Vacant Home Tax	September 19, 2024	**4**
September 19, 2024	EMAIL – AMO Communications RE: AMO Watchfile September 19, 2024	September 19, 2024	**13**
September 21, 2024	EMAIL – AMO Events RE: Community and Supportive Housing Knowledge Exchange	September 23, 2024	**16**

DATE OF ITEM	September 25 – October 01, 2024 COUNCIL INFORMATION INDEX CONTENT	DATE RECEIVED	PAGE
September 25, 2024	INTERNAL – Office of the Mayor RE: Novae Res Urbis Vol. 27 No. 38	September 25, 2024	**1**
September 25, 2024	EMAIL – AMO Policy RE: AMO Policy Update – AMO Response to BILD Report	September 26, 2024	**14**
September 26, 2024	EMAIL – AMO Communications RE: AMO Watchfile - September 26, 2024	September 26, 2024	**16**
September 26, 2024	EMAIL – Region of Waterloo RE: Solve the Crisis	September 27, 2024	**19**
October 01, 2024	INTERNAL MEMO – Transportation and Planning RE: E-Scooters – Current Regulations and Future Plans	September 27, 2024	**22**
September 17, 2024	EMAIL - City of Temiskaming Shores RE: Resolution - Alcohol Sales in Convenience Stores and Locations that Sell Fuel/ Comprehensive Provincial Alcohol Strategy	October 01, 2024	**26**
October 01, 2024	EMAIL – Halton Region RE: Support for Primary Health Care in Ontario	October 01, 2024	**28**
October 01, 2024	EMAIL – ROMA Events RE: ROMA Conference: Registration and Hotel Information	October 01, 2024	**32**

DATE OF ITEM	October 02 - 08, 2024 COUNCIL INFORMATION INDEX CONTENT	DATE RECEIVED	PAGE
October 01, 2024	EMAIL – Michael Young RE: Downtown Cultural Hub - Phoenix or Icarus?	October 02, 2024	**1**
October 02, 2024	INTERNAL – Office of the Mayor RE: Novae Res Urbis Vol. 27 No.39	October 02, 2024	**5**
October 03, 2024	EMAIL – AMO Education RE: Navigating Conflict Relationships as an Elected Official (NCR 1.0)	October 04, 2024	**23**
October 03, 2024	EMAIL – AMO RE: AMO Watchfile - October 3, 2024	October 04, 2024	**25**
October 04, 2024	EMAIL – AMO Education RE: AMO Land Use Planning Training for Elected Officials	October 04, 2024	**27**
September 20, 2024	EMAIL - Bradford West Gwillimbury RE: Ontario Deposit Return Program Expansion Endorsement	October 07, 2024	**29**
October 07, 2024	EMAIL- AMO Events RE: Join us at AMO Healthy Democracy Forum	October 07, 2024	**30**

Memo

To: Mayor Burton and Members of Council

From: Vicki Tytaneck, Town Clerk

CC: Jane Clohecy, CAO

Nancy Sully, Commissioner, Corporate Services & Treasurer

Date: September 17, 2024

Subject: Municipal Clearance for Liquor Sales Licence

The following requests for comment regarding Municipal Clearances for liquor sales licences were received and circulated by the Clerk's department from August 13, 2024 to September 17, 2024, for the following establishments:

- 15598837 Canada Inc. O/A Sinaloa Factory
- Daniel Craig Hair Salon Inc.

for: Vicki Tytaneck

Town Clerk

Council Information Memo

To: Mayor Burton and Members of Council

From: Eric Chan – Manager, Transportation Planning

CC: Jane Clohecy – CAO,
Phoebe Fu – Commissioner, Community Infrastructure
Ralph Kaminski – Acting Commissioner, Community Development
Jill Stephen – Director, Transportation and Engineering
Selena Campbell – Director, Municipal Enforcement Services

Date: October 1, 2024

Subject: E-Scooters – Current Regulations and Future Plans

This memo provides a summary of the rules and regulations regarding e-scooter use, an update regarding enforcement, and information regarding current reviews of future e-scooter use in Oakville.

Background

Recently there has been an increased number of inquiries from Councillors and public members about e-scooters and their current and future use in Oakville.

The electric kick scooter (also known as e-scooter) is a new mobility device that has many varieties. Typically, e-scooters have two wheels (one at the front and one at the back), a platform to stand on and a handlebar for steering, and with an electric motor. **Figure 1** illustrates a typical e-scooter. **Figure 2** illustrates other forms of mobility device that may be recognized as “e-scooters”, but they are not considered to be the official e-scooter as per the definition from Ontario’s legislation.

A wide variety of e-scooters are available for purchase or for rent, in stores or online. There has been no government standardization to regulate the design and manufacture of e-scooters for purchase and for rent.

Figure 1: Typical e-scooter

Figure 2: Other mobility devices

While we do not have specific counts of e-scooter usage, through observations it is evident that e-scooter ridership is on the rise in Oakville and beyond. E-scooters are popular because they are:

- convenient for recreation or commuting. They are lightweight and foldable, and easy to transport and store, making them attractive for first mile/last mile options,
- an attractive mobility option for those who consider other mobility choices infeasible or unavailable, and do not require much physical effort to use,
- affordable, with inexpensive models available to buy or rent,
- climate-conscious, requiring less energy and creating no pollution at the point of use.

Under the current rules and regulations, e-scooters are not permitted to be ridden on Oakville roadways, sidewalks, multi-use trails, or off-road trails within municipal parks.

In municipalities that do not participate in the Electric Kick-Scooter program, a scooter may be classified as a "vehicle" under the Highway Traffic Act (HTA).

A municipal program supporting the use of electric kick-scooters is authorized under O. Reg. 389/19, **Pilot Project – Electric Kick-Scooters**. This regulation provides clarity for enforcement, stating: “No person shall operate an electric kick-scooter on a highway, sidewalk, trail, path, or walkway, or in a public park or exhibition ground unless such operation is permitted by and in accordance with a municipal by-law.”

In Oakville, under **Traffic By-law 1984-001**, **Parks By-law 2013-013**, and **Halton's Traffic By-law 1984-001**, there is no specific reference to e-scooters in the definitions or permitted uses. As a result, by default and in accordance with the Highway Traffic Act, e-scooters are not permitted in Oakville.

A Provincial **5-year e-scooter pilot project** began on January 1, 2020. Under the e-scooter pilot project, municipalities can pass local by-laws to allow e-scooters within municipal rights-of-way. To date, there are 16 municipalities in Ontario participating the pilot, including Mississauga, Brampton, Hamilton, Cambridge, Waterloo Region, London, Oshawa, Pickering, Durham Region and Ottawa. To date, **Town of Oakville has not opted-in to the Provincial 5-year e-scooter pilot**. The pilot was to expire in 2025, but the Province is now proposing a five-year extension to November 27, 2029. The details of the extension proposal can be found on the Ontario website in this link.

Discussion

There has been a recent increase in questions and concerns about e-scooter use. Regardless of the regulations, many individuals own and use e-scooters on municipal streets, sidewalks and bike lanes, which poses risks to other road users and themselves. The majority of the concerns are related to:

- Riding or parking an e-scooter inappropriately on the sidewalks and other shared public spaces, especially at busy roadways and intersections,
- Speed of e-scooters – both on-street (including in bike lanes) and off-street (sidewalks, multi-use trails, parks trails),
- Lack of safety equipment such as helmets, lights and bells
- Young riders, especially those without training and education on how to safely ride an e-scooter,
- Lack of enforcement of e-scooters in general, and for specific issues such as e-scooters conflicts with pedestrians, speed and careless rider behaviour.

Municipal Enforcement Services does not currently enforce violations related to e-scooters. Municipal Enforcement officers cannot stop e-scooter riders to issue tickets. According to the HTA, Section 216 (1) and 218 (1), a police officer has the authority to require a driver of a vehicle to stop and provide identification. This authority does not include municipal by-law enforcement officers. Where possible, Municipal Enforcement officers will educate riders on the rules related to e-scooters and may enlist the assistance of Halton Regional Police Service (HRPS).

Halton Regional Police (HRPS) currently do not lay charges to the offences related to e-scooters under the Highway Traffic Act. The e-scooter definition and prohibition are stated in the pilot regulation and not in the main body of HTA, which makes enforcement under HTA more challenging in communities that have not opted-in to the Province's e-scooter pilot.

The **Transportation Master Plan (TMP) is assessing the future of e-scooters as part of the suite of mobility options in Oakville.** The e-scooter assessment is reviewing needs, feasibility, implementation requirements, capital and operating cost estimates, enforceability and maintainability. Complementary to the primary TMP work, research and analysis regarding key destinations, and areas where e-scooter use is expected to be highest was also completed. E-scooter use is expected to increase as

Oakville grows, Shorter-distance trips to reach destinations (e.g. schools, parks, transit stops, cultural/tourism attractions) and use by youth and young adults are expected to be popular for e-scooters.

Public consultation on the TMP is ongoing, and e-scooter consultation is included in that work. Draft recommendations on e-scooters will be presented at the third Public Information Centre (PIC) on October 23, 2024 and through follow-up pop-up events.

Two reports on the TMP are planned: in December 2024 to present the draft TMP report and recommendations, and in Q1 2025 to present the final draft TMP and implementation plan endorsement.

A report specific to e-scooter recommendations will also be presented at a future Council meeting.

Summary

Planning for e-scooters, managing their use, and enforcing infractions are complex, and that complexity will increase as Oakville and the surrounding areas continue to grow.

Through the TMP, the role of e-scooters in supporting mobility within Oakville is being reviewed and the upcoming public consultation on the proposed TMP recommendations provides opportunities for public comment and input. A staff report on e-scooters, including rules, regulations, safety, the Provincial e-scooter pilot and education, will be included on the November Council agenda, in advance of the staff reports on the overall TMP.

Agenda Item	Due Date	Description	Meeting Type	Meeting Date	Department
Tasks before Escribe	1/27/2025	THEREFORE, staff are requested to review opportunities to regulate the number and location of Pay Day Loan businesses as well as determine what other regulatory authority the Town might have to protect consumers from potentially usurious rates and predatory practices and to report back to Council with information and potential methods to regulate these businesses in the interest of consumer protection.	Council	1/1/2020	Municipal Enforcement Services Department
Notice of Motion: Election Sign Regulations	1/27/2025	THERFORE BE IT RESOLVED THAT: No person shall display an Election Sign at any location other than entirely on private property; No person shall display an Election Sign on private property without the permission or consent of the owner of the property; No person shall display, or permit to be displayed, an Election Sign which is in a state of disrepair so as to be unsafe or unsightly; and THAT staff develop a comprehensive set of rules that ensure signs are installed safely so as not to cause harm or hazard to residents on private property That the motion be referred to staff to undertake community consultation and report back, including legal advice, on the existing by-law regulations and availability of election signage, and options to further regulate and prohibit election signage, including third party elections signs on public property and the resources and cost of implementation.	Council	1/30/2023	Municipal Enforcement Services Department
Heritage Way Speed Limit	1/27/2025	That staff conduct public consultation in the Heritage Way neighbourhood for reinstating the 50 km/h previously posted speed limit from the current posted speed limit of 40 km/h on all streets in Heritage Way 40 km/h Area (excluding 40 km/h school zones on Heritage Way) and report back to Council on the results.	Council	7/9/2024	Transportation and Engineering Department
48 Bronte Road	10/21/2024	Staff be directed to report on the potential public ownership of the former Greb Property in order to address such issues as: Potential threats to this section of the Bronte Creek due to extreme weather events/flooding, in consultation with Conservation Halton; The role of this property and section of the Bronte Creek to provide protection/climate proofing, reduction in erosion risks and public infrastructure, and loss of top of bank, in consultation with Conservation Halton; The strategic role of this property to provide a connection to the Fishermans Park and pier, Bronte Heritage Waterfront Park, the Bronte Inner Harbour lands, with connections to Berta Point and Bronte Beach for recreational purposes in consultation with Conservation Halton and Halton Region; A potential role of this property as a cultural heritage landscape and as part of the Harbours portfolio of offerings to boaters and connection to Bronte Road; and, The ability to access any available Federal, Provincial, and Regional funding and other programs for climate proofing.	Council	11/20/2023	Parks and Open Space Department

Tasks before Escribe	11/25/2024	That staff report back on the creation of a safety protocol for homeowners/tenants in private residences where they are unable to self-evacuate. That the report includes, but is not limited to, a communication strategy developed in partnership with community agencies serving vulnerable populations on how to develop a personal fire emergency escape plan, information on current subsidies available for renovations, creation of a registry for dwellings that have residents with mobility issues.	Council	1/1/2020	Fire Department
Tasks before Escribe	11/30/2024	That staff report to Council in the fourth quarter of 2021 on the outcomes of the pilot overnight parking program in downtown Oakville and next steps.	Council	1/1/2020	Municipal Enforcement Services Department
Tasks before Escribe	11/30/2024	WHEREAS Regional Governance review by the Province has begun and is moving quickly; and WHEREAS the Public and Council require fulsome fact-based information on the potential impact a change in our governance model may have on our finances, services, current priorities and future. THEREFORE staff be directed to prepare a report forthwith on best practices in municipal governance including finances and debt level, potential service changes and service level changes and possible risks in consultation with our Regional Government, and provide it to Council at the next Council meeting.	Council	1/1/2020	Corporate Strategy and Government Relations
Requests for Reports	11/30/2024	That staff report on the feasibility, costs, implications and timing of switching out level 1 EV charging stations installed on Lakeshore Road East (Downtown Oakville) with level 3 fast charging stations. And that staff review the implications and considerations of some or all of the costs of installing level 3 chargers being off-set by sponsors.	Council	7/5/2021	Municipal Enforcement Services Department
Tasks before Escribe	11/30/2025	That staff delay the release of the public tender/RFP for lease proposals for the Deerfield Golf Course until the short term extension with the current tenant expires, and report back to Council with the results of the tender.	Council	1/1/2020	Legal Department
Tasks before Escribe	11/30/2025	That Planning Services be directed to report back on the implementation initiatives and incentives for Midtown as outlined in the report dated May 13, 2014 (PD-009-14), which includes a Community Improvement Plan, a municipal parking strategy and alternative parkland dedication requirements.	Council	1/1/2020	Planning and Development Department
Tasks before Escribe	11/30/2025	That staff be requested to report back to Council on the timing and type of Community Improvement Plan, and funding sources, that may be appropriate for Bronte Village following the conclusion of the growth area review and Livable Oakville Plan policy update for Bronte Village.	Council	1/1/2020	Planning and Development Department
Tasks before Escribe	11/30/2025	practice for locating seniors residential developments in the Town of Oakville. That staff also define the uses occurring within these developments and what additional infrastructure needs may be required to accommodate the needs of the residents.	Council	1/1/2020	Planning and Development Department
Streetscape Improvements	11/30/2025	That staff report on options to improve the streetscapes on arterial and collector roads.	Council	2/27/2023	Planning and Development Department

Bronte Village Revitalization Comprehensive Plan	11/30/2025	That staff prepare a report outlining the terms of reference, workplan, resources, and timing needed to create a comprehensive and integrated plan to better coordinate the vision, revitalization, and investments in Bronte Village, comparable to the approach taken for the Downtown Oakville Plan, their strategic action plan and associated initiatives.	Council	3/27/2023	Planning and Development Department
Recovery in Sport Oakville	11/4/2024	To support the recovery of sport in Oakville and maximize the use of indoor and outdoor sport facilities, Council requests that staff conduct a review of the Towns Facility Allocation Policy in consultation with community sports organizations; and report back to Council on recommended policy updates including municipal policy comparator information, summary of consultation results with community sport organizations, identification of any impacts to sports organization access to town assets and alignment with the towns Recovery Framework by the end of 2021.	Council	5/25/2021	Recreation and Culture Department
Potential Park Uses for McCraney Reservoir Park	11/4/2024	That staff report on potential park uses of the McCraney Reservoir Park upon completion of the Regions Master Plan for the McCraney Reservoir.	Council	8/9/2022	Parks and Open Space Department
Tasks before Escribe	12/16/2024	That staff review and discuss options for the creation and operation of a waterfront attraction or destination or feature with the Oakville Yacht Squadron and potentially other third parties and that the proposal be a recommendation under the forthcoming Harbours Master Plan.	Council	1/1/2020	Parks and Open Space Department
Tasks before Escribe	12/16/2024	That staff report on the maintenance and design standards for new and existing walkways including standards for widths, construction, fencing, lighting, safety and security, plantings and landscaping, winter and summer seasonal maintenance and the process for interacting with abutting landowners when changes to walkways occur	Council	1/1/2020	Parks and Open Space Department
Tasks before Escribe	12/16/2024	1. That staff report on what the stormwater management standards are for ditches and culverts in residential areas including the design standards for depth, width and slope of ditches, the accepted materials in ditches such as plantings, stones or retaining walls, the process for property owners to make any changes to adjacent ditches as well as water retention and conveyance standards for ditches. 2. That staff update the Town of Oakville web site to include this information in a user friendly and accessible format.3. That staff report on options, such as the use of a standard leaflet distributed to property owners, to improve proactive communications about the Towns standards, maintenance plans and upcoming works for stormwater ditches and culverts particularly on residential streets including for regular inspections. Council 05/25/2020	Council	1/1/2020	Transportation and Engineering Department
Options for Enhanced Fire Station Signage	12/16/2024	That staff report provide options for enhanced signage in front of our fire stations to indicate stopping is prohibited for safe egress of the fire vehicles.	Council	5/25/2022	Transportation and Engineering Department

Sunningdale Tennis Court	12/16/2024	That staff report back on the feasibility and options for the acquisition, leasing, or other forms of acquisition or for entering into an agreement for the management of the Sunningdale Tennis Court located at Sunningdale Public School as a town facility from the Halton Distract School Board with the goal of keeping it open to the public and repairing and maintaining it in accordance with the standards offered at other Town owned and operated tennis courts.	Council	5/25/2022	Parks and Open Space Department
Tasks before Escribe	12/31/2024	1. That the report from the Parks and Open Space department, dated May 22, 2012, entitled Marina Facility at Bronte Harbour - Oakville Harbours Section, be received; 2. That the continued operation of the Marina Facility at Bronte Harbour be approved as identified in Option 1 of the staff report; and 3. That staff be requested to conduct a further analysis of the marina facility in Bronte Harbour in five (5) years and at that time, provide recommendations for the continued operation of the marina facility.	Council	1/1/2020	Parks and Open Space Department
Teo's Law	12/31/2024	That staff report back to Council on the feasibility of implementing a by-law for pool safety when hosting guests at their home where there is a unsecured pool present.	Council	8/15/2023	Municipal Enforcement Services Department
Predatory Towing on Private Property	12/31/2024	Staff be directed to review the private property parking by-law and report back with options by May 2024, or sooner, including removal of towing authority for private property parking offences, to address predatory towing in Oakville.	Council	3/25/2024	Municipal Enforcement Services Department
Elementary School Traffic Management	12/31/2024	Staff be requested to prepare a report on elementary school traffic management and municipal enforcement with specific reference to incidents and enforcement activity at Montclair Public School on January 9th 2024.	Council	4/29/2024	Municipal Enforcement Services Department
Youth/Fireworks in Bronte Village	12/31/2024	That staff explore additional steps that may be taken by the Town to help proactively mitigate the ongoing issue of excessively large groups of youth congregating and being attracted to Bronte Village on holiday weekends, especially Victoria Day and Canada Day, to set off fireworks in the streets and parks that are often targeted at people, vehicles, buildings, and sensitive uses such as gas stations, a seniors building, athletic fields, playgrounds and a school. Also exploring the potential for additional youth programming during these times through our Special Events Strategy and/or further restrictions through our exploration of a fireworks ban to help mitigate this issue in Bronte Village.	Council	5/27/2024	Municipal Enforcement Services Department
Regulating the Display and Distribution of Objectionable Images	12/31/2024	See confidential minutes for direction.	Council	6/17/2024	Legal Department
Council Code of Conduct Update	12/31/2024	That staff review Councils code of conduct to reflect the Integrity Commissioners suggestion that there is a need to update the Council Code of Conduct to bring accountability rules in force at the Town of Oakville, in line with the best practices at the municipal level of government in Ontario.	Council	8/13/2024	Clerk's Department

Rainwater Management Financial Plan, Stormwater Fee Development and Consideration of Green Stormwater Infrastructure	12/16/2024	1. That staff report back in 2024 with an update on the recommended stormwater fee structure and implementation plan.	Council	9/18/2023	Asset Management Department
Procedure By-law Review	11/30/2024	That the Budget Standing Committee size and composition be amended to reflect a membership of all Council members, and that a Chair be elected annually. That revisions to the Procedure By-law reflecting this change be brought forward to a future Council meeting. That the Clerk consider the comments of Council in finalizing the draft procedure by-law for consideration by Council. That staff report back with a draft version of the Procedure By-law 2023-066 in June 2023. Further revisions to be considered 1st quarter 2024.	Council	5/29/2023	Clerk's Department
White Paper: Planning Act Tools to Facilitate Development of Affordable Housing	11/30/2024	That staff initiate and undertake work programs in an efficient, and where possible, concurrent manner to investigate, and if deemed appropriate, implement the following Planning Act tools: Inclusionary Zoning within Protected Major Transit Station Areas; Community Planning Permit System within Midtown Oakville and with opportunity to do so in other parts of the Town; and Community Improvement Plan to incentivize affordable housing across the Town.	Planning and Development Council	3/18/2024	Planning and Development Department
Region Pumping Station in Bronte Beach August 9, 2022	11/18/2024	4. That in using a build back better approach, the Region be requested to cost share with the planned Town Phase 2 improvements at Bronte Beach Park that will incorporate the pumping station in a plan that benefits the residents of Oakville. 5. That staff report back to Council once discussions have been completed.	Council	8/9/2022	Legal Department
Implementation of Bill 109 Amendments to Site Plan Control By-law 2019-114 (July 11, 2022) By-law 2022-093	12/31/2024	That staff arrange for a Council workshop regarding this issue.	Planning and Development Council	7/11/2022	Legal Department
Business Licensing By-law Review Update	1/27/2025	3.That the Director of Municipal Enforcement Services be authorized to continue by-law preparations in accordance with the direction set out within this report, considering any comments received and report back with a new licensing by-law at a future Council meeting. 4.That Municipal Enforcement undertake a full food truck licensing review, including consultation with the industry, residents and BIAs, to develop a strategy framework for future licensing opportunities and report back to Council at a later date, maintaining the priority of the property standards and noise by-law review.	Council	1/31/2022	Municipal Enforcement Services Department

Housekeeping Amendments to the Public Nuisance, Property Standards and Lot Maintenance By-laws	11/18/2024	That By-law 2024-072, a by-law to amend Public Nuisance By-law 2007-143 attached as Appendix A to the report from Municipal Enforcement Services dated June 4, 2024 be referred back to staff to identify best practices on light transfer onto properties (including outside living spaces) in intensifying urban areas to minimize nuisance and transmission across properties, as well as light pollution into the sky affecting our environment (dark sky regulations), while balancing the needs for sensor activated lighting for security and safety purposes.	Council	6/17/2024	Municipal Enforcement Services Department
Noise By-law Update	11/30/2024	That staff be authorized to engage in further public consultation to seek input on the draft Noise By-law attached as Appendix A to the staff report dated November 21, 2023, from Municipal Enforcement Services, and report back with a final version of the Noise By-law by the first quarter of 2024.	Planning and Development Council	12/4/2023	Municipal Enforcement Services Department
Noise By-law Review Proposed Noise By-law 2024-079	11/30/2024	That staff consider and bring back to Council options for commercial areas, Business Improvement Areas and mixed use areas regarding time restrictions.	Council	5/27/2024	Municipal Enforcement Services Department
Sale and Discharge of Consumer Fireworks Response to Staff Direction	12/31/2024	That Council and staff consult with the public on the use and sale of consumer fireworks and report back to Council in the Fall of 2024.	Council	11/20/2023	Municipal Enforcement Services Department
Business Licensing By-law Review Draft By-law	12/31/2024	That Council's comments and draft licensing by-law attached as Appendix A to the report from Municipal Enforcement Services dated June 4, 2024 be received for consideration and not passed at this time. That Municipal Enforcement Services report back with comments received from the business community and the final version of the licensing by-law in Q4 of 2024.	Council	6/17/2024	Municipal Enforcement Services Department
Towing Vehicles from Private Property	12/31/2024	That Option #3 included in the report from Municipal Enforcement Services dated July 2, 2024 regarding towing from private parking lots be adopted and report back to Council by the end of 2024. That after further discussions with the Halton Regional Police Service, Municipal Enforcement Services prepare a by-law to override the private parking lot owners ability to tow unauthorized vehicles parked on their lot. That Municipal Enforcement Services report back to Council by year end with the results of the discussions with the Halton Regional Police Service, the by-law pursuant to Recommendation 2, and a report to address how towing will occur in the future, as well as Municipal Enforcement Services resourcing requirements to administer and enforce the by-law. That the report from Municipal Enforcement Services dated July 2, 2024 regarding towing from private parking lots and resulting resolution be referred to both Halton Regional Police Services and the Police Board. That the Mayor, on behalf of Council, write to the Minister of Transportation to urge the Province to consider amendments to the Towing and Storage Safety and Enforcement Act sections 20(2) and 23(2) and Ontario Regulation 167/23 to define the other person with authority to direct impoundment or storage.	Council	7/9/2024	Municipal Enforcement Services Department

Bronte Paid Parking Pilot Program	6/30/2024	That the report from Municipal Enforcement Services, titled Bronte Paid Parking Pilot Program, dated November 2, 2021 be received; That the pilot commercial parking program in the Bronte Village continue; and That staff report to Council in the first quarter 2023 on the Bronte Village commercial parking pilot program outcomes and next steps.	Council	11/15/2021	Municipal Enforcement Services Department
Fishing from Town Parkland - Update	10/2/2024	That the amendments to the Parks By-law 2013-013, to reflect the permission for night fishing to be a permanent program, be included in the next council agenda for approval.	Council	9/16/2024	Parks and Open Space Department
Oakville Marine Search and Rescue - Relocation to Bronte Harbour	11/18/2024	That this matter be referred back to staff to develop more options, conduct public consultation and produce a recommendation to Council. That staff consult the public about future uses of 2 Navy Street, where TOWARF was located before their name change to Oakville Search and Rescue.	Council	7/9/2024	Parks and Open Space Department
Sports Activities and Equipment within Municipal Rights-of-Way	6/30/2025	That the general prohibition be lifted, in a limited fashion to allow identified sports (to be determined) on only specific types of roads and at certain times of day (to be determined) at the participants own risk, through a staff report that further informs Council on best practices in other jurisdictions.	Council	9/16/2024	Transportation and Engineering Department
Old Oakville Heritage Conservation District Revised Study	11/25/2024	That the Old Oakville Heritage Conservation District Revised Study as attached in Appendix A to the staff report dated January 23, 2024 and revised in accordance with the memo dated February 5, 2024 from Planning Services, be approved. That staff be directed to continue work on the Old Oakville Heritage Conservation District Update to create a revised Plan and Guidelines.	Planning and Development Council	2/5/2024	Planning and Development Department
Housing Strategy and Action Plan including the Housing Accelerator Fund Application	11/30/2024	1. That staff undertake a public engagement program on the Housing Strategy and Action Plan, report back to Council on what was heard, and refine the Housing Strategy and Action Plan, as necessary, in coordination with other ongoing provincial initiatives	Planning and Development Council	7/10/2023	Planning and Development Department
Public Meeting and Recommendation Report Deferred Items from OPA 34, North West Area and Palermo Village OPA 37 and OPA 38 By-law 2021-096 and By-law 2021-097 July 5, 2021	11/30/2025	4.That Planning staff report back on potential official plan policy updates with respect to parking for the Palermo Village growth area upon completion of the town-wide Parking Strategy.	Planning and Development Council	7/5/2021	Planning and Development Department
Parks & Open Space Strategy: Town of Oakville Parks Plan 2031 and Parkland Dedication By-law 2024-034	12/16/2024	That prior to the finalization of the Land Acquisition Strategy, Staff continue to monitor land acquisition opportunities within the towns Strategic Growth Areas, and where acquisition supports community and infrastructure needs, staff will present options to Council for consideration.	Planning and Development Council	4/8/2024	Parks and Open Space Department
Recommendation Report FCHT Holdings (Ontario) Corporation Z.1612.14 and OPA 1612.14 - 271 Cornwall Road and 485 Trafalgar Road By-laws 2022-051 and 2022-052	12/30/2024	That the site plan for this application be brought to Council for final approval.	Planning and Development Council	5/16/2022	Planning and Development Department
Parks & Open Space Strategy: Town of Oakville Parks Plan 2031 and Parkland Dedication By-law 2024-034	12/31/2024	That prior to the finalization of the Land Acquisition Strategy, Staff continue to monitor land acquisition opportunities within the towns Strategic Growth Areas, and where acquisition supports community and infrastructure needs, staff will present options to Council for consideration.	Planning and Development Council	4/8/2024	Parks and Open Space Department

Public Meeting Report Town-initiated Official Plan Amendment Midtown Oakville Urban Growth Centre (File No. 42.15.59) April 22, 2024	12/31/2024	That the analysis of the following matters of interest to Council be included as part of the recommendation report: There is a desire for a complete community, and density to ensure viability; There is a desire for a complete community, and density to ensure viability; There is a desire for a walkable, urban environment that includes sufficient; density - consider the Copenhagen model to achieve this; Concerns regarding the planned population, density and height of buildings leading to insufficient amount of greenspace and adversely affecting the character of the area; Concerns regarding the transportation network and capacity; There is a desire to ensure that financial pressures on the tax base related to Midtown be mitigated to the greatest extent possible; and Need further clarification around how matters such as: how a landowners group will function, phased redevelopment of sites, ratio of non-residential uses, delivery of supporting community amenities (i.e. schools, community centres), implementation tools (i.e. zoning, financial, green development standards, area design plans), terminology, climate change resiliency	Planning and Development Council	4/22/2024	Planning and Development Department
Public Meeting and Recommendation Report Town-initiated Official Plan and Zoning By-law Amendments Four Units As-of-Right and Sheridan College Housing Area (File No. 42.15.62 and 42.15.63) May 6, 2024	12/31/2024	Staff be directed to create a Sheridan College Housing Taskforce with the objective to enable, advance, and accommodate the development of residential uses, including student housing, on the Sheridan College campus; and Staff be directed to create a work program, in alignment with ongoing HAF initiatives, to bring forward any necessary recommendations, including programs, Official Plan and/or Zoning By-law Amendments, to achieve the findings of the Sheridan College Housing Taskforce to expedite the delivery of student housing on the Sheridan Campus.	Planning and Development Council	5/6/2024	Planning and Development Department
Public Notice and Engagement Policy and Procedure Update	12/31/2024	That this item be referred to staff to further explore public notice requirements for statutory public meetings and the timeframe to inform Council members of the matters within their ward and report back to Council at the August 13th Council meeting.	Council	6/17/2024	Corporate Strategy and Government Relations
Information Report Warehousing and Distribution Industries Review (File No. 42.15.61)	12/9/2024	1. That this item be referred back to staff to seek additional research from other jurisdictions, identify options for definitions that recognize the difference between warehouses and distribution centres in terms of scale, operational impacts, and best practices in land use compatibility requirements for Q1 2024. 2. That this will allow staff to identify implications from the 2023 Provincial Planning Statement, and provide residents a greater opportunity to review and comment to Planning and Development Council.	Planning and Development Council	6/12/2023	Planning and Development Department
North Oakville Driveway Extensions Report for Information	2/3/2025	That the report titled North Oakville Driveway Extensions Report for Information be received and staff report back in 2023 with any recommended changes to the Zoning By-law or process.	Planning and Development Council	6/7/2022	Planning and Development Department
Town of Oakville Council Strategic Plan and 20232026 Action Plan	8/31/2024	That staff report back on how green space is measured.	Council	7/11/2023	Corporate Strategy and Government Relations

Climate Emergency Declaration Progress Report	8/31/2024	That staff report on the operation, success and progress of the Guelph local improvement charge program.	Council	7/11/2023	Corporate Strategy and Government Relations

OAKVILLE

THE CORPORATION OF THE TOWN OF OAKVILLE

BY-LAW NUMBER 2024-158

A by-law to confirm the proceedings of a meeting of Council

COUNCIL ENACTS AS FOLLOWS:

1. Subject to Section 3 of this by-law, every decision of Council taken at the meeting at which this by-law is passed and every resolution passed at that meeting shall have the same force and effect as if each and every one of them had been the subject matter of a separate by-law duly enacted.

2. The execution and delivery of all such documents as are required to give effect to the decisions taken at the meeting at which this by-law is passed and the resolutions passed at that meeting are hereby authorized.

3. Nothing in this by-law has the effect of giving to any decision or resolution the status of a by-law where any legal prerequisite to the enactment of a specific by-law has not been satisfied.

PASSED this 21st day of October, 2024

_____		_____	
Rob Burton	Mayor	Vicki Tytaneck	Town Clerk

OAKVILLE

THE CORPORATION OF THE TOWN OF OAKVILLE

BY-LAW NUMBER 2024-128

A by-law to remove Holding "H" Provision on lands described as Part of Lot 16, Concession 1 NDS, Diagram Developments Oakville Inc., File No. ZH 7/24

WHEREAS By-law 2023-083 delegates powers and duties with authority from Council to the Commissioner of Community Development to approve by-laws of a minor nature under section 34 of the *Planning Act* with respect to certain matters, including the removal of holding symbols under section 36 of the *Planning Act*;

WHEREAS the Commissioner of Community Development is satisfied that notice of the intention to pass a by-law to authorize the removal of Holding Provisions "H53" and "H55" was given in accordance with the requirements of the *Planning Act*;

WHEREAS the Commissioner of Community Development is satisfied that the conditions for the removal of the holding symbol set out in Section 9 of the Zoning By-law 2009-189, have been satisfied;

THE CORPORATION OF THE TOWN OF OAKVILLE, BY THE COMMISSIONER OF COMMUNITY DEVELOPMENT ACTING UNDER DELEGATED AUTHORITY, ENACTS AS FOLLOWS:

1. Map 12(4) of By-law 2009-189, as amended, is further amended by removing the holding symbols from the lands depicted on Schedule 'A' to this By-law.

2. Section 9, Holding Provisions, of Bylaw 2009-189, as amended, is further amended by deleting section 9.3.53 in its entirety and replacing it with the following:

   "H53 – Removed by By-law 2024-128"

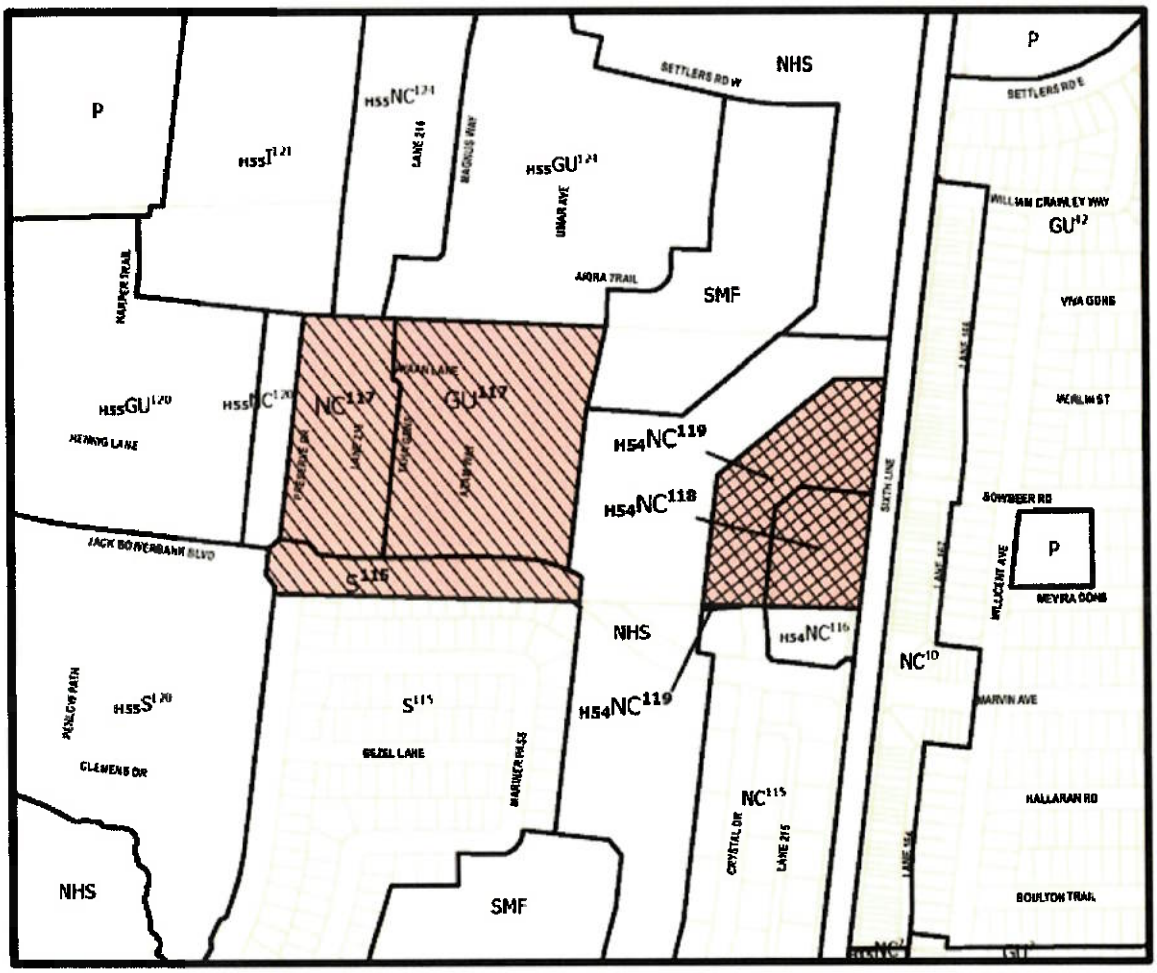
3. This By-law comes into force upon the day it is passed.

PASSED this 3rd day of October 2024.

Gabe A.R. Charles - Acting Commissioner Community Development as delegated for Council

Vicki Tytaneck - Town Clerk

SCHEDULE "A"
To By-law 2024-128



AMENDMENT TO BY-LAW 2009-189

H53/H55 is removed from the subject lands

H55 is removed from the subject lands

EXCERPT FROM MAP 12 (4)

SCALE: 1:4,000

OAKVILLE

THE CORPORATION OF THE TOWN OF OAKVILLE

BY-LAW NUMBER 2024-129

A by-law to remove Holding "H" Provision on lands described as Part of Lots 17-19, Concession 1 NDS, Lower Fourth Development Limited and Pendent Developments Ltd., File No. ZH 8/24

WHEREAS By-law 2023-083 delegates powers and duties with authority from Council to the Commissioner of Community Development to approve by-laws of a minor nature under section 34 of the *Planning Act* with respect to certain matters, including the removal of holding symbols under section 36 of the *Planning Act*;

WHEREAS the Commissioner of Community Development is satisfied that notice of the intention to pass a by-law to authorize the removal of Holding Provision "H55" was given in accordance with the requirements of the *Planning Act*;

WHEREAS the Commissioner of Community Development is satisfied that the conditions for the removal of the holding symbol set out in Section 9 of the Zoning By-law 2009-189, have been satisfied;

THE CORPORATION OF THE TOWN OF OAKVILLE, BY THE COMMISSIONER OF COMMUNITY DEVELOPMENT ACTING UNDER DELEGATED AUTHORITY, ENACTS AS FOLLOWS:

1. Map 12(4) of By-law 2009-189, as amended, is further amended by removing the holding symbol from the lands depicted on Schedule 'A' to this By-law.

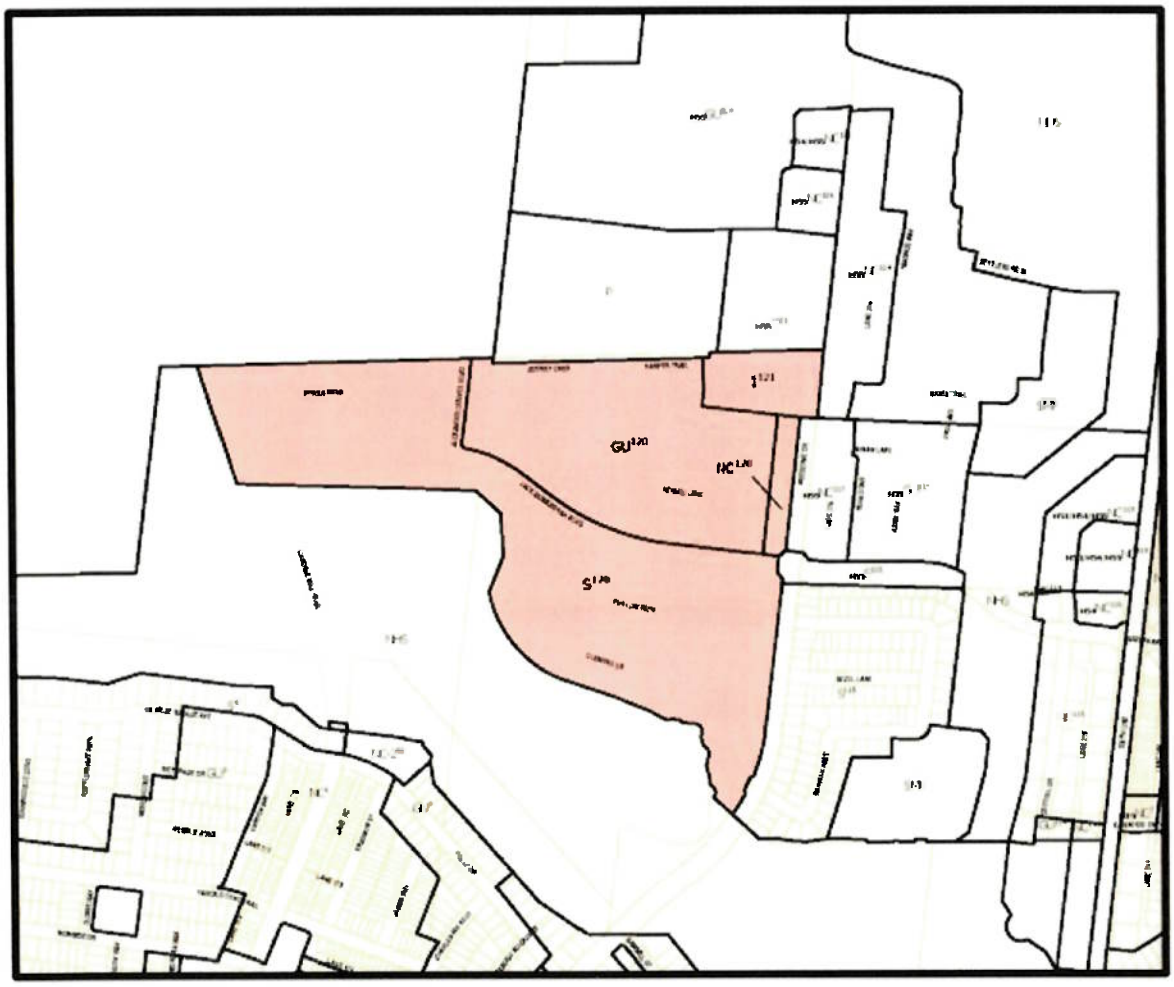
2. This By-law comes into force upon the day it is passed.

PASSED this 3rd day of October 2024.

Gabe A.R. Charles - Acting Commissioner
Community Development as delegated
for Council

Vicki Tytaneck - Town Clerk

SCHEDULE "A"
To By-law 2024-129



AMENDMENT TO BY-LAW 2009-189

H55 is removed from the subject lands

EXCERPT FROM MAP 12 (4)

SCALE: 1:7,000