



AGENDA MATERIAL

COMMITTEE OF THE WHOLE

MEETING DATE: MONDAY, JUNE 7, 2021

LOCATION: S. H. BLAKE MEMORIAL AUDITORIUM
(Council Chambers)

TIME: 6:30 PM



MEETING: Committee of the Whole

DATE: Monday, June 7, 2021

Reference No. COW - 29/52

CLOSED SESSION via Microsoft Teams at 5:00 p.m.

Committee of the Whole - Closed Session

Chair: Councillor A. Ruberto

Closed Session Agenda will be distributed separately to Members of Council and EMT only.

OPEN SESSION in S.H. Blake Memorial Auditorium at 6:30 p.m.

Committee of the Whole - Operations Session

Chair: Councillor B. McKinnon

DISCLOSURES OF INTEREST

CONFIRMATION OF AGENDA

Confirmation of Agenda - June 7, 2021 - Committee of the Whole **(Page 10)**

WITH RESPECT to the June 7, 2021 Committee of the Whole meeting, we recommend that the agenda as printed, including any additional information and new business, be confirmed.

PRESENTATIONS

Bicycle Friendly Community Award

Memorandum from Mr. D. Smith, Mobility Coordinator, dated May 26, 2021 requesting to present an award recognizing Thunder Bay as a Silver Bicycle Friendly Community. **(Pages 11 – 12)**

DEPUTATIONS

Change in City Policy or Program

Correspondence from Mr. S. Marasco, dated May 5, 2021 requesting to provide a deputation relative to the above noted. **(Pages 13 – 14)**

REPORTS OF MUNICIPAL OFFICERS

Net-Zero Strategy

At the May 3, 2021 Committee of the Whole meeting, Report R 50/2021 (Infrastructure & Operations) relative to the above noted, was presented as a First Report to allow Committee of the Whole and the general public time to consider the implications of the report before its recommendations are considered by Committee of the Whole on June 7, 2021.

Report R 50/2021 (Infrastructure & Operations) recommending that the Net-Zero Strategy be received and endorsed in principle by Council, to guide future direction and investment in climate change mitigation, re-presented. **(Pages 15 – 108)**

Correspondence from Ms. J. Carastathis, Chair - Thunder Bay Walkability Committee, dated May 25, 2021 expressing support for Net-Zero Strategy. **(Page 109)**

WITH RESPECT to Report R 50/2021 (Infrastructure & Operations), we recommend that City Council endorse the Net-Zero Strategy (NZS) in principle to guide future direction and investment in climate change mitigation;

AND THAT the non-binding target to reduce greenhouse gas (GHG) emissions to net-zero by 2050 be approved by Council;

AND THAT Administration be directed to proceed with the next steps in implementing the NZS as outlined in Appendix D of the NZS (Attachment A);

AND THAT any necessary by-laws be presented to City Council for ratification.

Centennial Botanical Conservatory – Facility Renewal

Report R 76/2021 (Infrastructure & Operations - Engineering & Operations) recommending that Administration proceed with the renewal of the Centennial Botanical Conservatory facility as outlined in the report. **(Pages 110 – 117)**

Memorandum from Mr. C. Halvorsen, Manager - Parks & Open Spaces, dated May 21, 2021 requesting to provide a presentation relative to the above noted. **(Page 118)**

WITH RESPECT to Report R 76/2021 (Infrastructure & Operations – Engineering & Operations) we recommend that Administration proceed with the renewal of the Centennial Botanical Conservatory facility as outlined in this report;

AND THAT \$1,400,000 budget be established for this project from the Renew Thunder Bay Fund in support of the Canada Cultural Spaces Fund application;

AND THAT the Mayor and Clerk be authorized to execute all necessary documentation;

AND THAT Appropriation Change Order No. 11 be approved;

AND THAT any by-laws as necessary be presented for ratification.

Contract 11, 2021- Multi-Use Trail Reconstruction

Report R 68/2021 (Infrastructure & Operations - Engineering & Operations) recommending that Contract 11, 2021-Multi-Use Trail Reconstruction be awarded to Pete's Backhoe Service Ltd who submitted the lowest revised tender in the amount of \$775,138.77. **(Pages 119 – 123)**

WITH RESPECT to Report R 68/2021 (Infrastructure & Operations - Engineering & Operations), we recommend that Contract 11, 2021 – Multi-Use Trail Reconstruction be awarded to Pete's Backhoe Service Ltd who submitted the lowest revised tender in the amount of \$775,138.77 [inclusive of HST]; it being noted that the amount shown is based on estimated quantities; final payment for this contract will be based on measured quantities for the completed work;

AND THAT the \$1,606,329 contribution from the Investing in Canada Infrastructure Program - COVID Resilience fund be accepted into the 2021 Capital Budget for trail construction and improvements;

AND THAT the General Manager of Infrastructure and Operations report any circumstances to City Council should significant variation in the contract quantities occur;

AND THAT the Mayor and City Clerk be authorized to sign all documentation related to these matters;

AND THAT Appropriation Change No. 12 be approved;

AND THAT any necessary by-laws be presented to City Council for ratification.

Emerald Ash Borer 2020 Update

Report R 72/2021 (Infrastructure & Operations - Engineering & Operations) recommending that the current Emerald Ash Borer Management Strategy be revised. **(Pages 124 – 133)**

WITH RESPECT to Report R 72/2021 we recommend the current Emerald Ash Borer (EAB) Management Strategy be revised as noted in this report beginning in 2022;

AND THAT updates on the state of the EAB infestation and management plan implementation be provided every two years;

AND THAT the Mayor and Clerk be authorized to execute all necessary documentation;

AND THAT any by-laws as necessary be presented for ratification.

External Funding For Various Capital Works

Report R 35/2021 (Infrastructure & Operations - Central Support) recommending approval of the receipt and expenditure of funding from Northern Ontario Heritage Fund Corporation, Tree

Chipping Revenue from Resolute, Environment and Climate Change Canada, Minister of Transport, Trans Canada Trail, The Friends of Chippewa Park and Conservatory Donations. **(Pages 134 – 138)**

WITH RESPECT to Report R 35/2021 (Infrastructure & Operations – Central Support), we recommend approval of the receipt and expenditure of funding from Northern Ontario Heritage Fund Corporation, Tree Chipping Revenue from Resolute, Environment and Climate Change Canada, Minister of Transport, Trans Canada Trail, The Friends of Chippewa Park and Conservatory Donations as outlined in this Report;

AND THAT Appropriation Change Order No. 36 be approved;

AND THAT any necessary by-laws be presented to City Council for ratification.

Eye on the Street Renewal

Report R 36/2021 (Infrastructure & Operations - Central Support) recommending approval of revisions to the Eye on the Street Program. **(Pages 139 – 177)**

WITH RESPECT to Report R 36/2021 (Infrastructure & Operations – Central Support), we recommend that the revisions to the Eye on the Street Program as outlined in this report be approved;

AND THAT the Code of Practice be amended to reflect the changes;

AND THAT the Mayor and Clerk be authorized to execute an agreement, in form and content satisfactory to the City Solicitor and the Chief of Thunder Bay Police Service, to establish a memorandum of understanding as outlined in the Code of Practice;

AND THAT the Mayor and Clerk be authorized to execute an agreement, in form and content satisfactory to the City Solicitor with the owners of buildings upon which CCTV equipment will be installed;

AND THAT the necessary by-law to enact the City's video surveillance programs be presented to City Council for ratification.

PETITIONS AND COMMUNICATIONS

Red Light Camera Public Consultation Update

At the March 1, 2021 Committee of the Whole meeting, Report R 15/2021 (Infrastructure & Operations – Engineering & Operations) was presented, recommending that Administration implement a Red Light Traffic Camera program at ten intersections. At that time, a resolution was passed referring the item to Administration for public consultation and directing Administration to report back on or before June 7, 2021.

Memorandum from Mr. D. Binch, Traffic Technologist, dated May 18, 2021 containing an update on public consultation relative to red light cameras, for information. **(Pages 178 – 180)**

Original motion, as contained in Report R 15/2021 (Infrastructure & Operations – Engineering & Operations), re-presented.

WITH RESPECT to Report R 15/2021 (Infrastructure & Operations – Engineering & Operations), we recommend that Administration implement a Red Light Traffic Camera program at ten intersections;

AND THAT Council provide a letter of intent addressed to the Minister of Transportation;

AND THAT Administration include costs to implement the Red Light Camera program in the 2022 budget for Council's consideration;

AND THAT any necessary by-laws be presented to Council for ratification.

Request for Report – Question on the Ballot

Memorandum from Councillor Peng You, dated May 25, 2021 containing a motion requesting a report on the process required to add the following question “Are you in favour of a smaller city council, one made up of 8 councillors elected at-large and one mayor elected at-large?” to the ballot for the 2022 municipal election. **(Pages 181 – 183)**

WITH RESPECT to the memorandum from Councillor Peng You dated May 25, 2021, we recommend that Administration be directed to complete a report on the process required to add the following question “Are you in favour of a smaller city council, one made up of 8 councillors elected at-large and one mayor elected at-large?” to the ballot for the 2022 municipal election;

AND THAT this report include information with respect to what legislative consequences may result should the vote received on the question be binding for the municipality;

AND THAT this report be received on or before September 27, 2021;

AND THAT any necessary by-laws be presented to City Council for ratification.

Request for Report – Infrastructure Priorities

Memorandum from Mayor B. Mauro dated May 3, 2021 containing a motion relative to the above noted. **(Pages 184 – 185)**

WITH RESPECT to the Memorandum from Mayor B. Mauro dated May 3, 2021, we recommend that Administration be directed to complete a report on a list of the top 20-25 major infrastructure projects and the level of priority for each project:

AND upon return of the report City Council provide feedback on the list and on the priorities for council going forward;

AND THAT this report be received on or before a date to be determined by City Council;

AND THAT any necessary by-laws be presented to Council for ratification.

Weight Restriction Review – East Avenue

Memorandum from Councillor A. Aiello, dated May 6, 2021 containing a motion relative to the above noted. **(Pages 186 – 187)**

WITH RESPECT to the memorandum from Councillor A. Aiello dated May 6, 2021, we recommend that Administration review the feasibility of implementing weight restrictions on East Avenue including potential of issuing and enforcing fines for non-compliance;

AND THAT Administration report back on or before December 2, 2021;

AND THAT any necessary by-laws be presented to City Council for ratification.

Engineering Construction Contract Summary

Memorandum from Ms. K. Dixon, Director - Engineering & Operations, dated May 27, 2021 containing a construction contract summary showing the variance between the original contract award price and final contract cost for Engineering projects from 2001 to 2020, for information. **(Pages 188 – 195)**

Petition – Request to Re-Surface Jewell Street

Memorandum from Ms. K. Power, City Clerk, dated May 13, 2021 attaching a petition containing twenty-one signatures relative a request to re-surface Jewell Street, for information. **(Pages 196 – 198)**

Memorandum from Ms. K. Dixon, Director - Engineering & Operations, dated May 21, 2021, relative to the above noted, for information. **(Page 199)**

OPEN SESSION in the S.H. Blake Memorial Auditorium

Committee of the Whole - Community Services Session
Chair: Councillor S. Ch'ng

REPORTS OF MUNICIPAL OFFICERS

Expansion of Police/Fire Public Safety Radio System to include Transit

Report R 63/2021 (Community Services - Facilities, Fleet & Energy Management) recommending that Harris Canada Inc. be selected as a single source provider of radio equipment for the expansion of the existing Police/Fire Public Safety Radio System to include Thunder Bay Transit. **(Pages 200 – 203)**

WITH RESPECT to Report R 63/2021 (Community Services - Facilities, Fleet & Energy Management), we recommend the purchase of Radio equipment in 2021 from Harris Canada System Inc. of Mississauga Ontario in the amount of \$ 497,500.00 (inclusive of HST and Contingency);

AND THAT City Council approve the use of the negotiated method of procurement as outlined in Sections 4.08 and 4.09 of the Supply Management By-law No. 113-2011 to procure the radio equipment;

AND THAT the General Manager – Community Services report any circumstances to City Council should significant variations in contract values occur as the work proceeds;

AND THAT the Manager – Supply Management be authorized to issue any purchase orders related to this tender;

AND THAT the Mayor and Clerk be authorized to sign all documentation related to these matters;

AND THAT any necessary by-laws be presented to City Council for ratification.

Green & Inclusive Community Buildings (GCIB) Program

Report R 82/2021 (Community Services and Infrastructure & Operations) recommending that the submission of applications to the Green and Inclusive Community Buildings (GCIB) Program, as outlined in this report, be approved. **(Pages 204 – 209)**

WITH RESPECT to Report R 82/2021 (Community Services and Infrastructure and Operations), we recommend that the submission of applications to the Green and Inclusive Community Buildings (GICB) Program be approved as outlined in this Report;

AND THAT any necessary by-laws be presented to City Council for ratification.

Non-Consolidated Financial Statements and Reserve Fund Update

Report R 55/2021 (Corporate Services & Long Term Care - Financial Services), recommending that the Non-Consolidated Financial Statements, Reserve Fund, and Investment of Municipal Funds Update for The Corporation of the City of Thunder Bay be received by City Council. **(Pages 210 – 234)**

Memorandum from Ms. L. Evans, General Manager-Corporate Services & Long Term Care and City Treasurer, dated June 1, 2021 containing an update on the estimated use of the Stabilization Reserve Fund required to offset COVID-19 financial pressures, for information. **(Page 235)**

Memorandum from Councillor C. Fraser, dated May 21, 2021 containing a motion relative to 2020 year end surplus allocation. **(Page 236)**

WITH RESPECT to Report R 55/2021 (Corporate Services & Long Term Care - Financial Services), we recommend that the Non-Consolidated Financial Statements (Attachment A) for the Corporation of the City of Thunder Bay be received by City Council for information purposes;

AND THAT the 2020 budgeted reserve fund transfers of \$250,000 to the Renew Thunder Bay Reserve Fund and \$100,000 to the Clean, Green, and Beautiful Reserve Fund, previously eliminated as a cost containment measure related to the COVID-19 Pandemic (R 72/2020) be restored;

AND THAT the 2020 tax-supported surplus of \$4.1 million be transferred to reserve funds as follows: \$0.5 million to the Insurance Reserve Fund, \$0.8 million to the Legal Fees Reserve Fund, and \$2.8 million to the Stabilization Reserve Fund;

AND THAT a new Reserve Fund be established effective January 1, 2021 to be known as the "Event Hosting Reserve Fund" for the purpose of accumulating funds to bid for, host and support major sporting events, multi-sport games and other significant events;

AND THAT \$75,000 be transferred to the new Event Hosting Reserve Fund in 2021 from the Stabilization Reserve Fund as an initial contribution;

AND THAT the Mayor and Clerk be authorized to sign all documentation related to these matters;

AND THAT any necessary by-laws be presented to City Council for ratification.

Motion - 2020 Year End Surplus Allocation

WITH RESPECT to the Memorandum from Councillor C. Fraser dated May 21, 2021, we recommend that, in 2021, Administration transfer \$2.8 million from the Stabilization Reserve Fund to the General Capital Reserve Fund;

AND THAT Administration be directed to present the 2022 Capital Budget with a one- time increase of \$2.8 million with the General Capital Reserve Fund as the one-time source of financing;

AND THAT any necessary by-laws be presented to City Council for ratification.

PETITIONS AND COMMUNICATIONS

June is Recreation & Parks Month

Memorandum from Ms. L. Prentice, Director - Recreation & Culture and Mr. C. Halvorsen, Manager – Parks & Open Spaces, dated May 27, 2021 relative to recent and upcoming Recreation and Parks events and activities in celebration of the annual Recreation & Parks Month in June, for information. **(Pages 237 – 241)**

Conservation Authorities Act – Regulation Consultation

Memorandum from Councillor A. Foulds, dated May 27, 2021 relative to the above noted.
(Distributed separately)

Evacuations from Remote Northern Communities

Memorandum from Mayor B. Mauro, dated May 18, 2021 containing correspondence from Hon. S. Jones, Solicitor General relative to the province's efforts to ensure that there are enough accommodations to support evacuations from remote northern communities, for information.
(Pages 243 – 247)

NEW BUSINESS

ADJOURNMENT

MEETING DATE 06/07/2021 (mm/dd/yyyy)

SUBJECT Confirmation of Agenda

SUMMARY

Confirmation of Agenda - June 7, 2021 - Committee of the Whole

RECOMMENDATION

WITH RESPECT to the June 7, 2021 Committee of the Whole meeting, we recommend that the agenda as printed, including any additional information and new business, be confirmed.



MEETING DATE 06/07/2021 (mm/dd/yyyy)

SUBJECT Bicycle Friendly Community Award

SUMMARY

Memorandum from Mr. D. Smith, Mobility Coordinator, dated May 26, 2021 requesting to present an award recognizing Thunder Bay as a Silver Bicycle Friendly Community.

ATTACHMENTS

1 D Smith memo dated May 26 2021

Memorandum

TO: Krista Power, City Clerk

FROM: Darrik Smith
Mobility Coordinator – Engineering & Operations

DATE: May 26, 2021

SUBJECT: Bicycle Friendly Community Awards
June 7, 2021 – Committee of Whole Meeting

On May 4th, 2021, the Share the Road Cycling Coalition in partnership with the Canadian Automobile Association announced the results of the Bicycle Friendly Community Awards. This award ranks the degree of bicycle friendliness of a municipality using the 4 E's: Engineering, Education, Encouragement, and Evaluation/Planning.

Thunder Bay has been officially recognized as a Silver Bicycle Friendly Community, an upgrade from the previous Bronze designation awarded in 2015. Some of the steps forward that led to this positive change include education outreach to children and youth through bike rodeos at elementary schools, and commuter cycling skills courses in middle schools and to adults with Safe Cycling courses delivered by EcoSuperior.

The construction of amenities such as the bike paths on Victoria Avenue and Vickers Street with coloured areas in conflict zones and the cycle track on Court Street. Lastly, programming such as the Bike-to-Work Day/Week, Bike to School Day/Week, and Community Rides with the support of EcoSuperior and Thunder Bay District Health Unit.

Since submitting this application, other major improvements include the Balmoral Street Trail being constructed up to Alloy Drive and the Ford Street Trail now reaching south to Walsh Street, providing a continuous connection to the McIntyre River Trail at Confederation College. The Ford Street Trail includes a demand-activated intersection at Ford Street and Arthur Street to provide safe crossing for people of all ages and abilities.

To commemorate the City's achievement in active transportation, providing mode options for more people that help achieve sustainability goals and work to improve the health and well-being of the citizens of Thunder Bay, Infrastructure & Operations would like to present Mayor Mauro and City Council with the official Silver Bicycle Friendly Designation Sign.

DS

cc: Krista Power – City Clerk
Norm Gale – City Manager
Kerri Marshall – General Manager – Infrastructure & Operations
Kayla Dixon – Director – Engineering & Operations



MEETING DATE 06/07/2021 (mm/dd/yyyy)

SUBJECT Change in City Policy or Program

SUMMARY

Correspondence from Mr. S. Marasco, dated May 5, 2021 requesting to provide a deputation relative to the above noted.

ATTACHMENTS

1 S Marasco correspondence dated May 5 2021

Hello,

Please note the following response to Speak to City Council has been submitted at Wednesday May 5th 2021 12:46 PM with reference number 2021-05-05-433.

- **Please state what agenda item you would like to speak about:**
The city is building a new sidewalk on Neebing Ave between Francis and Frederica. I have an Apartment building located on 1312 Neebing Ave, the sump pump drainage pipe has been there since the building was built in 1977, building and plumbing city department said it was common to drain into ditch I want to be connected to the new storm sewer according to city engineering standards S-103-3 I should not burden the cost on this issue, since the city is constructing the sidewalk I want to go to council to do a deputation and get direction.
- **What are you requesting from Council?**
change in City Policy or Program
- **Have you already been in contact with City Administration in regards to the subject matter of your deputation request?**
No
- **Please select the date of the meeting:**
Committee of the Whole - Monday, June 7th
- **First name:**
Salvatore
- **Last name:**
Marasco
- **Email:**
sall@tbaytel.net
- **Phone:**
(807) 474-1611
- **Organization you represent: (optional)**
Myself
- **Please note the names of the presenters that will be attending with you:**
Myself

MEETING DATE 06/07/2021 (mm/dd/yyyy)

SUBJECT Net-Zero Strategy

SUMMARY

At the May 3, 2021 Committee of the Whole meeting, Report R 50/2021 (Infrastructure & Operations) relative to the above noted, was presented as a First Report to allow Committee of the Whole and the general public time to consider the implications of the report before its recommendations are considered by Committee of the Whole on June 7, 2021.

Report R 50/2021 (Infrastructure & Operations) recommending that the Net-Zero Strategy be received and endorsed in principle by Council, to guide future direction and investment in climate change mitigation, re-presented.

Correspondence from Ms. J. Carastathis, Chair – Thunder Bay Walkability Committee, dated May 25, 2021 expressing support for Net-Zero Strategy.

RECOMMENDATION

WITH RESPECT to Report R 50/2021 (Infrastructure & Operations), we recommend that City Council endorse the Net-Zero Strategy (NZS) in principle to guide future direction and investment in climate change mitigation;

AND THAT the non-binding target to reduce greenhouse gas (GHG) emissions to net-zero by 2050 be approved by Council;

AND THAT Administration be directed to proceed with the next steps in implementing the NZS as outlined in Appendix D of the NZS (Attachment A);

AND THAT any necessary By-laws be presented to City Council for ratification.

ATTACHMENTS

- 1 Report R 50/2021 (Infrastructure & Operations) Net-Zero Strategy
- 2 J Carastathis correspondence dated May 25 2021

Corporate Report

DEPARTMENT/ DIVISION	Infrastructure & Operations	REPORT NO.	R 50/2021
DATE PREPARED	04/09/2021	FILE NO.	
MEETING DATE	05/03/2021 (mm/dd/yyyy)		
SUBJECT	Net-Zero Strategy-First Report		

RECOMMENDATION

WITH RESPECT to Report R 50/2021 (Infrastructure & Operations), we recommend that City Council endorse the Net-Zero Strategy (NZS) in principle to guide future direction and investment in climate change mitigation;

AND THAT the non-binding target to reduce greenhouse gas (GHG) emissions to net-zero by 2050 be approved by Council;

AND THAT Administration be directed to proceed with the next steps in implementing the NZS as outlined in Appendix D of the NZS (Attachment A).

AND THAT any necessary By-laws be presented to City Council for ratification.

LINK TO STRATEGIC PLAN

This report directly supports the fifth goal under the *Lead* pillar of the City of Thunder Bay's Corporate 2019-2022 Strategic Plan to "Further [previous] commitments to sustainability and climate adaptation."

EXECUTIVE SUMMARY

The Net-Zero Strategy (NZS) is a proactive community-wide plan that addresses energy use, emissions production, and climate change issues and opportunities in Thunder Bay in order to: improve energy efficiency, reduce energy consumption and greenhouse gas (GHG) emissions, foster renewable energy production, support and guide economic development, capture funding opportunities, and participate in climate action.

The value of the NZS is three-fold: it outlines a clear, technically feasible, pathway to achieve the City's climate goals; presents an opportunity to establish Thunder Bay as a national leader in the race to net-zero; and supports investment in a low-carbon economy thereby setting Thunder Bay on a path to "build back better" post COVID-19.

DISCUSSION

Increased greenhouse gas (GHG) emissions, both from natural sources and human activities, result in increased global temperatures. An increase in the annual mean temperature has already been observed in Thunder Bay and additional warming is unavoidable in this Century. Over the period of 1948-2016, the annual mean temperature in Ontario increased by 1.3°C. This is projected to increase by an additional 1.5°C to 2.3°C by 2050.

Rising annual global temperatures increase the likelihood of widespread local impacts and disruptions. Thunder Bay is already experiencing the consequences of climate change through the increasing severity of precipitation, snow, ice storms and wind events, greater temperature fluctuations and extremes, and the growing presence of vector-borne diseases.

Responding to the threat of climate change requires targeted efforts to reduce GHG emissions at local, provincial, national, and global levels. According to the Federation of Canadian Municipalities, municipalities have direct or indirect control over approximately 50% of GHG emissions in Canada. As such, municipalities are well positioned to respond to the climate crisis and stand out as climate action leaders.

Recognizing the need for urgent action, the City of Thunder Bay declared a climate emergency on January 13, 2020, for the purposes of naming, framing, and deepening our commitment to protecting our economy, our ecosystems, and our community from climate change. The Net-Zero Strategy (NZS; Attachment A) builds upon this declaration and outlines a path to respond to the climate emergency and meet the City's climate goals.

Target Setting

The NZS sets a long-term community GHG emissions reduction target of net-zero by 2050. This target aligns with the recommendations put forward by the Intergovernmental Panel on Climate Change (IPCC) to limit global temperature increases to 1.5°C above pre-industrial levels. The net-zero target also aligns with the national target set by Canada and the accompanying Canadian Net-Zero Emissions Accountability Act introduced in Parliament on November 19, 2020. Once finalized, the Act will establish a legally binding process to set 5-year national targets and emissions-reduction plans to meet the ultimate goal of net-zero by 2050.

Plan Development and Engagement

The NZS builds on the six years of implementation of the EarthCare Sustainability Plan (2014-2020) and provides a renewed focus on the community-wide efforts required to reduce energy consumption and GHG emissions in Thunder Bay. The NZS complements the City of Thunder Bay Climate Adaptation Strategy. Together, these strategic documents form a robust climate action plan for the City by accelerating efforts to mitigate and adapt to climate change.

The planning process followed a multi-step approach outlined by the Ontario Ministry of Energy, Northern Development, and Mines. This approach condensed the process into three main phases which were adopted as a framework for guiding the development of the NZS:

1. Stakeholder engagement
2. Baseline energy study and energy mapping
3. Community Energy and Emissions Plan development

The NZS was developed with critical input from a committed and informed multi-stakeholder advisory group, staff from across the City, and members of the broader community. Due to Covid-19, all project-related engagement had to be redesigned in March, 2020 to become 100% virtual. An engagement summary is included in Part 2. Setting the Stage (Attachment A).

The Net-Zero Pathway

By aligning energy, emissions, land-use, and financial modelling, the NZS presents a technically feasible “net-zero pathway” designed to meet the target of community-wide net-zero emissions by 2050. The net-zero pathway is organized into the following framework:

1. Community Vision: To achieve net-zero GHG emissions by 2050.
2. Focus Areas: These outline the sectors and categories in Thunder Bay where climate change interventions need to occur (i.e., land use and natural areas; energy efficiency in buildings and industry; renewable energy generation and procurement; transport; and water and waste).
3. Objectives: The overall community based objective(s) for the respective focus area.
4. Sector-Specific Targets: Within each focus area, there are strategic outcomes required to achieve net-zero emissions (i.e. 100% emissions-free transit).
5. Recommended Near-Term Tactics (2021-2025): These are the recommended near-term tactics, or strategies, for the City and community to explore to kick-start action in Thunder Bay. They reflect community input as well as necessary actions to enable net-zero emissions by 2050.

A comprehensive breakdown of the net-zero pathway is included in Part 3. From Business-as-Planned to Net-Zero (Attachment A).

Financial Analysis

Investing in the actions outlined in the NZS presents an opportunity to strengthen Thunder Bay’s economy post COVID-19. The high-level financial analysis reveals that NZS implementation requires significant upfront shared investments by the City, public and non-profit institutions, the private sector, and residents. However, operations and maintenance savings, fuel and electricity savings, and avoided costs of carbon far outweigh the cost of investment thereby creating significant economic value for the community over the long-term.

Approximately \$5.1 billion of total incremental capital investment will be needed from 2020-2050. Financial modelling projects a positive return on investment of about \$1.7 billion dollars in net present value from 2020-2089. A financial summary is included in Part 4. Financial Impacts and related appendices (Attachment A).

Implementation

The NZS is a long-term initiative that will require participation and engagement across all City departments as well as collaboration amongst community stakeholders. A non-exhaustive framework of the roles and responsibilities of the City, private sector, residents, and other levels of government is provided in Part 5. From Planning to Implementation (Attachment A).

A five-year implementation framework was developed to provide a set of near-term actions for the Corporation that lay the groundwork for accomplishing the overarching long-term objectives in the NZS (APPENDIX D. Near-Term (2021-2025) Implementation Action Tables for the Corporation of the City of Thunder Bay). It is proposed that Administration engage community stakeholders to help develop implementation strategies for the community and prioritize future work.

In 2021, the Sustainability Coordinator will work as the coordinator of the City's NZS actions and utilize the existing EarthCare Working Group structure to monitor and report on the community's progress of implementing the NZS. It is important to note that a plan of this scale and scope will require ongoing dedicated resources for successful implementation. Administration is actively seeking out funding opportunities to resource this work.

It is proposed that Administration develop an annual Action Plan outlining the City's priority actions for each calendar year. The Action Plan should align with the budget cycle. Administration will report on the outcomes of the proposed Action Plan annually.

Monitoring and Evaluation

A five-year monitoring and evaluation cycle is proposed to guide future monitoring and evaluation activities as well as regular updates to the NZS. The NZS's model and implementation framework are based on a set of assumptions that will require periodic re-validation as actions are implemented. A five-year monitoring and evaluation cycle will reduce the levels of uncertainty in the modelling and ensure that the NZS remains accurate and up-to-date in the face of policy changes and technological developments.

The NZS and future updates will be communicated and promoted through City, EarthCare, and partner communication channels. The NZS will be available for download as a PDF on the City's EarthCare website.

LINK TO EARTHCARE SUSTAINABILITY PLAN

This Report addresses the following action outlined in the EarthCare Sustainability Plan (2014-2020): Develop a long range energy plan for the community (Energy: A.a; p. 12).

FINANCIAL IMPLICATION

There are no immediate financial implications associated with the NZS. However, the NZS will require the City to maintain dedicated full time resources for its successful implementation.

Future financial implications would be forecasted through the administrative review process and brought forward to Council for approval as required through the annual budget process.

CONCLUSION

It is concluded that the draft Net-Zero Strategy (Attachment A) be received at the May 3, 2021 Committee of the Whole meeting and distributed to the public for information and that the recommendation included in this report return to Committee of the Whole on June 7, 2021 for approval.

BACKGROUND

The EarthCare Sustainability Plan (2014-2020) set a corporate and community GHG emissions reduction target of 20% below 2009 levels by 2020. Steady progress has helped to achieve a 26% decrease in corporate GHG emissions from the baseline year of 2009. However, similar reductions have not been realized for the community. In 2016, community-wide emissions were 22% higher than 2009 levels, highlighting a need for a renewed approach for tackling community-wide emissions.

In 2019, the City of Thunder Bay received funding from the Federation of Canadian Municipalities – Municipalities for Climate Innovation Program (\$125,000) and the Ontario Ministry of Energy, Northern Development and Mines – Municipal Energy Plan Program (\$89,500) for the creation of a community energy plan. With respect to Report No. R 88/2019 (Infrastructure and Operations), City Council approved the receipt and expenditure of funding to carry out the NZS (formerly the Community Energy and Emissions Plan).

Sustainability Solutions Group (SSG), a workers co-operative focused on state-of-the-art community energy planning, climate action planning, and climate change adaptation projects, was awarded the contract to act as the lead consultant on the development of the NZS in August, 2019 through the RFP process (RFP 2019/56). SSG engaged Arbora Management Services to assist in local engagement and workshop delivery for the NZS process.

REFERENCE MATERIAL ATTACHED:

Attachment A: Climate-Forward City: Thunder Bay Net-Zero Strategy

PREPARED BY: Summer Stevenson, A/ Sustainability Coordinator

THIS REPORT SIGNED AND VERIFIED BY: (NAME OF GENERAL MANAGER)	DATE:
Kerri Marshall, General Manager – Infrastructure & Operations	April 20, 2021

Climate- Forward City:

Thunder Bay Net-Zero Strategy

– Draft –

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How to Read the Net-Zero Strategy

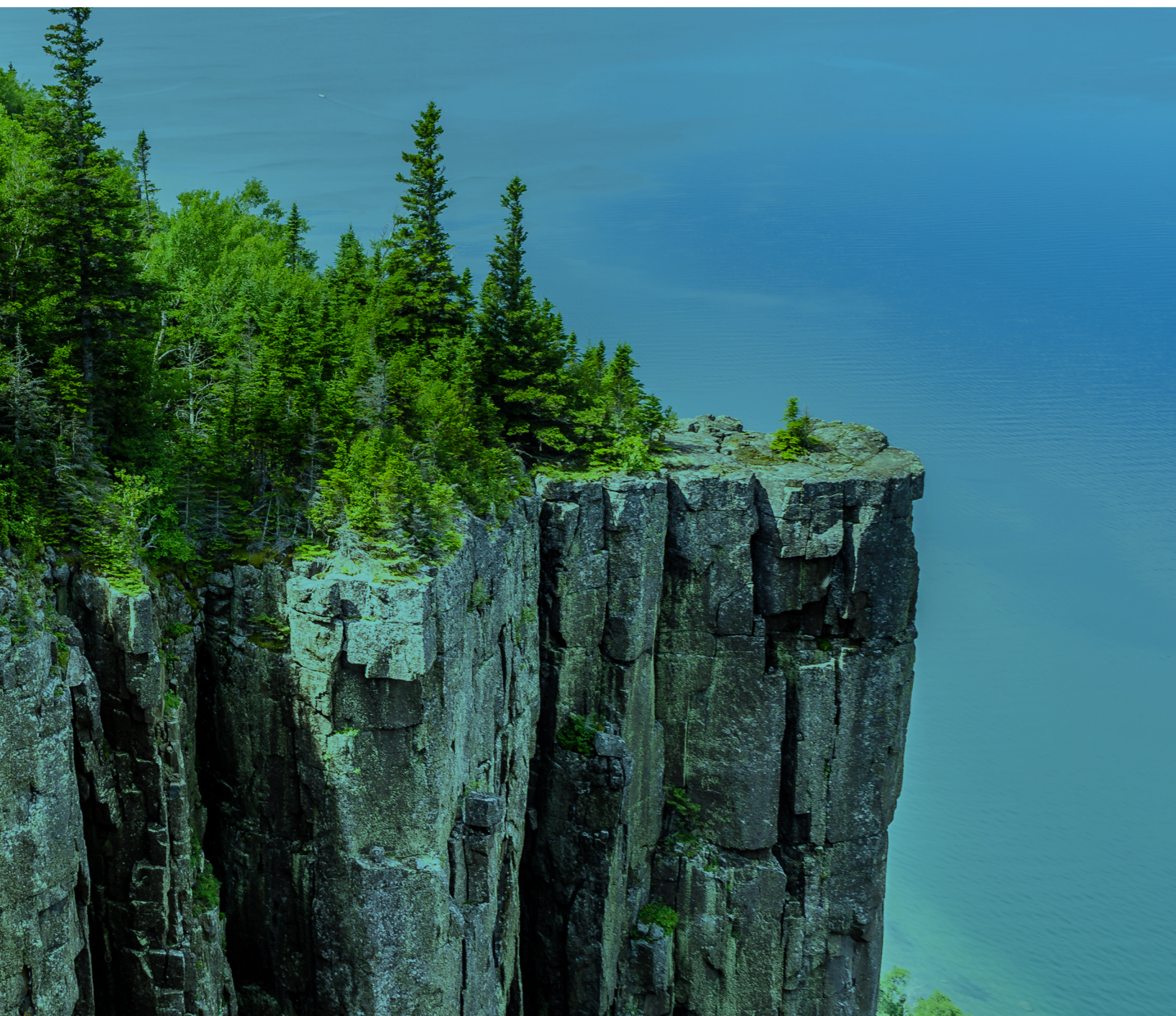
Climate-Forward City: Thunder Bay Net-Zero Strategy is a proactive and dynamic guide for collaborative action on energy use and greenhouse gas emissions in Thunder Bay. This Strategy provides a vision for the community and highlights the scale of changes needed to respond to the climate emergency. It is not intended to be prescriptive or provide a step-by-step set of instructions. Rather, this Strategy is a living document that provides one technically feasible pathway to achieve community-wide net-zero emissions by 2050.

Responding to, and mitigating, climate change is a complex challenge. This Strategy has been developed with a recognition that our response will need to be flexible as new strategies, policies, and technologies are introduced. Some of the targets we think are impossible today may emerge as a feasible option sooner than imagined. To respond to this dynamic, the Strategy is built to be flexible and responsive to changing policies, opportunities, technologies, and needs of the community.

Throughout the Strategy, “the City of Thunder Bay,” “the City,” or “the Corporation of the City of Thunder Bay” refers to the municipal corporation, while “the city” (lower case “c”) refers to the whole community.

Terms and Acronyms

BAP	Business-as-planned
EV	Electric vehicle
FCM	Federation of Canadian Municipalities
GHG	Greenhouse gas
IESO	Independent Electricity System Operator
IPCC	Intergovernmental Panel on Climate Change
kWh	Kilowatt hour
ktCO ₂ e	Kilotonnes carbon dioxide equivalent
NG	Natural Gas
NZS	Net-Zero Strategy
PJ	Petajoule
PV	Photovoltaic
RNG	Renewable natural gas
tCO ₂ e	Tonnes carbon dioxide equivalent
TJ	Terajoule
VKT	Vehicle kilometres travelled
WWTP	Wastewater Treatment Plant



Executive Summary

For over two decades the City of Thunder Bay has demonstrated considerable leadership in climate action and community sustainability. This Net-Zero Strategy (NZS) is a continuation of these efforts and a critical first step in Thunder Bay's response to the climate emergency declared by City Council in January 2020. It is a technically feasible, evidence-based, and community-informed pathway for the entire city to achieve net-zero greenhouse gas (GHG) emissions by 2050. The NZS presents a roadmap for the community's decarbonization and recommends a set of near-term tactics to kick-start implementation.

This is a community-based strategy. The NZS is a guide to collaborative, dynamic, and immediate action to reduce GHG emissions in Thunder Bay. The NZS articulates a net-zero vision for the community and highlights the scale of changes that are needed to respond to the climate emergency. The NZS provides one comprehensive and technically-feasible pathway to achieve community-wide net-zero GHG emissions by 2050.

Addressing energy use and GHG emissions production in Thunder Bay will require the involvement of a wide range of stakeholders including residents, businesses, not-for-profit organizations, institutions, and all levels of government.

The City of Thunder Bay, as one party amongst others, will steward the implementation of the NZS, committing to supporting and helping the community access the information and tools they need to assume collective ownership of the Strategy.

Responding to, and mitigating, climate change is a complex challenge. This Strategy has been developed with a recognition that the response will need to evolve as new strategies, policies, and technologies are introduced. Some of the targets we think are impossible today may emerge as a feasible option sooner than imagined. The NZS is therefore built to be flexible and responsive to the changing policies, opportunities, technologies, and needs of the community and stakeholders.

THE CHALLENGE

Most citizens of Thunder Bay are aware of the dangers of climate change to the natural environment, residents' well-being, livelihoods, and future generations.¹ Recognizing the need to plan for the projected impacts of a changing climate, the City developed a Climate Adaptation Strategy to address a likely much warmer Lake Superior, which will bring more extreme weather events, including hail and ice storms, rainstorms in shoulder seasons, and drought in the summer (see Part 2. The Net-Zero Context).

This strategy addresses the need to also mitigate the severity of these events by becoming a net-zero GHG city by 2050. This proposed target is aligned with the global target set by the Intergovernmental Panel on Climate Change to increase the likelihood of avoiding catastrophic climate change.²

¹ 95% of residents of Thunder Bay believe that our climate is changing and 86% are at least "somewhat worried" about the issue. Galway, L. P., Buse, C., Gislason, M., & Parkes, M. (2020). Perspectives on Climate Change in Thunder Bay.

² IPCC, 2018: Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. World Meteorological Organization, Geneva, Switzerland, 32 pp.

The challenge facing the city is to design the net-zero transition in a way that increases social equity and supports the local economy.

THE OPPORTUNITY

Forging a net-zero city offers many opportunities for Thunder Bay. The NZS provides an investment opportunity of \$3.8 billion using present value analysis, and the returns have a present value of \$4.6 billion, resulting in an overall positive financial impact on the community in the range of \$900 million. Benefits go beyond the 2050 time horizon to reach a range of \$1.7 billion when all investments pay off. Further increases in carbon pricing increase the positive value of the net-zero program as was announced by the federal government in January 2021.³

Thunder Bay has the benefit of learning from several other municipalities that have already developed pathways toward ambitious climate change mitigation. Many countries, cities, and businesses across the world are committing to net-zero by 2050 or earlier. During the development of this strategy, the Government of Canada announced a target of net-zero emissions by 2050, accompanied by supporting policies, strategies, and funding. Industries in Thunder Bay have also begun the process of ramping up their decarbonization efforts.

The move toward net-zero will require a significant upfront investment, but these investments will result in reduced operating costs for many businesses and households and provide opportunities for new and existing businesses. In particular, this strategy is dependent upon efficiency measures for buildings and vehicles, resulting in local jobs and operating cost savings that will benefit the local economy. Thunder Bay is also well-positioned for growth in the renewable energy sector, with significant opportunities to install solar and wind power.

The Net-Zero Ambition

Net-zero by 2050 means that the greenhouse gas emissions (GHGs or ‘carbon’) produced in Thunder Bay are equal to, or lower than, the GHGs sequestered in 2050. When emissions and sinks reach this balance, the city has effectively reached net-zero GHG emissions.

The GHG emissions that are not able to be eliminated by 2050 are termed the “carbon gap” and must be addressed in future iterations of this plan or through further efforts or new technologies for carbon sequestration.

THE TRAJECTORY

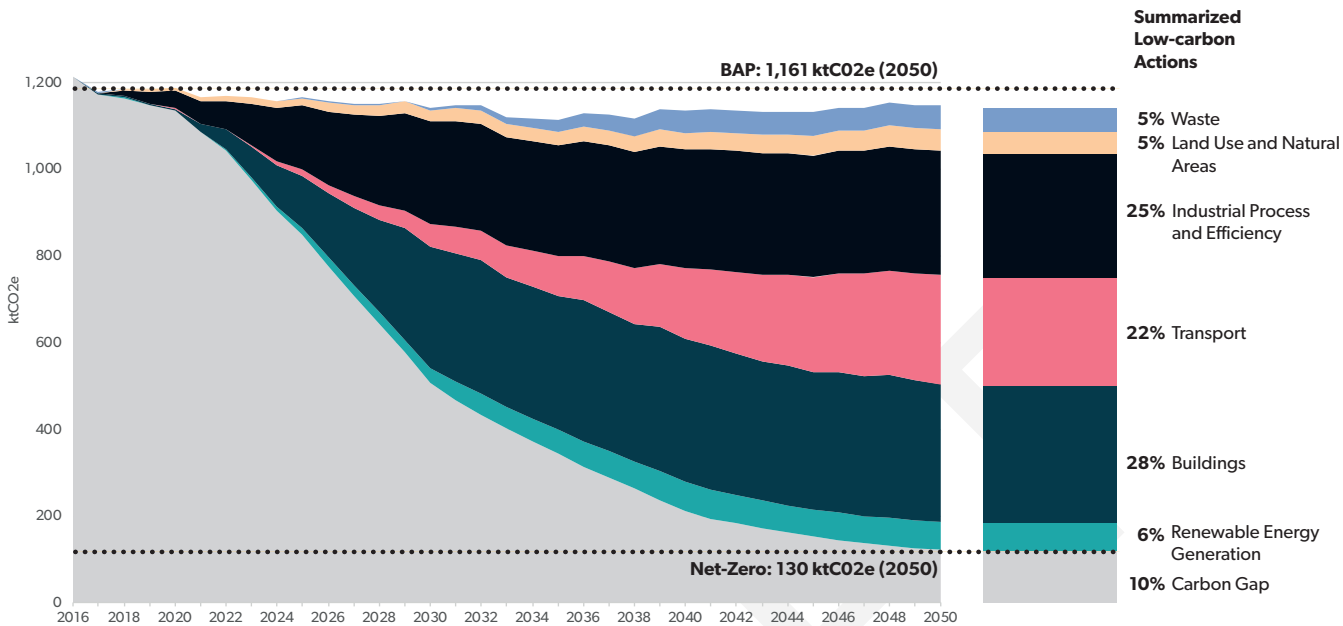
Achieving the targets in the NZS dramatically alters Thunder Bay’s energy consumption and emissions compared to 2016 or a business-as-planned (BAP) future, as illustrated below. By 2050, the net-zero trajectory reduces GHG emissions by approximately 90% compared to 2016 levels. Energy consumption is also projected to decline by 57%.

This diagram illustrates emissions reductions associated with the net-zero trajectory. In 2016, Thunder Bay emitted approximately 1,200 ktCO₂e (Carbon dioxide equivalent)⁴, and by 2050 the city will aim to emit 130ktCO₂e, representing the carbon gap. The emissions reduction of each action is interdependent with the other actions. Each colour in the wedge

³ This net-present value does not include primary industry (i.e. pulp and paper)

⁴ There are many different greenhouse gases. In order to measure total emissions, we convert each gas that is not carbon dioxide into a calculation of carbon dioxide equivalent (in order to compare apples to apples instead of apples to oranges).

diagram represents the impact of implementing all actions evaluated. If not all the actions are implemented, the emissions reduction effectiveness of other actions will also be impacted.



Summarized net-zero trajectory, 2016-2050

WHAT WE NEED TO ACCOMPLISH

In order to achieve net-zero emissions by 2050, Thunder Bay must reduce GHG emissions across all sectors. The following table outlines the relative contribution each of the Strategy’s focus areas will contribute to achieving net-zero in 2050, along with the most significant targets that will enable these reductions. Detailed targets are available throughout the rest of the strategy.

Table 1. Focus areas, their proportion of GHG emissions reductions in 2050, and major targets that help achieve a net-zero Thunder Bay.

FOCUS AREA	PROPORTION OF GHG EMISSION REDUCTIONS IN 2050	SIGNIFICANT TARGETS
Energy efficient buildings & Low-carbon industry	28% --- 25%	100% of buildings are retrofit for energy efficiency and switch to electric heat pumps and electric water heating. Combined heat-and-power systems are switched to low carbon sources by 2040 90% or more of new buildings meet net-zero standards or equivalent by 2030 All municipal buildings are zero-emission by 2035
Low-carbon transport	22%	65% of trips within the city are done by transit, walking, and cycling by 2030 100% of vehicle sales are EVs by 2040 100% of Heavy duty commercial vehicles use low-carbon fuels by 2040 Transit is 100% electric by 2035
Renewable energy	6%	Rooftop solar is incorporated on 50% of buildings by 2050. 290 MW of ground-mount solar and 250MW of wind generated-energy are added to the grid by 2040.
Waste	5%	95% of organic waste is sent to an anaerobic digester.
Land use and natural areas	5%	90% of new development occurs inside a targeted intensification area near the central city. 100,000 trees are planted within the municipal boundary by 2050
Carbon Gap	10%	

MORE INFORMATION: TECHNICAL PAPERS, FINANCIAL PATHWAY

The NZS is supported by four ancillary reports: A financial pathway, a technical report on the business as planned (BAP) scenario, a data, methods & assumptions manual for the modelling procedure, and a technical report on renewable energy supply and constraints in the Thunder Bay region. The supplementary reports will be available alongside the NZS on the EarthCare Thunder Bay website.

Message from the Mayor

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DRAFT



Part 1. Welcome

This document was prepared on the traditional territory of the Ojibwa Anishinabek, which includes Fort William First Nation, signatory to the Robinson-Superior Treaty of 1850, and the Métis peoples. We respectfully acknowledge these nations as the caretakers of the lands and waters on which the City of Thunder Bay is now present.

The Net-Zero Strategy lays out a pathway for Thunder Bay to improve its relationship with the land and the people with whom we share it as we work together to protect our communities from the impacts of climate change.

GENERAL ACKNOWLEDGEMENT

The City of Thunder Bay (The City) would like to acknowledge the community members, the Stakeholder Advisory Committee, the EarthCare Advisory Committee, and City staff from across the Corporation that contributed to the development of the Net-Zero Strategy. The City is grateful to all leaders and community members who have contributed their time to help build this strategy, and who have demonstrated their commitment to forging a resilient, net-zero city.

PROJECT TEAM

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Community Engagement Support - Arbora Management Services

FUNDING

The development of this Community Energy and Emissions Plan (a.k.a. Net-Zero Strategy) was in part funded by the Federation of Canadian Municipalities and the Ontario Ministry of Energy, Northern Development, and Mines; however, the views expressed in this report are the views of the authors and do not necessarily reflect those of the Federation of Canadian Municipalities, Government of Canada, or the Government of Ontario.



Part 2: Setting the Stage

Introduction

Targeting Net-Zero GHG Emissions⁵

Net-zero by 2050 means that the greenhouse gas emissions (GHGs or 'carbon') produced in Thunder Bay are equal to, or lower than, the GHGs sequestered in 2050. When emissions and sinks reach this balance, the city has effectively reached net-zero GHG emissions.

Thunder Bay will be joining jurisdictions and cities such as Canada, the City of Toronto, City of Vancouver, City of Edmonton, the City of Montreal, and the City of Halifax. Thunder Bay will also be joining northern communities such as Kenora, Sault Ste. Marie, and Sudbury in ambitiously targeting net-zero GHG emissions.

The Net-Zero Strategy (NZS) is a response to a major challenge that represents significant opportunities for Thunder Bay. The NZS evaluates opportunities to improve energy efficiency, reduce GHG emissions, and encourage economic development. The NZS is a comprehensive, long-term plan that looks at energy use across the community, including the residential, commercial, industrial, transportation, and public sectors. The NZS identifies opportunities within these sectors and assists with articulating municipal priorities for related initiatives happening both within and outside the community.

This strategy will help our community:

- Improve energy efficiency;
- Reduce energy consumption and reduce GHG emissions;
- Study the impact of future growth on energy needs;
- Foster renewable energy production;
- Support and guide economic development; and
- Advance climate action.

The NZS is a bold plan, made with the help of many voices.

⁵ This iteration of the strategy leaves a "carbon gap" of 10% GHG emissions remaining in 2050, which will need to be addressed in future iterations of this strategy through increased ambition of targets or greater efforts for carbon sequestration or the purchase of offsets.

PURPOSE STATEMENT

The purpose of this strategy is to accelerate climate innovation, action, and to set targets against which to measure progress. In some cases, the path to achieving these targets is not yet clear, but bold and ambitious targets will help galvanize and stimulate innovative and creative solutions. The community of Thunder Bay has the capacity and technology to take many of the steps needed to achieve the targets set out in this strategy.

SCOPE

Time Scale: This strategy is on a 30-year time horizon, but many initiatives must take place sooner, reflecting the urgency of action on climate change. That is why, while we are strategizing for the next 30 years (to 2050), our near-term actions focus on what can be initiated or completed in the next five years.

Geography: The geographic scope of the strategy is the municipal boundaries of the City of Thunder Bay. This includes electricity consumed in the City but generated outside of city borders. The analysis considers the wider geography scales in terms of challenges and solutions and recognizes the need to connect and align with regional and provincial partners to achieve common goals.

City Role: The Corporation of the City of Thunder Bay is directly responsible for a small share of Thunder Bay's emissions, yet plays a unique leadership role in taking climate action and organizing community efforts. The City of Thunder Bay will steward the implementation of the NZS and coordinate stakeholder groups, businesses, and funding opportunities when available. An overview of the roles and responsibilities of the City, community, and other levels of government can be found in Part 5. From Planning to Implementation.

Municipal, provincial, federal, and international policies influence future emissions within Thunder Bay. The City does not act in isolation and will need consistent provincial and federal support to help realize the net-zero vision.

The Net-Zero Context

A CHANGING CLIMATE

Increased GHG emissions, both from natural sources and human activities, will result in increased global temperatures. An increase in the annual mean temperature has already been observed in Thunder Bay and additional warming is unavoidable in this century. Over the period of 1948-2016, the annual mean temperature in Ontario increased by 1.3°C. This is projected to increase by an additional 1.5°C to 2.3°C by 2050.⁶

Rising annual global temperatures increase the likelihood of widespread local impacts and disruptions.

Thunder Bay is already experiencing the consequences of climate change through the increasing severity of precipitation, snow, ice storms, and wind events, greater temperature fluctuations and extremes, and the growing presence of vector-borne diseases.

⁶ "Canada's Changing Climate Report" 2019. Bush, E. and Lemmen, D.S., editors (2019): Canada's Changing Climate Report; Government of Canada, Ottawa, ON.

Responding to the threat of climate change requires targeted efforts to reduce GHG emissions at local, provincial, national, and global levels. Recognizing the need for urgent action, the City of Thunder Bay unanimously declared a climate emergency on January 13, 2020, deepening its commitment to preventing climate change. The NZS describes a path to respond to the climate emergency while building on the City's other sustainability commitments.

ECONOMIC AND SOCIAL CONTEXT

The economic and social context for climate action has changed in important ways since Thunder Bay declared a climate emergency in January of 2020:

- The COVID-19 pandemic and measures taken in response to it have sharply changed the economic backdrop in Thunder Bay and globally. In Canada, companies started considering mass-layoffs of workers, which was largely prevented by the "Canada Emergency Wage Subsidy". Despite efforts from the government, the country's unemployment rate was 13.5% in May 2020, the highest since 1976.⁷ Gross Domestic Product (GDP) is one key indicator of financial performance; Canada's GDP fell by nearly 16% in April 2020 compared to previous year levels.⁸ Business activity generally dropped amid concerns over maintaining operations with reduced revenue, and non-residential construction investment declined. Although these trends are slowly improving, COVID-19 continues to have a significant impact on individuals, organizations, and businesses in Thunder Bay.
- Global net-zero commitments by countries and businesses were announced with increased frequency in 2020.⁹ Widespread momentum towards climate action benefits Thunder Bay by incentivizing the City to act and be a leader. Global commitments show that investments are trending towards low-carbon technologies including renewable energy generation, zero waste, electric vehicles, and zero-carbon buildings. Business models that are incompatible with net-zero targets are losing appeal with investors.¹⁰
- Costs of key low-carbon technologies have continued to fall. For example, the average price for lithium-ion battery packs for vehicles has fallen 89% in 10 years according to Bloomberg Finance, moving quickly to price parity with fossil fuel-powered vehicles.¹¹ This could have a real effect on Thunder Bay's largest emitting sector, transportation, as it eases the transition to electric buses, corporate and industrial fleets, and private vehicles. The effect of cost decreases is also being replicated in other areas of low-carbon technology, notably local renewable energy generation and battery storage.

⁷ "Unemployment Statistics" May 2020. Statistics Canada. Retrieved from: www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410028703&pickMembers%5B0%5D=3.1&pickMembers%5B1%5D=4.1&cubeTimeFrame.startMonth=05&cubeTimeFrame.startYear=2020&referencePeriods=20200501%2C20200501.

⁸ "Canadian Economic Dashboard and COVID-19" n.d. Statistics Canada. Retrieved from: www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2020009-eng.htm.

⁹ "Commitments to net-zero double within a year" 2020. UNFCCC. Retrieved from: [Commitments to Net Zero Double in Less Than a Year | UNFCCC](https://www.unfccc.org/news/commitments-to-net-zero-double-within-a-year)

¹⁰ "Net-zero: a fiduciary approach" 2021. BlackRock. Retrieved from: <https://www.blackrock.com/corporate/investor-relations/blackrock-client-letter>.

¹¹ "Battery Pack Prices Cited Below \$100/kWh for the First Time in 2020, While Market Average Sits at \$137/kWh." 2020. Bloomberg NEF. Retrieved from: [Battery Pack Prices Cited Below \\$100/kWh for the First Time in 2020, While Market Average Sits at \\$137/kWh | BloombergNEF \(bnef.com\)](https://www.bnef.com/articles/battery-pack-prices-cited-below-100-kwh-for-the-first-time-in-2020-while-market-average-sits-at-137-kwh/)

THE CO-BENEFITS OF DECARBONIZATION



Figure 1. Thunder Bay residents are able to walk freely and enjoy a summer afternoon when more public space is offered to them.

Beyond the reduction in greenhouse gases and direct financial and employment impacts that are outlined in this report, there are many other “co-benefits” which the NZS presents for the businesses and residents of Thunder Bay, namely: improvements in public health and social well-being. Depending on the manner in which the NZS is implemented, it also presents an important opportunity to redress social inequities.

In terms of public health and social wellbeing, the transportation sector’s shift provides some great examples. Reducing the amount of combustion engine emissions in the community will significantly improve local air quality and associated illnesses. The reduction in engine-related noise will also help reduce stress. Increasing active transportation infrastructure will support improved public health due to increased physical activity, it will also increase community interactions which can support a sense of social wellbeing.

In terms of improving social equity, this can be achieved if NZS programs are designed to support vulnerable community members; for example, a retrofit program tailored for low-income residents living in inefficient older buildings can help improve their comfort and reduce instances of energy poverty, freeing up resident income for other life necessities. Improved and accessible transit and active transportation infrastructure and programs can help low-income, senior, and differently-abled residents to have access to these options and their associated health and economic benefits.

Finally, the many new potential jobs that may be developed due to NZS implementation can be targeted at members of the community that have been historically underemployed through subsidized training or retraining programs.

Co-benefits

The number of co-benefits and the extent to which they can be attained will vary from community to community, but increasing studies show they are numerous. The figure below was developed by The Lancet and University College London Institute for Global Health Commission. Some dimensions of climate planning weren't explored in the NZS such as nuclear energy or ocean carbon sequestration, but increased energy efficiency, renewable energy, and low carbon transportation all have environmental, health, and social benefits.

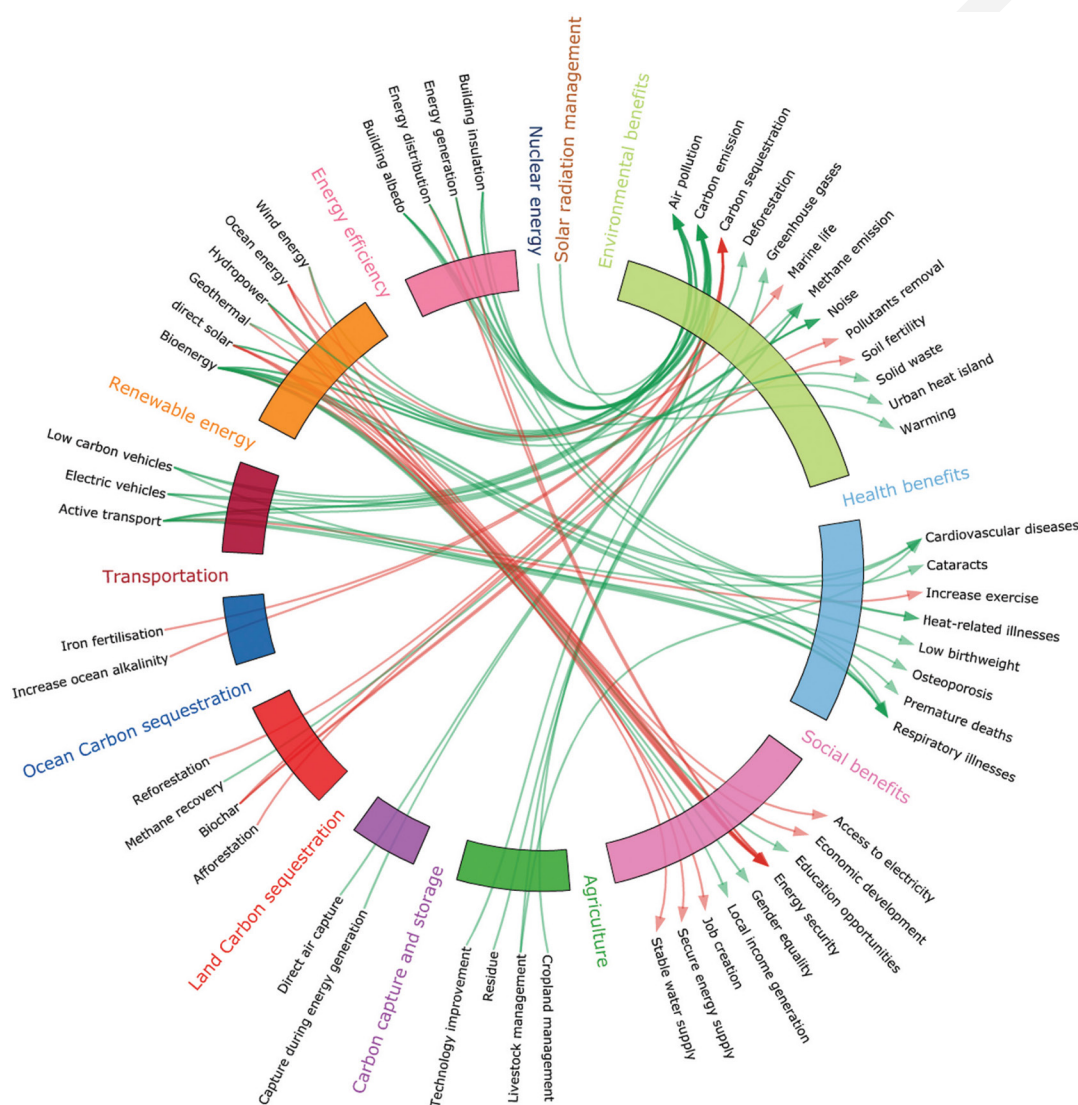


Figure 2. Illustration of co-benefits of climate change mitigation techniques¹²

¹² The Lancet Commissions. (2015). Health and climate change: policy responses to protect public health. Retrieved from [http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(09\)60935-1.pdf](http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(09)60935-1.pdf)

Thunder Bay Policy Precedents

For over two decades the City of Thunder Bay has demonstrated considerable leadership in climate action and community sustainability. The NZS notably builds on six years of implementation of the EarthCare Sustainability Plan (2014-2020) and provides a renewed focus on the community-wide efforts required to reduce energy consumption and GHG emissions in Thunder Bay.

The NZS also provides one potential pathway to respond to the climate emergency while directly supporting the fifth goal under the Lead pillar of the City of Thunder Bay's Corporate 2019-2022 Strategic Plan to "Further [previous] commitments to sustainability and climate adaptation."¹³

THE CLIMATE ADAPTATION STRATEGY (2015)

Together, the Climate Adaptation Strategy and the NZS form a robust climate action plan and respond to the City's climate emergency declaration by accelerating efforts to mitigate and adapt to climate change. The Climate Adaptation Strategy recognizes that the local natural environment, economy, and overall well-being of citizens are at risk from climate change. Forty-five potential adaptation strategies are identified to make the city "climate-ready." Highlighted actions that relate to the NZS include:

- Evaluate existing projects that address climate change impacts to identify opportunities for accelerated implementation.
- Assess and prioritize actions from the Urban Forest Management Plan using a climate change lens on an annual basis.
- Identify new and existing best management practices for land-use planning and design which address climate change impacts to the community, and review annually.
- Identify and implement incentives to promote the adoption of green infrastructure on private, commercial, and institutional properties.

Other Significant Policy Precedents

- **1997:** The City signs on to join FCM's '20% Club' thereby committing to reducing corporate and community emissions by 20% of 1990 levels within 10 years of joining.
- **2003:** The City joins the Partners for Climate Protection (PCP) program, a joint milestone-based initiative between FCM and ICLEI Governments for Local Sustainability to support community GHG reduction
- **2004:** City Council unanimously passes a resolution to support the creation of the City's first Community Environmental Action Plan (CEAP). The Thunder Bay Zero Waste Action Team (ZWAT) and community partners establish a CEAP Steering Committee.
- **2005:** EarthWise Thunder Bay (now EarthCare) is created to facilitate the creation and implementation of the CEAP. The City hires the first EarthWise Thunder Bay Coordinator (Sustainability Coordinator).
- **2007:** GHG Inventories are developed for the City of Thunder Bay and the community.
- **2008:** The City adopts its first CEAP, committing to a Corporate GHG reduction target

¹³ "One City, Growing Together" (2019). City of Thunder Bay. Retrieved from: <https://www.thunderbay.ca/en/city-hall/strategic-plan.aspx>.

of 35% below 2005 levels by 2017 and community GHG reduction target of 10% below 2005 levels by 2017.

- **2009:** Baseline year for GHG and energy reduction targets in the EarthCare Sustainability Plan.
- **2010:** The City establishes an Energy Management Committee for the Corporation.
- **2011:** The City adopts the 2011-2014 Strategic Plan, with strategic goals to implement the CEAP and reduce GHG emissions. The City adopts the Urban Forestry Management Plan and develops its first Corporate Energy Management Plan.
- **2012:** The City establishes a Corporate Green Team.
- **2013:** EarthWise is rebranded to EarthCare Thunder Bay.
- **2014:** The EarthCare Sustainability Plan (2014-2020) is adopted, replacing the CEAP and previous GHG reduction target, committing to a Corporate and community GHG reduction target of 20% below 2009 levels by 2020. The Corporate Energy Management Plan is updated. The City adopts the Solid Waste Management Strategy.
- **2015:** The City adopts Climate-Ready City: City of Thunder Bay Climate Adaptation Strategy.
- **2016:** The Corporation of the City of Thunder Bay exceeds its emissions reduction target at 24% below 2009 levels. The City adopts the Thunder Bay Stormwater Management Plan.
- **2019:** The City adopts a new Official Plan that includes goals to mitigate climate change and reduce GHG emissions. The City adopts a new Transportation Master Plan that includes recommendations to support climate change mitigation and adaptation. The City approves the Corporate Energy Management Plan (2019-2024) with a target of 2-5% reduction in energy consumption per year. The City adopts a new Strategic Asset Management Policy that includes consideration of the social, economic, and environmental risks and vulnerabilities of municipal infrastructure assets including risks relating to climate change and the actions that may be required.
- **2020:** The City declares a climate emergency.

A Plan Built by Many Voices

The NZS was developed with critical input from a committed and informed multi-stakeholder advisory group, staff from across the City, and members of the broader community. Due to Covid-19, all project-related engagement had to be redesigned in March, 2020 to become 100% virtual.



Figure 3. Project timeline.

STAKEHOLDER ENGAGEMENT

A Stakeholder Advisory Committee (SAC) was formed at the outset of the NZS development, with representation from across City departments, public institutions, utilities, industry, businesses, environmental groups, and First Nations partners, amongst others. The SAC's mandate was to inform the development of the plan and ensure it reflects the range of community interests.

A list of contributing organizations is provided in Appendix A.

The SAC met six times between September 2019 and November 2020; these meetings were supported with seven one-on-one interviews with key stakeholders. These meetings informed stakeholders on the state of the project and received input on project aspects including the baseline, business-as-planned, and net-zero scenario results, the financial analysis results and the near-term implementation strategy and monitoring program.

The EarthCare Advisory Committee was also consulted on the implementation framework included in the NZS and was provided with regular updates on the development of the Strategy.

Participants helped define the low-carbon actions included in the NZS and the actions prioritized in the recommended near-term tactics (see Part 3. From Business-as-Planned to Net-Zero), as well as identifying associated community partners.

COMMUNITY ENGAGEMENT

Soon after the project kick-off in September 2019, the City launched a project website to inform the public about the project, project timelines, and opportunities for engagement.

The website hosted two surveys over the course of the project. The first survey received 80 responses to determine the level of ambition of the community to take climate action and generally their views on climate change. In response, the vast majority of respondents felt Thunder Bay should make mitigating climate change a top priority in the city due to potential impacts on future generations; this supports the findings of a more robust study undertaken by Dr. Lindsay Galway at Lakehead University.¹⁴

The first phase of surveying also provided insights on opportunities and challenges as described below

Significant challenges in climate change mitigation include:

- 50% indicated that Thunder Bay's reliance on personal vehicles and the sprawling urban pattern presents a challenge to increase transit use and walking/cycling
- Obtaining widespread public support for meaningful climate action; and,
- Lack of information and availability of public education

Opportunities for this strategy include:

- The opportunity to expand Thunder Bay's economy. Several respondents said climate action could provide an opportunity to build green infrastructure and create jobs in green industries.
- Renewable Energy expansion, for example, could create jobs and reduce energy costs.
- An opportunity to reinvent Thunder Bay and build a reputation for sustainable, climate-friendly development in the northern context.
- Abundance of open space allows for more opportunities for a better cycling and walking network.
- Strong community spirit and a desire to be a leader in sustainability can push Thunder Bay to the net-zero target.

¹⁴ Read more about Climate Change Communications Strategies here: Home - Climate Change Thunder Bay Connection (climatechangetbay.com).

Physical copies of the first survey were also provided at the project's signature kick-off event: a film screening of the award winning *Anthropocene*, which visually chronicles the current era of human devastation of the global environment. This January 2020 event was sold out and featured key speakers from the community, including a youth climate activist and the Mayor, who helped to introduce the project.

The second survey had 134 participants and helped to provide a sense of the community's top four priorities they would like to see reflected in the NZS. They were:

1. Reducing the most GHG emissions;
2. Lifestyle, health, and well-being impacts;
3. Creating jobs and local economic activity; and
4. Fair and unbiased actions.

Finally, EarthCare Thunder Bay's broader network was kept up-to-date and advised on opportunities to provide input into the project via the monthly EarthCare Newsletter.¹⁵

¹⁵ EarthCare Thunder Bay is a partnership between the City and the community to work on issues of community sustainability, climate adaptation, and greenhouse gas reduction. The EarthCare network includes an Advisory Committee of Council, five active working groups, and associated community partners.



Part 3. From Business-as-Planned to Net-Zero

In a Climate Emergency, Every Moment is Critical

In 2016, Thunder Bay emitted approximately 1,200 ktCO₂e (one-million, two-hundred thousand tonnes of carbon dioxide equivalent). Modelling results indicate that if no additional policies, actions, or strategies to address energy and emissions are implemented other than those currently underway or planned, this total decreases slightly to 1,160 ktCO₂e by 2050. The decrease results from better fuel efficiency standards in vehicles in the future, some building renovations occurring, and reduced heating needs as the climate warms.

Thunder Bay has declared a climate emergency and has recognized that "Business as Planned" isn't enough to avoid the catastrophic effects of climate change. The Net-Zero Strategy (NZS) is a response to the City's climate emergency declaration; it sets the pathway for an aspirational future in which Thunder Bay achieves net-zero greenhouse gas emissions—or reduces approximately 90% of GHG emissions from 2016 levels—by 2050. This strategy details one pathway to achieve this vision and will demonstrate Thunder Bay's climate leadership in developing a sustainable economy and community.

To better understand the scale of the ambition, removing 1,000 ktCO₂e (or 1 MtCO₂e) is equivalent to removing emissions from 216,000 cars driven for an entire year, or planting a forest that is 1.3 million acres...10 times the size of Thunder Bay!¹⁶

Further Reading:

The Business-as-Planned Scenario Summary. Available on EarthCare Thunder Bay.
https://www.thunderbay.ca/en/city-hall/resources/Documents/EarthCare/Baseline-Business-As-Planned-Scenario_2016-2050.pdf

¹⁶ The United States Environmental Protection Agency, 2020. Greenhouse Gas Equivalencies Calculator. <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

Strategy Paradigm: Reduce-Improve-Switch

At the heart of the NZS are a series of high-impact energy actions that have been carefully reviewed and analyzed by the consulting team, City staff, and stakeholders. The objective was to identify all possible options first and then eliminate those options with unacceptable environmental impacts, significant economic or technical challenges, and/or little energy/emissions benefit. Ultimately, 31 sectoral targets grouped into five focus areas are modelled for the final net-zero pathway¹⁷:

- A. Land Use and Natural Areas**
- B. Energy Efficiency in Buildings and Industry**
- C. Renewable Energy Generation and Procurement**
- D. Transport**
- E. Water and Waste**

The analysis orders the actions according to a philosophy of 'Reduce, Improve, Switch'. Avoiding energy consumption is the top priority, followed by maximizing energy efficiency improvements, and finally by switching to low-carbon energy sources for the remaining demand. The strategy also prioritizes improvements to long-lasting infrastructure that can 'lock in' energy consumption patterns for many decades and takes advantage of opportunities to align proposed investments with the natural turnover of infrastructure and buildings.

The remainder of Part 3 follows the paradigm by laying out the pathway to net-zero emissions and illustrating the dependence of one target/action upon the next. The remainder details the focus areas and targets that must be reached in order to achieve net-zero emissions.

The Net-Zero Pathway

By 2050, the net-zero pathway, as modelled, reduces GHG emissions by approximately 90% compared to 2016 levels; Energy consumption also declines by 57%. The summary "wedges diagram" below (Figure 5) illustrates that the emissions reduction of each action is interdependent with the other actions. The wedge diagram shows the impact of implementing all actions evaluated. If all the actions are not implemented, the emissions reduction effectiveness of other actions will also be impacted. The diagram also shows that electric vehicles, shifts in industry, residential and non-residential retrofits will account for 50% of the GHG reductions in the NZS.

¹⁷ The Net-Zero Pathway was developed using CityInSight, an integrated energy, emissions and finance model developed by Sustainability Solutions Group and whatIf? Technologies. It is an integrated, multi-fuel, multi-sector, spatially-disaggregated energy systems, emissions, and finance model for cities.

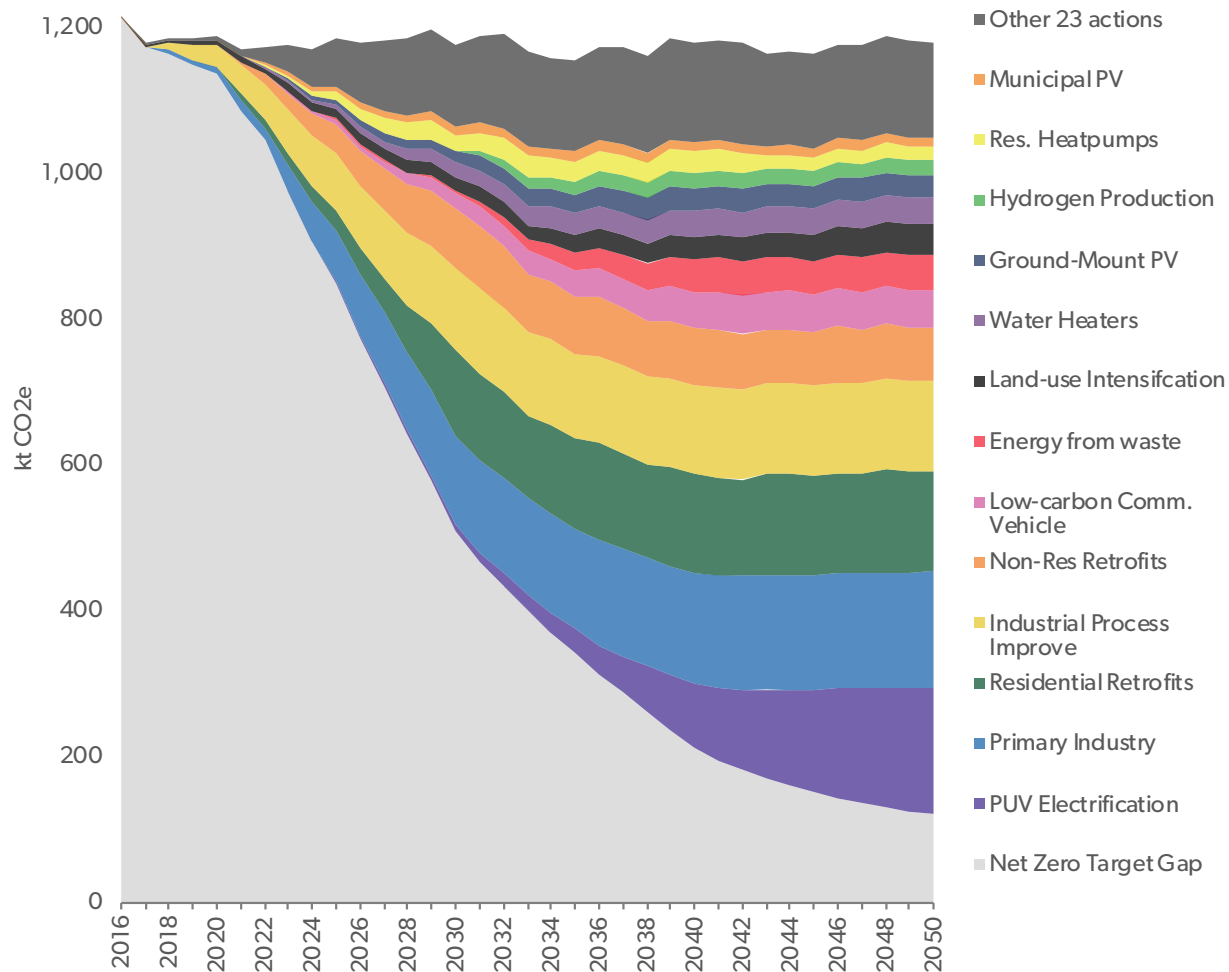


Figure 4. Wedge diagram illustrating emissions reductions associated with the net-zero trajectory.

Further Reading:

Appendix B: 'Detailed Sectoral Targets and GHG reductions in the Net-Zero Strategy'

Appendix C: 'The Net-Zero Strategy Energy and GHG Emissions Transition: Additional Technical Analysis'.

NZS STRATEGY FRAMEWORK

The NZS is summarized in this section according to the following framework:

- **Community Vision:** To achieve net-zero GHG emissions by 2050. The vision is also the most important response to the City's climate emergency declaration.
- **Focus Areas:** These outline the sectors and categories in Thunder Bay where climate change interventions need to occur (i.e. land use, buildings, transportation, industry, and waste).
- **Objectives:** The overall community based objective for the respective focus area.
- **Sector-Specific Targets:** Within each focus area, there are strategic outcomes required to achieve net-zero emissions (i.e. 100% emissions-free transit).
- **Recommended Near-Term Tactics (2021-2025):** These are recommended near-term tactics, or strategies, for the City and community to explore to kick-start action in Thunder Bay. They reflect community input as well as necessary actions to enable net-zero emissions by 2050.¹⁸

FOCUS AREA: LAND USE AND NATURAL AREAS

Table 2. Land use and natural areas, targets, and priority actions.

Objective 1: Neighbourhoods are complete, compact, and walkable.

Objective 2: Thunder Bay's forests and greenspaces are protected and provide essential ecosystem services.

Land-use targets

1. 90% of development occurs within the targeted intensification zone (See Appendix C, Figure 25)
2. Houses in 2050 are 30% smaller than the 2016 average (168 m²).
3. Starting in 2022, single detached homes represent 20% or less of new construction.

Natural Areas Sectoral Targets

1. 100,000 additional trees are planted in the city's boundary by 2050
2. Carbon sequestration is increased by limiting greenfield development (compliment of target #1)

¹⁸ These priorities were identified in the phase 2 community crowdsourcing survey. See the data on www.GetInvolvedThunderBay.ca.

Objective 1: Neighbourhoods are complete, compact, and walkable.

Objective 2: Thunder Bay's forests and greenspaces are protected and provide essential ecosystem services.

Recommended Near-Term Tactics*

- Update municipal land use policies to enable increased mode shifts to transit, walking, and cycling.
- Update/use zoning regulations to facilitate local renewable energy generation in appropriate locations.
- Leverage Canada's commitment to investing in tree-planting initiatives to reduce costs associated with community greening.
- Explore opportunities for enhanced carbon sequestration on city-owned and private land.

* Specific near-term actions for the Corporation are provided in Appendix D.

Compact Land Use

Land-use policies are a powerful tool for reducing GHG emissions, as they lock in reductions over the long term. For instance, a policy that promotes densification in the short term will have a direct impact on transportation over the long term. Dependence on private vehicles decreases in densely populated areas, while transit becomes more viable and active transportation modes such as walking, and biking become preferred.

Aligned with densification is the replacement of older, less efficient buildings with more efficient buildings in intensification zones. An assumption of approximately a 7% replacement rate was used in modelling. This results in an overall improvement in the energy efficiency of the building stock when new buildings are completed.

Smaller dwellings and shared walls increase the efficiency of the dwelling stock. Less energy is required to heat or cool with the reduced total volume and surface area that loses energy to the environment.

The City of Thunder Bay's Official Plan, approved in 2019, was developed using four overarching approaches – environmental sustainability, climate adaptation, economic diversification, and healthy community principles – and includes the following goals that align with the NZS:¹⁹

- Protect, preserve and enhance the quality of the natural environment and mitigate climate change;
- Promote the growth of emerging economic sectors, new businesses and employment opportunities at appropriate locations, and encourage the strengthening of existing business functions;
- Support initiatives with an environment first approach that maximizes the connectivity between neighbourhoods, land uses, and green spaces;
- Promote energy conservation and efficiency, and support the creation of energy through

¹⁹ The City of Thunder Bay. 2019. Official Plan. Retrieved from: <https://www.thunderbay.ca/en/business/resources/Documents/Building-and-Planning/Official-Plan/Official-Plan-2019---Text.pdf>

renewable and alternative sources;

- Reduce greenhouse gas emissions; and,
- Promote a cost-effective, reliable, accessible, and integrated multi-modal transportation system.

Natural Areas

Concentrating development in a smaller area leaves more space for natural habitat and carbon sequestration. This includes open lands, grasslands, and forested areas.

The NZS targets an additional 100,000 trees in Thunder Bay’s boundary by 2050. The Federal government plans to plant 2 billion trees across the country and has allocated \$3.15 billion to achieve this goal.²⁰

FOCUS AREA: ENERGY EFFICIENT BUILDINGS AND INDUSTRY

Table 3. Building sector targets and priority actions.

Objective 3: New buildings are net-zero ready.
Objectives 4-6: Existing residential, commercial, municipal, and industrial buildings are retrofit to achieve deep energy savings and reduced emissions.
Building Sector Targets*
1. Starting in 2022 new dwellings are increasingly efficient. By 2030, 90% of new construction meets net-zero standards.
2. Starting in 2022, new commercial buildings are increasingly efficient, aligning with the GHG intensities identified in the Toronto Green Standard.
3. 100% of dwellings built before 1980 are retrofitted by 2030; 100% of dwellings built after 1980 are retrofitted by 2040.
4. 80% of all commercial buildings are retrofitted by 2030.
5. 100% of all municipal buildings, old and new, are net-zero by 2035

²⁰ Canada Tree Planting Program. n.d. Government of Canada. Retrieved from: www.canada.ca/en/campaign/2-billion-trees.html.

Objective 3: New buildings are net-zero ready.

Objectives 4-6: Existing residential, commercial, municipal, and industrial buildings are retrofit to achieve deep energy savings and reduced emissions.

Recommended Near-Term Tactics**

- Develop green building standards that enable and incentivize net-zero construction and renovation in the community.
- Develop strategies that enable and encourage rooftop solar PV installations.
- Develop a residential retrofit program to reduce barriers for homeowners.
- Explore initiatives that assist business owners in undertaking commercial retrofit projects.
- Create an online hub of resources for homeowners and businesses interested in undertaking retrofit projects.
- Promote and support low-carbon building initiatives that utilize local, renewable resources.
- Support local colleges and trade organizations to ensure local skilled labour is being trained, or retrained, in smart, green, and resilient design and construction.

* New buildings and retrofit activities switch space-heating and water-heating from fossil fuels to electricity-based and other low-carbon sources.

** Specific near-term actions for the Corporation are provided in Appendix D.

In 2016, buildings (residential, commercial, and industrial) and industrial processes represented nearly 50% of Thunder Bay's community GHG emissions. The actions in this section detail the interventions needed to increase the efficiency of the building stock and fuel switch away from fossil fuels.

New Buildings

The NZS envisions an incremental transition to high-performance, net-zero energy new construction by 2030. Net-zero buildings are super-insulated, have efficient HVAC systems, and take advantage of passive solar heating, ambient heat sources (e.g. air source heat pumps), and thermal mass. More high-performance buildings completed sooner means fewer retrofits later on. The National Building Code update is expected to include provisions for a national energy step code that is aligned with the NZS.

Electric Heat Pumps: Efficient Electric Heating and Cooling

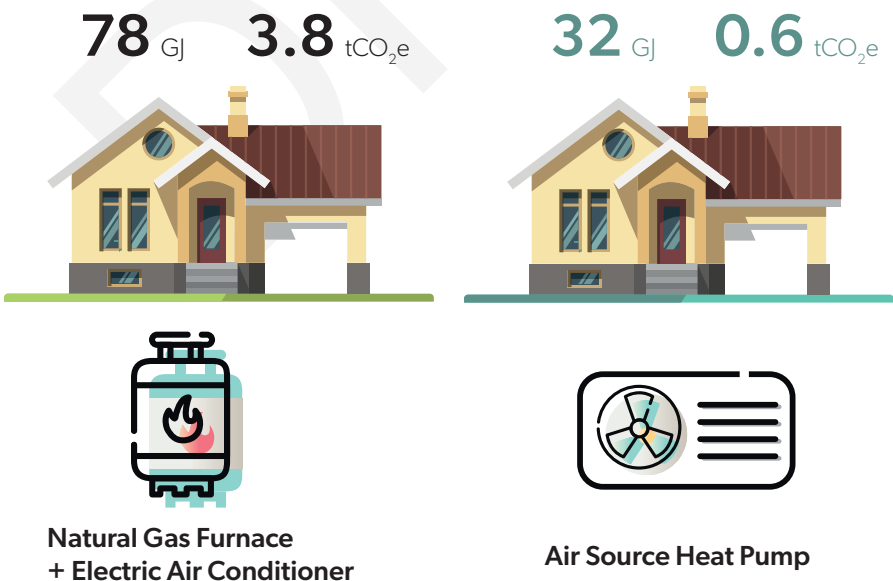
Currently, the primary energy source for space and water heating in Thunder Bay is a fossil fuel: natural gas. As a result, space heating is the most carbon intense activity in the buildings sector. To achieve net-zero emissions by 2050 a significant amount of space and water heating will need to be switched to other sources of renewable energy. Electric heat pumps (air source or ground source) are primed to lead this transition.

With the help of electrical power, heat pumps leverage the outside or underground ambient temperature to balance indoor air or water temperature. As a result, a typical heat pump is more than twice as efficient as the most efficient natural gas furnace.

Air source heat pumps were once considered impractical for northern climates due to their inefficiency in very cold weather; however, technological improvements in recent years have changed this. They will need to be paired with energy-efficient homes to perform at their peak.

Though heat pumps are still more expensive to buy than a gas furnace, heat pumps typically more than pay for themselves over their lifetime as a result of reduced energy use. When powered by emissions-free electricity, heat pumps represent a technically feasible pathway for decarbonizing buildings.

One year of home heating and cooling for the average Thunder Bay household.



Existing Buildings

Improving energy performance in existing buildings is a greater challenge given that the building design is already ‘locked in’. Up-front costs of deep retrofits can be high, but this investment can be recovered over time through avoided energy costs. As illustrated in Figure 6, deep retrofits usually include upgrades to the building envelope, windows, doors, and heating and cooling systems. Reliable project financing can enable large energy efficiency investments in homes, commercial properties, and municipal/institutional buildings.

The NZS envisions building retrofits in all sectors, achieving an average of 50% electrical and thermal energy savings by 2050, without prescribing specific strategies for achieving this outcome.

The municipality will strive to retrofit most of its existing buildings by 2035, thus reducing the City’s energy consumption by half.

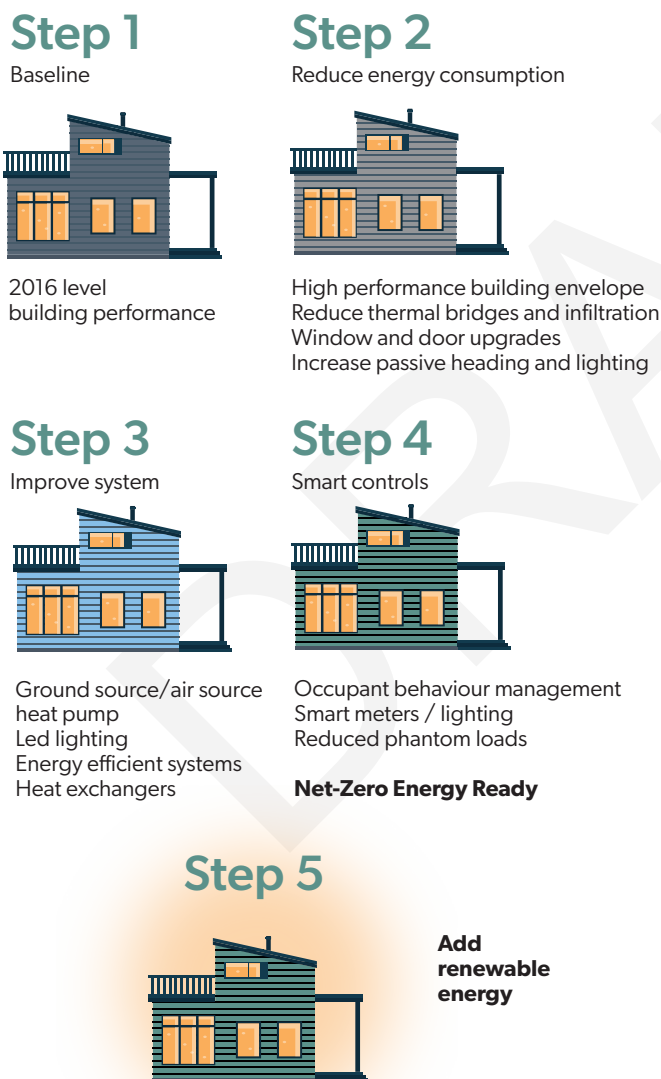


Figure 5. Achieving net-zero energy and GHG emissions buildings through efficiency measures, fuel switching, and renewable energy.

Table 4. Low-carbon industry targets and priority actions.

Objective 7: Industrial processes are increasingly efficient.
Objective 8: Combined heat-and-power systems are fueled by low carbon sources.
Industry Sector Targets
<ol style="list-style-type: none">1. 84% of all industrial buildings are retrofitted by 2030.2. Industrial process efficiency is increased by 50% by 2050.3. The capacity factor of biomass systems in the industrial process is increased by 10% by 2030, using sustainable biomass feedstock.4. Natural gas in industrial/institutional combined-heat-and-power systems is fuel switched to low-carbon sources.
Recommended Near-Term Tactics*
<ul style="list-style-type: none">• Establish an industrial energy efficiency and decarbonization working group to develop a sector-specific implementation strategy, collaborate on low-carbon initiatives, and share best practices.• Identify new and existing incentives for deep energy efficiency improvements in the industrial sector.• Advocate for funding to switch natural gas for renewable natural gas and other renewable energy sources in combined heat and power engines. Incrementally begin transition during the 5-year period.• Leverage Canada’s commitments to Building Canada’s Clean Industrial Advantage to improve industrial efficiency and reduce costs.

* Specific near-term actions for the Corporation are provided in Appendix D.

Low-Carbon Industry

Industry was responsible for 21% of the GHG emissions in Thunder Bay in 2016. Retrofits in industrial buildings will reduce both electricity and thermal energy consumption by 50% by 2050, including the installation of heat pumps for space heating and on-demand water heaters.

The NZS envisions heat demand for processes decreasing by 50% and the capacity factor of the existing combined-heat-and-power (CHP) system increasing by 10%.²¹ Renewable natural gas (RNG) and hydrogen are also used in the industrial sector (further discussions of these two sources are in the Focus Area: Renewable Energy).

Industrial emissions are regulated by the provincial and federal governments and are not easily influenced by municipalities. Reducing industrial emissions will require support from other levels of government and industrial partners. The Government of Canada’s strengthened climate plan, A Healthy Environment and a Healthy Economy, outlines many commitments to “[build] Canada’s clean industrial advantage” that align with the NZS vision.²²

²¹ Capacity factor refers to the ability of an energy production facility, in this case a combined heat and power plant to run to its full extent.

²² “A Healthy Environment and A Healthy Economy” (2020). Government of Canada. Retrieved from: https://www.canada.ca/content/dam/eccc/documents/pdf/climate-change/climate-plan/healthy-environment_healthy-economy_plan.pdf.

District Energy: Part of the Net-Zero Solution

District energy systems are energy systems that supply power via underground pipes to multiple buildings or facilities. These are local energy generation and distribution solutions, which means local control of the energy supply. Because of the scale of these systems, they can also potentially lower the costs businesses and residents have to pay to access renewable energy. As a result, the decarbonization and expansion of existing, as well as the development of new district energy systems, can be an important part of a community's net-zero pathway.

Thunder Bay has made use of this technology at several locations across the city where natural gas is often the primary fuel source, including:

- Resolute Forest Products (biomass + natural gas-based),
- Canada Malting (natural gas-based),
- Thunder Bay Regional Health Sciences Centre (natural gas-based),
- City of Thunder Bay Water Pollution Control Plant (renewable natural gas/biogas based), and
- City of Thunder Bay Solid Waste & Recycling Facility (renewable natural gas/biogas based).

The decarbonization and expansion of these systems are critical steps in the NZS. In terms of building new district energy systems, the city was assessed for areas that met the best practice energy density requirements. District energy systems are most cost-effective when they serve energy-dense areas. A preliminary rule is that areas with an energy density of greater than 150 megajoules per square metre are viable sites for district energy. Typically, this defines a neighbourhood that includes large buildings with multiple uses, high residential density and compact neighbourhoods.²³

As the city is not projecting significant growth out to 2050, new district energy was considered an uneconomical solution. Improved efficiency combined with electric heat pumps was selected as the more economical solution.

Investment costs are high, so it takes a high-density neighbourhood to justify the cost; low-rise residential is not feasible, and in a post-retrofit world, the feasibility is lower still.

Further Resources: District Energy Planning, Seven Steps to Success. Retrieved from: District Energy 101: 7 Steps to Success - Integral Group

²³ (Moller, B., & Werner, S. (2016). Quantifying the Potential for District Heating and Cooling in EU Member States).

FOCUS AREA: RENEWABLE ENERGY GENERATION AND PROCUREMENT

Table 5. Renewable energy targets and priority actions.

<p>Objective 9: Rooftop solar PV is deployed to assist with meeting building electricity needs.</p> <p>Objective 10: Thunder Bay is a leader in renewable energy generation and produces enough energy to meet its needs.</p> <p>Objective 11: Natural gas is replaced with low-carbon fuels.</p>
<p>Energy Sector Targets:</p> <ol style="list-style-type: none">1. 290 MW of ground-mount solar capacity is added by 2050.2. 50% of existing buildings install rooftop solar PV by 2030 and all new buildings after 2021 have rooftop solar PV.3. 250 MW of wind capacity is installed by 2050.4. Renewable Natural Gas (RNG) and hydrogen are generated locally to displace remaining natural gas use by 2050.
<p>Recommended Near-Term Tactics*</p> <ul style="list-style-type: none">• Advocate for a zero-emissions provincial electricity grid as soon as possible.• Create an online hub of resources for homeowners and businesses interested in installing rooftop solar PV.• Assess the availability of sustainable biomass in the region to support innovative fuel switching solutions.• Research opportunities for energy co-generation and/or district heating in existing and future facilities and operations.• Establish a renewable energy cooperative.• Participate in the development of the Provincial low-carbon hydrogen strategy.• Collaborate with regional energy providers to explore new, renewable energy production opportunities and develop a plan for increased renewable generation and storage.

* Specific near-term actions for the Corporation are provided in Appendix D.

Fuel-switching is an important part of the NZS where many activities move away from fossil fuels to low-carbon sources, with an emphasis on electricity. The NZS envisions more electric space heating, electric vehicles, and electric processes in industry. To move there, Thunder Bay needs a supply of clean electricity now and in the future. Future demand particularly can be met through local generation. Preliminary analysis indicates that the renewable electricity supply in Thunder Bay and its surrounding area exceeds the total electricity consumption in 2016.²⁴

²⁴ Ancillary report: Supply and Constraints Analysis (see Appendix F).

Distributed Renewable Energy Generation: Solar and Wind Energy

Ground-mounted solar PV systems can be installed on available land within and outside the city boundaries that do not compete with other land uses. Larger solar installations can be located in sites with complementary land uses such as on parking lots, unused rooftops or in utility right of ways.

The price of electricity from new power plants

Electricity prices are expressed in 'levelized costs of energy (LCOE). LCOEs captures the cost of building the power plant itself as well as the ongoing costs for fuel and operating the power plant over its lifetime.

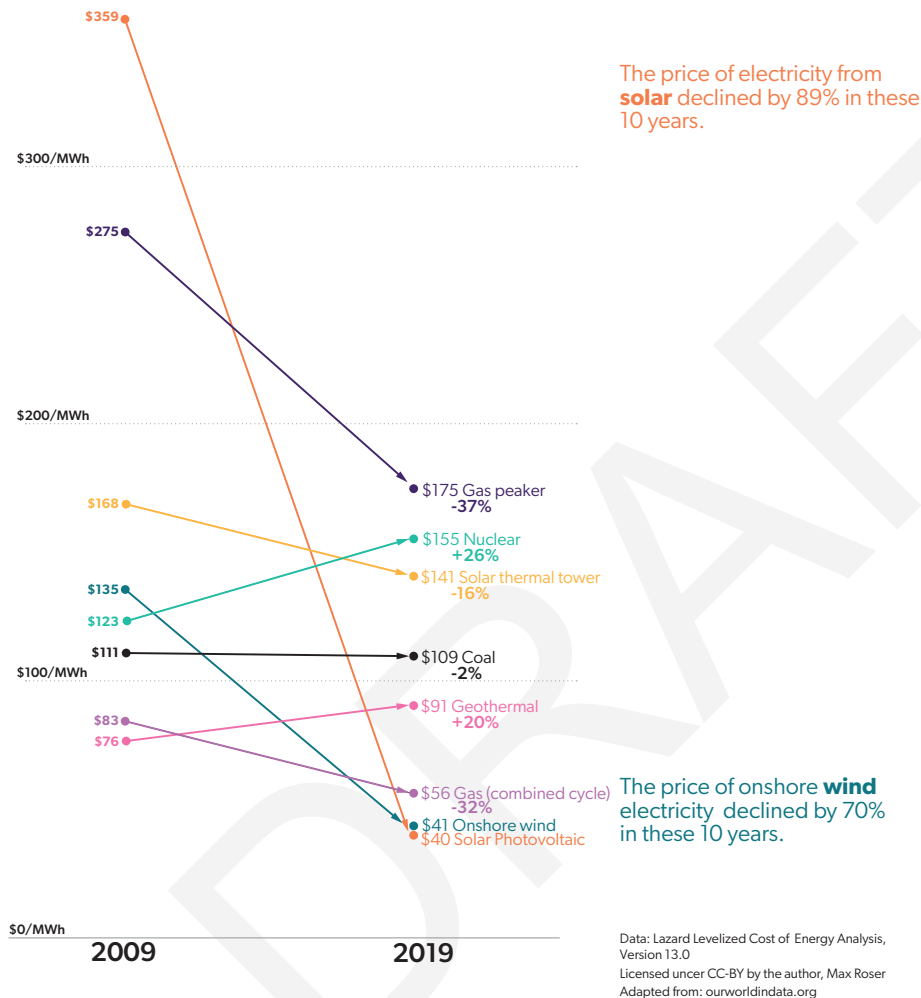


Figure 6. Renewable energy has become the most cost-effective method of electricity generation in the last 10 years.

Wind turbines need to be installed where wind speeds are sufficient to make the projects viable. One such example is the 100MW wind farm operating north-east of the city.²⁵

Each of the sources of renewable electricity comes with its own set of constraints. Ontario's electricity market and the grid's capacity to effectively integrate intermittent energy sources are significant constraints. Balancing storage capacity and demand during peak hours is a technical challenge.

²⁵ Green Power Generation" n.d. Enbridge. Retrieved from: Green Power Generation - Enbridge Income Fund.

Renewable Natural Gas and Hydrogen

Where possible, renewable natural gas (RNG) and hydrogen should be produced locally. Additional RNG can be procured over the grid/pipeline. RNG is typically generated through anaerobic digestion or landfill gas capture, is considered net-zero, and can be blended with existing natural gas infrastructure without intervention.

Hydrogen energy is assumed to be green hydrogen where it is produced through electrolysis, a process that is powered by renewable electricity.²⁶ Hydrogen is used primarily in the industrial sector but can also be blended with the natural gas distribution network at a rate of between 5 to 15% of total volume.²⁷ Fuel-cells may be another opportunity to transport and use hydrogen in individual buildings or in heavy-vehicles. Although this technology is still in its infancy, the Province and Canada have made commitments to accelerating hydrogen initiatives in their respective climate plans.

Thunder Bay is well-positioned to begin this transformation locally by producing RNG using anaerobic digestion of biosolids and other organics. Subsequent development of green hydrogen can commence in the city through electrolysis, using local renewable electricity or the grid.

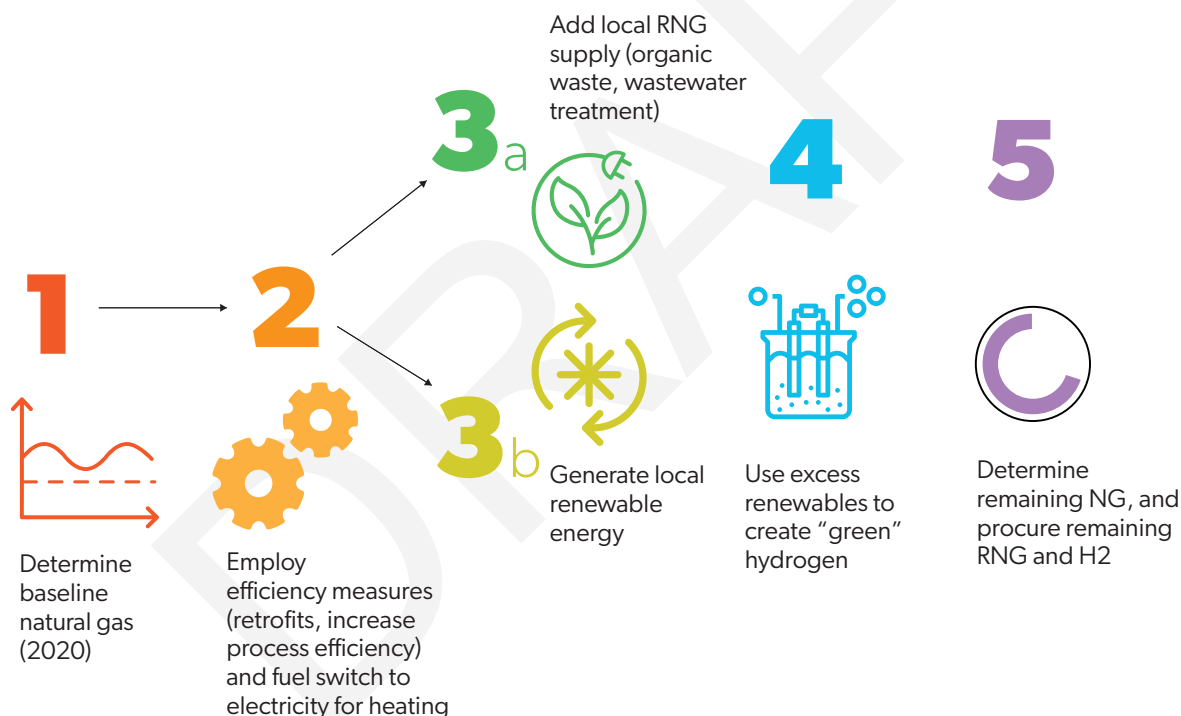


Figure 7. Fuel Switching in the NZS

²⁶ Hydrogen displacement of natural gas represents approximately 2% of the total reductions. It is thus speculative of changes that may be made as Ontario begins to develop a hydrogen strategy. "Ontario Low-Carbon Hydrogen Strategy - Discussion Paper." 2020. Ministry of Environment, Conservation, and Parks. Ontario Low-Carbon Hydrogen Strategy - discussion paper | Environmental Registry of Ontario.

²⁷ M. W. Melaina, O. Antonia, and M. Penev (2013). Blending Hydrogen into Natural Gas Pipeline Networks: A Review of Key Issues www.nrel.gov/docs/fy13osti/51995.pdf.

Wood and Thunder Bay's Net-Zero Transition

Forests have been at the heart of Thunder Bay's economy since the 19th century, and they will continue to have an important role in its economy in a net-zero future.

As a source of carbon sequestration....

First and foremost, effectively managing Thunder Bay's existing trees and planting more trees is critical to capturing and storing carbon emissions to achieve net-zero emissions by 2050. Not only do trees sequester carbon, but they also purify the air and improve mental health when planted within urban areas, and support a thriving tourism industry surrounding the city.

As a source of energy...

Biomass is a source of energy with significantly lower emissions than fossil fuels; however, it is not a zero-carbon source of energy. Burning wood for power produces carbon dioxide and NO_x, and particulate matter.

Ontario has sustainable forestry practices in place; however, burning harvested wood for energy is not aligned with a climate emergency approach.²⁸ If a tree is planted to replace the harvested one, this carbon dioxide will only be removed from the atmosphere over 60 or 70 years. Climate scientists have made it clear that the timing of emission reductions is critically important; reductions over the next decade are much more critical than reductions sixty years from now if the worst effects of global warming are to be avoided.²⁹ For this reason, only biomass that would otherwise be combusted should be used for energy.

A preliminary review of available data suggests there is a small amount of forestry waste within the region of Thunder Bay that is being burned onsite, which could be considered for local energy use.³⁰ A more comprehensive review of local sustainable biomass supply should be conducted before exploring new biomass initiatives.

As a building material...

Residential and commercial buildings consume 31% of the total energy used in Thunder Bay. The NZS identifies several targets to reduce energy consumption and improve energy efficiency in the building sector, including net-zero new construction and extensive retrofits of existing buildings. This presents a significant opportunity for the use of regional wood and wood products in new construction and retrofitting initiatives.

Generally, building with wood instead of non-wood alternatives such as concrete, metals, or plastics, can have a positive impact on emissions by reducing a building's carbon footprint.³¹

²⁸ See for example International Business Times Weekly, "Over 500 Scientists From US, Europe and Asia Urge World Leaders to Stop Burning Trees for Energy" February 13, 2021. Retrieved from: <https://www.ibtimes.sg/over-500-scientists-us-europe-asia-urge-world-leaders-stop-burning-trees-energy-55542>.

²⁹ See generally: IPCC, Special Report: Global Warming of 1.5°C (2018). Retrieved from: <https://www.ipcc.ch/sr15/>.

³⁰ Available data from the Ministry of Natural Resources and Forestry indicates that a significant amount of wood waste is burned annually within 50 km of the city in the Black Spruce Forest (≈ 2,500 slash burn piles) and Dog River-Matawin Forest (≈ 2,200 slash and burn piles). In addition, about 60,000 green tonnes of wood residue are produced from the Lakehead Forest, but not burned onsite. The energy potential of these three sources alone is 669,925.35 GJ/year, or 21.24MW of capacity. It is very likely that more sustainable woody biomass is available.

³¹ Bergman et al., (2014) The Carbon Impacts of Wood Products. Forest Products Journal, 64(7).

A building’s carbon footprint, or embodied carbon, refers to the carbon emissions attributed to the extraction, manufacture, transportation, and assembly of the materials used in construction, as well as building maintenance, repair, and decommissioning. While operational emissions - the emissions that result from the energy used to operate a building - can be reduced over time, embodied emissions are “locked-in” during construction.

There are several ways to reduce embodied carbon, including choosing low-carbon structural materials, reducing total materials used in building design, and repurposing used materials as much as possible.³² The City will explore strategies to reduce embodied carbon in new construction and building retrofits and encourage the use of regional wood and wood products.

As an opportunity for continued leadership...

Thunder Bay is a leader in research and innovation in the forest bioeconomy with world-class research facilities, pilot manufacturing sites, and demonstration facilities.

Sustainable forest management, low-carbon forest products, and skilled forestry professionals have an important role to play in the net-zero transition. The NZS supports continued research, development, and innovation in the forest bioeconomy to develop new and novel solutions on the path to net-zero.

FOCUS AREA: LOW-CARBON TRANSPORTATION

Table 6. Low-carbon transportation targets and priority actions.

Objective 12: Public transit is convenient, accessible, and low carbon.
Objective 13: Residents in Thunder Bay drive less and walk or cycle more.
Objective 14: Vehicles are powered with low-carbon energy.

³² Urban Land Institute Green Print. (n.d.). Embodied Carbon in Building Materials for Real Estate. Retrieved from: https://americas.uli.org/wp-content/uploads/ULI-Documents/Greenprint-Embodied-Carbon-Report_FINAL.pdf.

Sector Targets: Active Transport and Transit

1. The mode share of public transit increases to 10% by 2035.
2. The municipal transit fleet is converted to 100% electric by 2035.
3. Private vehicle trips (home to work) are reduced by 10% by 2050.
4. 65% of trips within (start and conclude) the city is walking, cycling or public transit by 2030.
5. E-mobility service (bikes and vehicles) are launched by 2021.
6. Active transportation zones are created in the downtown core(s) to incentivize active movement and disincentivize vehicle travel.

Sector Targets: Vehicle Electrification

1. 100% of private vehicle sales are electric vehicles (EV) by 2040.³³
2. 100% of heavy commercial vehicles are powered by low-carbon fuels by 2040, light-duty commercial vehicles are electric by 2050.
3. The active-transportation zones restrict the use of fossil-fuel powered vehicles by 2030.
4. The municipal fleet (i.e. corporate vehicles, service vehicles, public works) is 100% electric by 2040.

Recommended Near-Term Tactics*

- Expand electric vehicle charging infrastructure and require charging stations in new construction of homes and businesses.
- Develop a municipal transit and fleet decarbonization strategy.
- Develop a commercial fleet decarbonization strategy.
- Explore mechanisms that incentivize the use of electric vehicles (e.g. free parking).
- Develop a zero-emissions vehicle technology and training cluster with the local colleges and trade organizations.
- Develop a shared mobility service (e.g. EV-car share, bike-share, or e-bike share)
- Advocate for increased electric vehicle and bicycle rebates from other levels of government.
- Continue implementing the City of Thunder Bay's Transportation and Active Transportation Master Plan.

* Specific near-term actions for the Corporation are provided in Appendix D.

Transportation represented the largest source of emissions in Thunder Bay in 2016, and this is projected to continue in the BAP scenario until 2050. The benefits of the NZS approach to transportation include reduced air pollution, increased community health, and improved accessibility.

³³ This target generally follows the Federal Government's goals for vehicle sales across Canada.

Improved Transit

The NZS envisions 10% growth in transit ridership as a result of increased frequency during peak times and the expansion of the transit network so that it reaches 80% of the population. Additionally, the NZS includes 100% of the municipal fleet being electrified by 2040.



Figure 8. Electric Buses are being deployed in Edmonton, Alberta.³⁴

Active Transportation and Trip Reduction

Thunder Bay residents have an affinity for nature and the outdoors. The NZS supports this lifestyle by assuming a continued increase in cycling and walking, with enabling infrastructure investments in:

- Pedestrian priority corridors,
- Trail expansions,
- Active-transport zones with car-free corridors,
- City-wide complete street standards,
- Fort-to-Port cycling connection, and
- Winter cleaning of active transport pathways.

These and many other improvements are identified in the Transportation Master Plan and Active Transportation Plan (2020-2050) and contribute to the NZS' target mode shares.

³⁴ See the City of Edmonton website: www.edmonton.ca/projects_plans/transit/electric-buses.aspx.

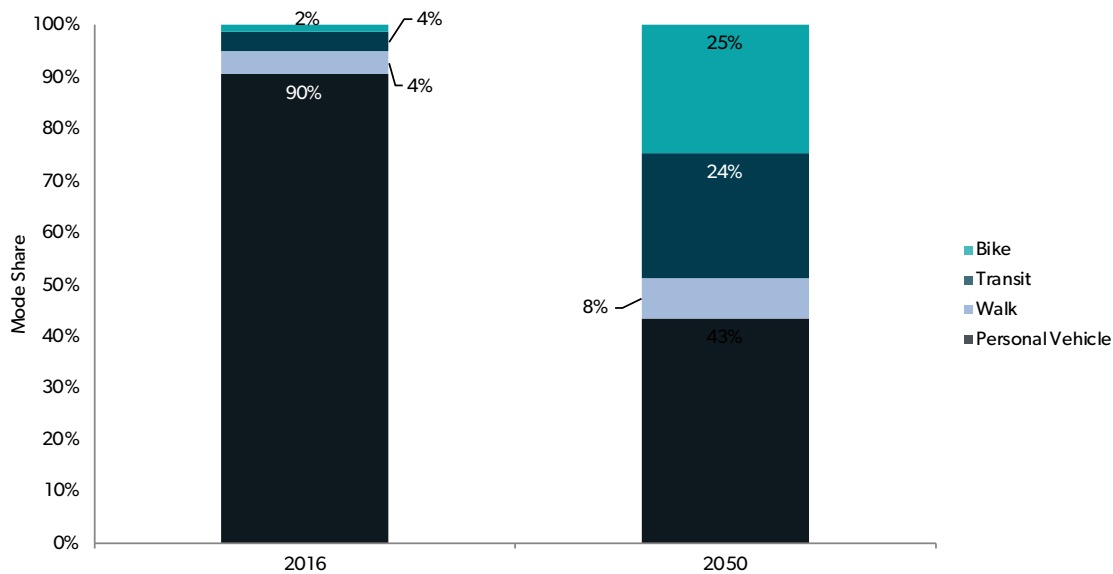


Figure 9. Mode share, 2016 and 2050 for trips taken within Thunder Bay with low-carbon actions.

The NZS includes recommendations for establishing a car share program, e-bike share system, and an increase in private e-bikes. Car share programs have been successful in many North American cities, including Pogo in Edmonton, Calgary Car Share, and Communauto in Toronto, Ottawa, Montreal, and Quebec City. Communauto has begun to roll out electric vehicles in its fleet.

Car-free zones are present in many European cities, regardless of climate, and are being increasingly considered in cities across Canada. The application to major trip-destinations like downtown Thunder Bay could be effective if carefully designed. Summer markets and increased rates for paid parking in the city core may be a more feasible disincentive to private vehicle use in the short term.

Vehicle and Fleet Actions

Emissions from private and commercial vehicles are a challenging and important focus area for the NZS and advancing EV adoption is a key part of the solution. With EV prices dropping and the increasing availability of models suited to northern climates, and various commercial and private needs, rapid electrification is becoming more viable.

The target for EVs follows the lead of the Government of Canada, however the city can still play a role to accelerate the EV transition through key interventions.

Leadership in Electric Vehicle Adoption

Coordinated actions are required to accelerate the EV transition in Thunder Bay. Plug n' drive, a leading non-profit whose aim is to achieve this acceleration offers the following suggestions³⁵:

- A mature, regional DC fast charging network ('Level 3' charging) will alleviate EV range anxiety. Several privately-owned charging networks are already emerging in Canada, including those owned by Tesla, Electrify Canada (Volkswagen), FLO, and Petro-Canada. The municipality can support the build-out of EV charging infrastructure by participating directly in projects, assisting in site selection and design, and addressing infrastructure hurdles.
- A branded marketing campaign partnering with employers, dealerships, automobile associations, etc. will bring attention to the viability of EVs. Motorists need to be made aware of, and helped to navigate grants, subsidies, and incentive programs for EV purchases.
- Awareness campaigns need to extend to neighbouring municipalities, so that visitors know that Thunder Bay has the infrastructure needed for painless EV visits.
- The City can also show leadership by revising certain bylaws and plans to accommodate and promote EV ownership. Transportation and land-use policies can be updated to include provision for charging infrastructure and assignment of priority parking.
- Incentives could be offered to EV purchasers in the form of property tax rebates, vehicle registration fee rebates, or free parking (if applicable).
- Promotional and rebate partnerships with car dealerships can help accelerate EV ownership. Partnerships with taxi companies can help transition their fleets to EVs.
- Leading an EV bulk buying program would reduce EV costs further and grant access to EVs for more of Thunder Bay's residents.³⁶

³⁵ "Accelerating the Deployment of Plug-In Electric Vehicles in Canada and Ontario" 2018. Plug n' Drive Canada. Retrieved from: www.plugndrive.ca/wp-content/uploads/2017/07/160159_ElectricVehicleReport_R001.pdf

³⁶ For example, Boulder, Colorado pioneered an extremely successful EV bulk purchase program starting in 2016: www.bouldercounty.org/environment/sustainability/transportation/electric-vehicles/.

FOCUS AREA: WASTE

Table 7. Waste targets and priority actions.

Objective 15: Waste is appropriately managed to reduce methane emissions.

Objective 16: Municipal water and wastewater processes are increasingly efficient.

Sector Targets

1. 95% of solid organic waste is rerouted to an anaerobic digester.
2. The landfill capture rate of methane is increased to 80% by 2040.
3. Pumping efficiency for wastewater is increased by 30% by 2030.

Recommended Near-Term Tactics*

- Increase organic diversion rates.
- Develop a centralized anaerobic digester system.
- Increase the City's landfill gas-capture rate.

* Specific near-term actions for the Corporation are provided in Appendix D.

In 2016, waste emissions represented 4% of Thunder Bay's GHG emissions. This reflects the work the City and community has already done in regard to wastewater treatment where methane is captured and used, as well as the landfill gas capture system employed by the City. This work continues in the NZS and is envisioned to go further and capture solid organic waste.

Reduced Waste and Waste to Energy

The NZS envisions an anaerobic digester in order to capture methane from organic waste and convert it to RNG. The current grid-connected landfill gas capture system is one potential location for an anaerobic digester.

Improved organic waste diversion by businesses and residents would improve the viability of an anaerobic digester. Enbridge and the Ontario Energy Board have jointly invested in the province's largest anaerobic digester and RNG production facility in Niagara, Ontario in the Fall of 2020. The facility is capable of handling 8,000 tonnes of organic waste.³⁷

³⁷ Ontario's Largest RNG Plant. 2020. Enbridge. www.enbridge.com/stories/2020/october/enbridge-and-partners-break-ground-ontarios-largest-rng-plant.

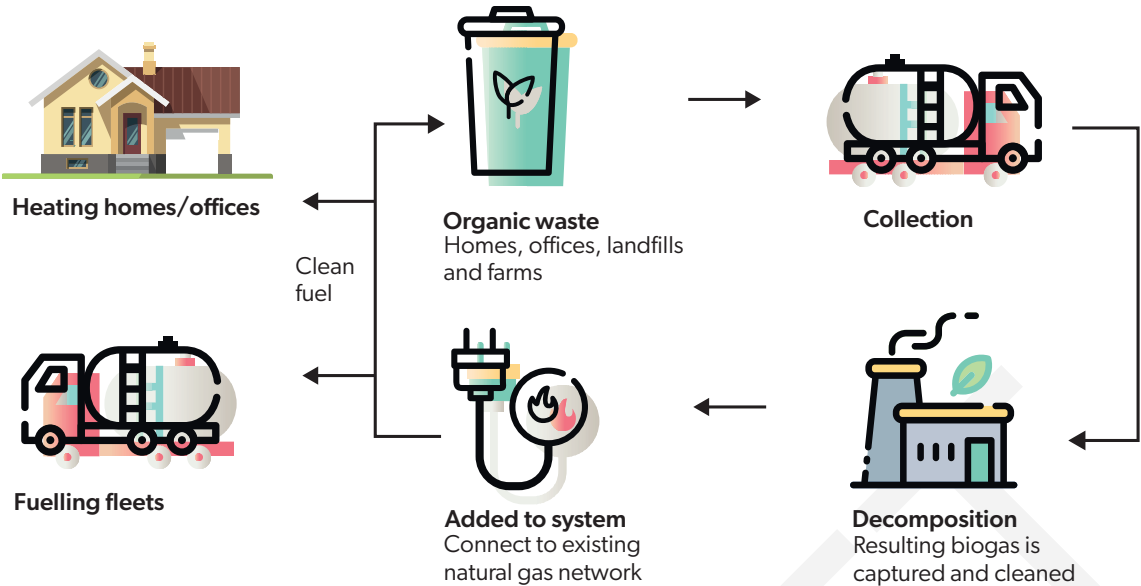


Figure 10. RNG inputs and outputs in a city.³⁸

NET-ZERO STRATEGY: EMISSIONS AND ENERGY USE SUMMARY

The NZS achieves approximately 90% GHG emissions reductions from 2016 levels and in comparison, to a business-as-planned (BAP) scenario through technically feasible and community-informed solutions. The NZS features a steep decline of 55% emission reduction in the next decade, reflecting an aggressive approach to implementation; stakeholders believed this to be an appropriate response to the climate emergency declaration (see Figure 12).

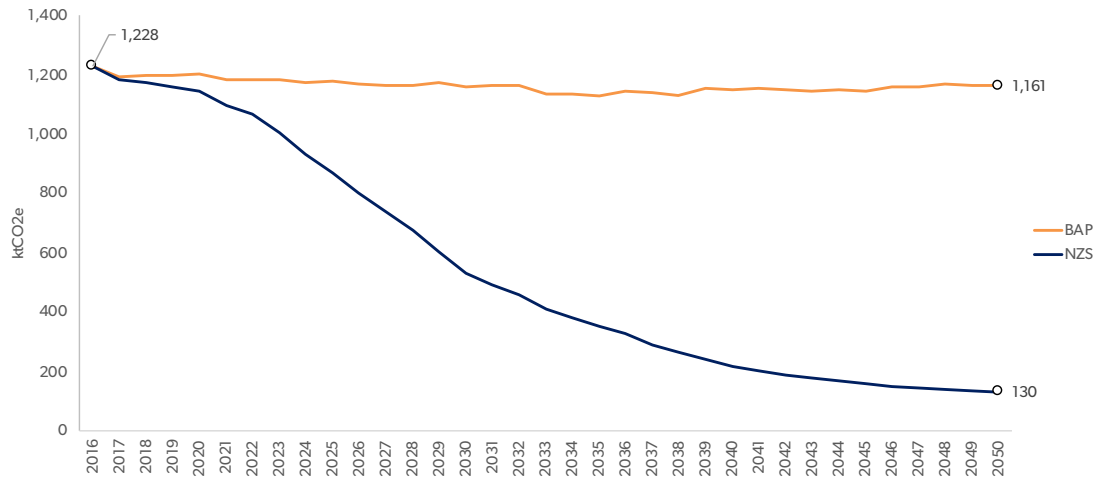


Figure 11. Thunder Bay's GHG emission totals in BAP vs. NZS, 2016 - 2050.

According to the framework of the strategy, GHG emissions decline to 532 ktCO₂e in 2030, a 55% decline from 2020.

³⁸ Renewable natural gas development. Nd. Enbridge. Retrieved from www.enbridgegas.com/Natural-Gas-and-the-Environment/Enbridge-A-Green-Future/Renewable-Natural-Gas.



Part 4. Financial Impacts

The Financial Transition

Below is a brief overview of the anticipated financial impacts if the Net-Zero Strategy (NZS) is implemented as modelled. A more detailed overview of the financial impacts is provided as an ancillary report to the NZS.³⁹

As compared against the BAP scenario, the targets in the NZS represent significant savings of energy, carbon, and maintenance costs as well as increased revenue from renewable energy generation and transit (see Figure 15 note that savings and revenue are shown as negative in the chart).⁴⁰ Financial modelling projects a positive return on investment of about \$1.7 billion dollars in net present value.⁴¹

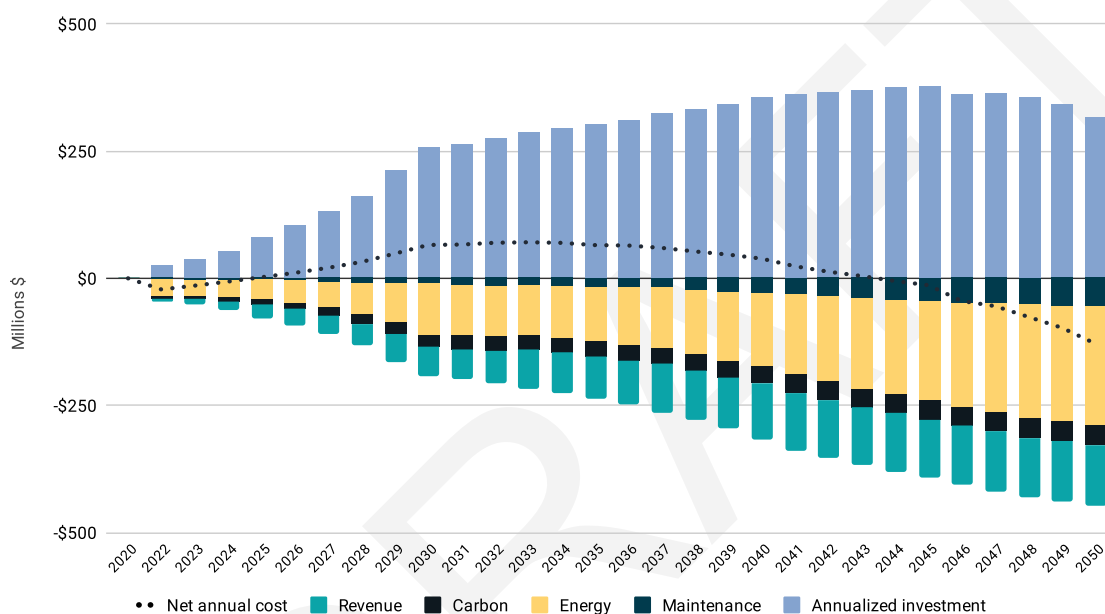


Figure 14. Annualized capital expenditures vs. savings and revenue from the net-zero scenario, 2020-2050.

The positive net present value of the net-zero pathway will require capital investments totaling \$5.1 billion (see the blue bars in Figure 15) spread out over the 2021-2050 period (with a \$3.8 billion present value). The Thunder Bay economy currently generates about \$5 billion in GDP every year. The low-carbon transition would require an annual investment, from the public or private sector, of 2.5-3.0% of the community's annual economic output.⁴²

The largest investments are projected for buildings, totaling \$3.8 billion (present value \$2.1 billion) over the period. To meet emission reduction targets, \$2.8 billion of the building

³⁹ See 'Net Zero GHG Emissions Financial and Economic Analysis Summary' (December 2020), available on the City of Thunder Bay website.

⁴⁰ This financial analysis does not include primary industry (i.e. pulp and paper) as financial data was not available.

⁴¹ Upon the completion of the strategy, the federal government launched a plan to increase the carbon tax to \$170/tonne by 2030. Modelling in the strategy assumes \$50/tonne. Retrieved from: www.canada.ca/en/services/environment/weather/climatechange/climate-plan/climate-plan-overview.html.

⁴² Statistics Canada. Table 36-10-0468-01 Gross domestic product (GDP) at basic prices, by census metropolitan area (CMA) (x 1,000,000) www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610046801.

investment program is required to be completed over the next ten years, representing an average annual incremental investment of \$280 million over the 2021-2030 period. This level of investment will require unprecedented levels of cooperation from nearly all stakeholders in Thunder Bay. Over the past ten years, building investment in Thunder Bay has averaged \$244 million per year. The NZS will require a sustained period in which building investments are double their recent historical levels. The upgrading of Thunder Bay's buildings has the potential to be the central pillar of a post-COVID economic recovery strategy due to the associated local job creation and social equity impacts.

A JUST TRANSITION

While the required investments are manageable from the perspective of the Thunder Bay economy, and while they will pay for themselves over the long term (see Figure 15 above), they could be large for particular people, sectors, or areas. The risk of localized impacts should be a key focus for the City. The proposed pathway will require new jobs to be filled, as the need for other jobs is reduced. With the right policies in place, the NZS can be delivered without adding further costs to energy bills and with limited impacts to public finances. Significant positive impacts on health and the environment are expected.

- **Jobs and the just transition.** The NZS involves considerable opportunities for job creation. For example, the action of retrofitting residential buildings alone would require over 14,000 extra full-time workers. An important challenge for the City, with support from community organizations and other levels of government, is to identify where jobs may be lost (e.g. in combustion engine vehicle maintenance) and to support workers to transition being a part of the new low-carbon workforce (e.g. retrofits, renewable energy generation, etc.). This can be carried out with existing businesses in Thunder Bay or new industries that emerge during this transition.
- **Energy bills.** The NZS can be implemented without large increases in consumers' energy bills, especially when combined with deep and targeted energy retrofits. Indeed, policy can be designed to ensure that vulnerable customers benefit from lower energy bills. Motorists also stand to see significant cuts in the costs of driving as they shift to electric vehicles, or even greater savings when also using active or public transit.
- **Health and environment.** There are a host of health and environmental benefits attached to the targets in the NZS. For example, more walking and cycling can improve health and contribute to cleaner air.

The required investment program is projected to spur Thunder Bay's economic growth and provide significant co-benefits. With the recent increase in the national price on carbon and projected improvements in low-carbon technologies, the economic benefits projected in this analysis are likely underestimated.

WHO IS PAYING?

How will the NZS be financed? The City, community, private sector, and other levels of government all have roles to play. The actions and strategies proposed to meet the targets outlined in the net-zero pathway will be subject to the City's democratic decision-making process. Due to the nature of this type of planning exercise, these decisions will be made on an ongoing basis throughout the implementation of the Plan.

The City may be able to provide start-up funding or assist with financing and take an organizational role in many actions but will not be paying for implementing each action. The City will not necessarily need to raise taxes to fund the NZS. The majority of the investment will originate from the private sector, community, other levels of government, and via innovative financing tools (i.e. green bonds).

Examples of investments that have been made in Canada and Ontario that respond to the targets in the NZS include:

1. **Waste:** The province of Ontario, Enbridge Utilities, and Niagara Falls are paying an estimated \$42 million for the largest anaerobic digester in Canada that will create a source of local renewable natural gas.⁴³
2. **Building efficiency, heat-pumps:** The cities of Perth-Andover and Saint-John, New Brunswick, along with their local hydro utility, have created heat-pump rental programs to reduce the cost of heat pumps and increase take-up.⁴⁴
3. **Solar energy:** Private investment of \$170 million has installed 120 MW of solar energy beside the City of Edmonton Airport.⁴⁵
4. **Wind energy:** Enbridge and partners have funded a wind farm north of Thunder Bay.⁴⁶
5. **Hydrogen energy:** Enbridge and the City of Markham, Ontario are funding a \$5.2 million hydrogen fuel blending program.⁴⁷
6. **Energy efficiency:** The Province of British Columbia and BC Hydro are offering building efficiency grants for British Columbia residents.⁴⁸
7. **Energy efficiency:** Resolute Pulp Mill has made a \$26 Million investment to reduce its GHG emissions by 43ktCO₂e annually.⁴⁹
8. **Electrifying public transit:** Canada and Ontario are investing over \$48.6 million in 14 public transit projects in Oakville. Projects include the replacement of 57 diesel buses with EV buses.⁵⁰

⁴³ "Enbridge and partners break ground on Ontario's largest RNG plant." 2020. Enbridge. Retrieved from: Enbridge and partners break ground on Ontario's largest RNG plant - Enbridge Inc.

⁴⁴ "Heat Pump Financing in Atlantic Canada." 2019. Daikin Air Intelligence. Retrieved from: daikinatlantic.ca/2019/08/23/the-guide-to-heat-pump-financing-in-atlantic-canada/.

⁴⁵ "Solar Farm in Edmonton Airport." 2019. CBC. Retrieved from: www.cbc.ca/news/canada/edmonton/solar-farm-the-size-of-313-football-fields-to-be-built-at-edmonton-airport-1.5640710.

⁴⁶ "Green Power Generation" n.d. Enbridge. Retrieved from: Green Power Generation - Enbridge Income Fund.

⁴⁷ "Enbridge Gas announces a \$5.2M Hydrogen Blending Pilot Project" 2020. Cision Canada. Retrieved from: Enbridge Gas announces a \$5.2M Hydrogen Blending Pilot Project to further explore greening of the natural gas grid (newswire.ca).

⁴⁸ "Double the Rebate Offer." n.d. Province of British Columbia. Retrieved from: Double the Rebate Offer - Better Homes BC.

⁴⁹ "Sustainability, Climate Change & Energy" n.d. Retrieved from: www.resoluteftp.com/Sustainability/Climate_Change_and_Energy/.

⁵⁰ "Canada and Ontario invest in modern, green public infrastructure for residents of Oakville" 2020. Retrieved from: https://news.ontario.ca/en/release/57810/canada-and-ontario-invest-in-modern-green-public-transit-for-residents-of-oakville.



Part 5. From Planning to Implementation

Community-Wide Implementation

Achieving the NZS' vision and targets will hinge upon community collaboration and support from the provincial and federal governments. The City will lay the groundwork, but there are numerous ways in which businesses and residents will need to be involved in the NZS implementation.

A non-exhaustive framework of the roles and responsibilities is provided below:

WHAT WILL THE CITY DO?

- Use the CEEP to participate in energy planning more formally in Ontario.
- Foster energy literacy and act as a resource for the community through education and outreach initiatives.
- Design and implement policies that support the goals of the CEEP, including:
 - Apply a climate lens in City decision making;
 - Integrate energy and GHG considerations into municipal plans and strategies.
 - Prioritize infrastructure funding that reduces GHG emissions.
- Work with a variety of funders and investors to boost investment in building energy efficiency, low-carbon transportation, renewable energy generation, and zero-carbon heating.
- Lobby on behalf of Northwestern Ontario by calling on the provincial and federal governments to enact tougher policies, regulations, and increase funding for local mitigation efforts.

The Corporation of the City of Thunder Bay committed to reducing corporate emissions by 20% below 2009 baseline year by 2020. In 2015, the Corporation exceeded this target and continues to meet reduction targets set out within the Corporate Energy Management Plan of a 2% to 5% reduction in energy consumption per year.

In 2018, the Corporation utilized 555,630 gigajoules (GJ) of energy at a cost of approximately \$13,307,050 and continues to exceed its reduction target by reducing greenhouse gas (GHG) emissions by 26% compared to the baseline year of 2009.

Read More from the Corporate Energy Management Plan: COTB Corporate Energy Management Plan 2019-2024 (thunderbay.ca)

WHAT CAN COMMUNITY BUSINESSES AND INSTITUTIONS DO?

- Integrate energy and emissions considerations into business practices (ex., set a GHG target, voluntarily disclose carbon information, or apply a climate lens on procurement).
- Implement energy efficiency standards for new and existing buildings.
- Swap vehicle fleets from gas/diesel to electric where possible and encourage low carbon deliveries.
- Provide vehicle charging stations on site.
- In the case of manufacturers, switching fossil-fueled process heating systems to low or zero carbon fuels.

WHAT CAN RESIDENTS DO?

- Support government climate mitigation and lobbying efforts for more stringent climate goals and sectoral goals.
- Continue to participate in CEEP governance and implementation, by bookmarking the project's webpage and signing up for any public engagement opportunities.
- Invest in net-zero initiatives, for example through the purchase of green bonds that may be issued by the City in the future.
- Participate in pilot projects that reduce GHG emissions or generate clean energy.
- Access any low-cost funding made available from community partners to implement energy efficiency or fossil-fuel switching actions.
- Walk, cycle, or use public transport instead of driving.
- Reduce household waste.

WHAT DO THE FEDERAL AND PROVINCIAL GOVERNMENTS NEED TO DO?

- Create public policy that clearly sets the Independent Electricity System Operator and local utilities on a path to decarbonize the provincial electricity grid.
- Provide a clear framework to decarbonize heating for buildings and improve building energy efficiency.
- Regularly review and update the Carbon Tax to ensure it is effectively supporting decarbonization by 2050.
- Provide funding to local governments, industry, and businesses to support their efforts towards meeting ambitious local climate targets.
- Update minimum building energy efficiency standards for residential and non-residential construction.
- Enable rooftop solar generation through policy to allow net-metering, and virtual net-metering.
- Provide infrastructure funding to support low carbon fleets in corporate operations and transit services which includes charging infrastructure.

Further Reading

Appendix D: Near-Term (2021-2025) Implementation Action Tables for the Corporation of the City of Thunder Bay.

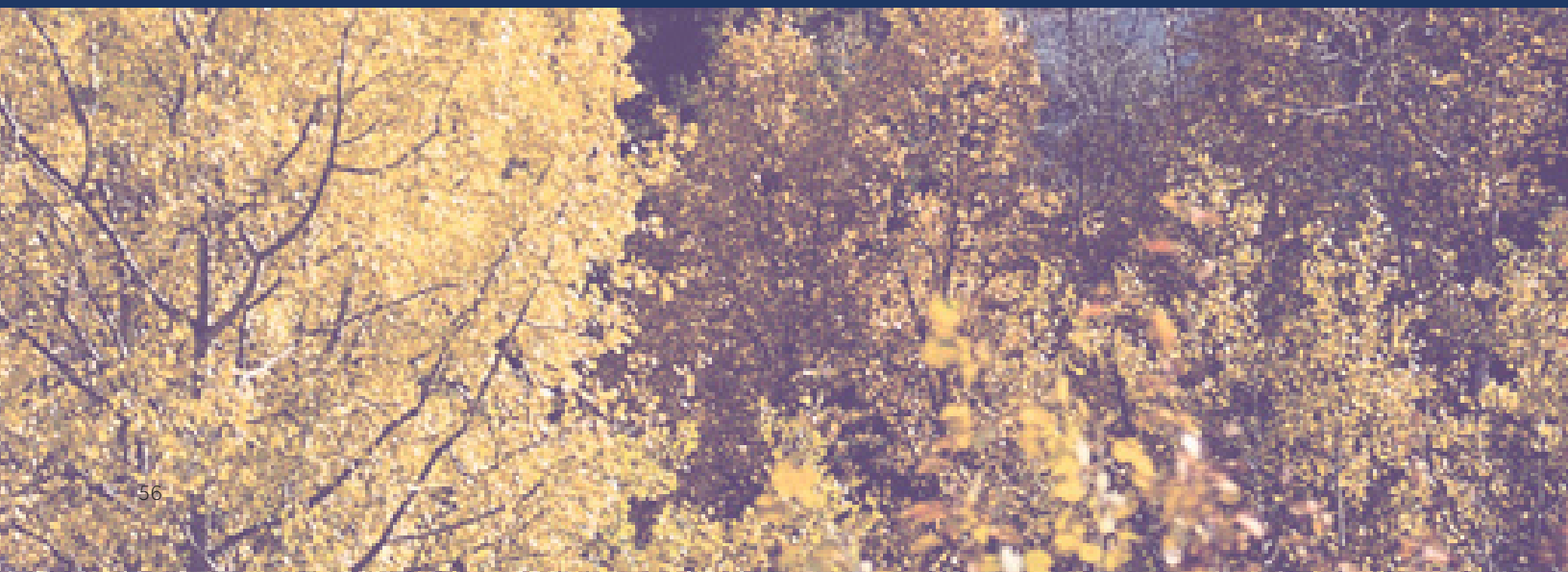
Municipal Stewardship

The City of Thunder Bay will act as both a leader and a partner in the implementation of the NZS. A series of near-term (2021-2025) action tables have been developed to kick-start implementation and lay the groundwork for accomplishing long-term objectives (see Appendix D).

MONITORING AND EVALUATION

The NZS is a living document that will require ongoing monitoring and evaluation. A five-year monitoring and evaluation cycle has been recommended to guide future initiatives as well as regular updates to the net-zero pathway. The NZS's pathway, which includes sectoral targets and recommended tactics, is based on a set of assumptions that will require periodic re-validation as actions are implemented. A five-year monitoring and evaluation cycle will reduce the levels of uncertainty in the modelling assumptions and ensure that the NZS remains up-to-date in the face of policy changes and technological developments.

The City will also review work-to-date and prioritize actions on a yearly basis. Prioritization of actions is expected to change from year to year based on the City of Thunder Bay's existing decision-making processes, evaluation, annual review, budget, and external factors.



Part 6. Conclusions

The NZS is a continuation of efforts beginning with the EarthCare Sustainability Plan and Climate Adaptation Strategy and cements the City's reputation as leader in the north. The NZS launches the City on a pathway to net-zero GHG emissions by 2050, while unlocking opportunities for new economic ventures and decreased costs for citizens and businesses.

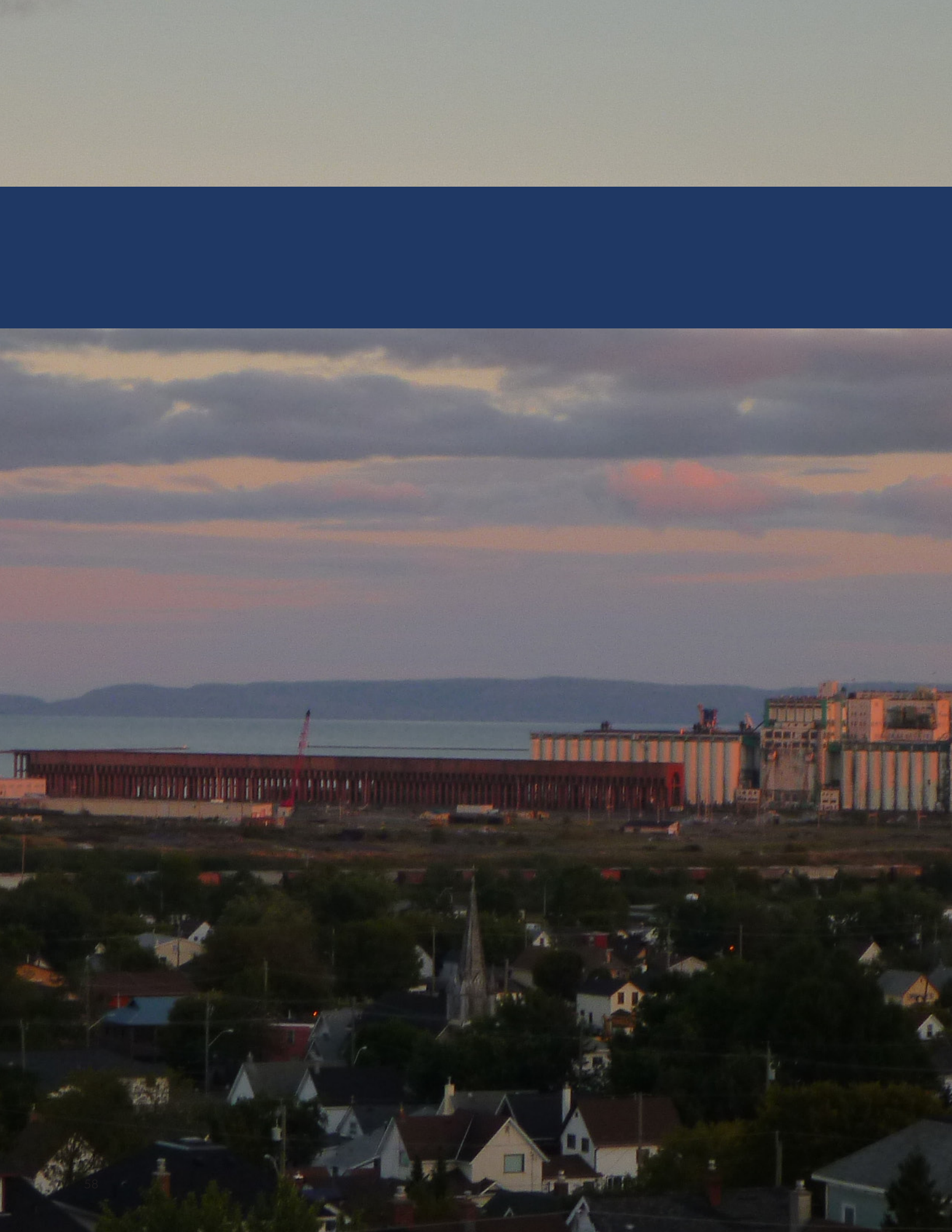
Actions and pathways to a low-carbon future for the buildings, mobility, and waste sectors point to a better future for Thunder Bay. This will be achieved through early action and investments shaped by the City's climate emergency declaration. The NZS demonstrates that achieving net-zero emissions is ambitious, but achievable. Strong and enduring collaboration across the community, region, businesses, government, and residential groups will be instrumental and the NZS provides the necessary information to empower decision-makers.

Thunder Bay has already laid the foundation necessary to work with all stakeholders to measure, manage, and adjust its climate action progress. In working together, the City with its citizens and businesses can transition together to a low-carbon and prosperous community.

THUNDER BAY IN 2050

By 2050, Thunder Bay will become a community of climate leaders. These climate leaders will keep their well-insulated homes comfortable by using affordable and efficient heat pumps; rethink their mobility by taking transit, riding bikes, and walking for local trips; and drive electric vehicles only when they must. Energy generation will increasingly occur within the community, coming from multiple sources and enriching the community. There will be enough energy to share. Citizens will choose to reduce waste whenever possible but know that any waste they do produce will be put to good use. Climate actions will be just and cut across the community to ensure that all citizens have access. Actions will respect the natural environment that surrounds Thunder Bay. Each decision will be weighed to ensure there are no additional GHG emissions in the community. The City and its citizens will recognize that actions piloted and completed in Thunder Bay have had a positive impact on the country and the globe, and that those positive impacts carry into future generations. Thunder Bay's climate leaders will look back on the hard decisions made in 2021 and shortly thereafter as ultimately worthwhile.

Shifts and adjustments will have been required as the strategy is adopted and implemented. The City will have welcomed new ideas, partnerships, and public policy, and wherever possible, will have pushed its limits to achieve net zero emissions.



APPENDIX A. Stakeholder Advisory Committee Membership

Contributing Organizations

- Arbora Management Services
- BioThermic: Wood Energy Systems
- Centre for Research & Innovation in the Bio-economy
- Citizens United for a Sustainable Planet
- Confederation College
- Digital Engineering Inc.
- Domansky LTD.
- EarthCare Advisory Committee
- EcoSuperior
- Enbridge
- Fort William First Nation
- Hydro One
- Kozar Engineering Inc.
- Lakehead University
- Nookiiwin Tribal Council
- Resolute Forest Products
- St. Joseph's Care Group
- Synergy North
- Thunder Bay Chamber of Commerce
- Thunder Bay Community Economic Development Commission
- Thunder Bay District Health Unit
- Thunder Bay Regional Health Sciences Centre

City of Thunder Bay Representation

- Amanda Nason, Communications Officer – Infrastructure and Operations
- Darrik Smith, Mobility Coordinator – Engineering
- Decio Lopes, Senior Planner – Planning Services
- Lee Amelia, Coordinator Waste Diversion – Environment
- Lindsay Menard, Process Engineer – Environment
- Shahrzad Borjian, Planning and Scheduling Analyst – Transit Services
- Vanessa DeGiacomo-Zwares, Energy Analyst – Facilities, Fleet & Energy Management
- Wendy O'Connor, Communications Officer – Infrastructure and Operations

DRAFT

APPENDIX B. Detailed Sectoral Targets and GHG Reduction in the Net-Zero Strategy

Legend:

FOCUS AREA + TARGET # + TARGET DESCRIPTION	MODELLED START + END DATE	ESTIMATED GHG REDUCTION IN 2050 (TCO2E)	REDUCE/ IMPROVE/ SWITCH CATEGORY
Objective: The overarching Strategy objective the target(s) will help accomplish.			
Focus Area (A-E): A: Land use + natural areas B: Energy efficiency in buildings + industry C: Renewable energy generation + procurement D: Transport E: Water + waste Target #: 1-31	Start - End	Anticipated reduction in GHGs in 2050 if target is met.	Reduce: Avoiding energy consumption is the top priority. Improve: Maximizing energy efficiency improvements follows reducing. Switch: Switching to low-carbon energy sources addresses remaining demand.

FOCUS AREA + TARGET # + TARGET DESCRIPTION	MODELLED START + END DATE	EST. GHG REDUCTION IN 2050 (TCO2E)	REDUCE/ IMPROVE/ SWITCH CATEGORY
Objective 1: Neighbourhoods are complete, compact, and walkable.			
A.1: 90% of all new construction, including residential, commercial, and industrial will occur in the Targeted Intensification Zone.	2021 - 2050	45	Reduce: Increase density in urban areas thereby reducing urban sprawl.
A.1a: 6.5% of buildings that exist today are demolished.	2021- 2050		Reduce: Demolition of older buildings as the city grows. This is expected to occur without intervention.
A.2: Houses are 30% smaller than the 2016 average (168 m2).	2050	2	Reduce: Housing footprints are smaller and require less energy.
A.3: 20% or less of new construction is single-detached.	2050		

Objective 2: Thunder Bay's forests and greenspaces are protected and provide essential ecosystem services.

A.4: 100,000 trees are planted within the municipal boundary.	2050	4	Improve: Increase carbon sequestration potential.
A.5: Greenfield development is limited (supporting Target A.1).	2050	GHG reductions included in A.1	Reduce: Conserve greenfields as natural areas to maintain carbon sequestration potential.

Objective 3: New buildings are net-zero ready.

B.6: 90% of new residential construction is net-zero (for rooftop solar see C.16)	2022-2030	10	Improve: New buildings require less energy and are net-zero ready. Switch: Space and water heating are electric.
B.7: Increase efficiency of new commercial and industrial buildings in line with Toronto Green Standard (for rooftop solar see C.16).	2022-2030	18	Improve: Increased energy efficiency in commercial buildings.

Objectives 4-6: Existing residential, commercial, municipal, and industrial buildings are retrofit to achieve deep energy savings and reduced emissions.

B.8: 100% of dwellings built before 1980 are retrofitted.	2022 - 2030	178	Improve: Existing housing stock is retrofit to achieve 50% energy savings compared to BAP. Switch: Space and water heating is electrified.
B.8a: 100% of dwellings built after 1980 are retrofitted.	2030 - 2040		
B.9: 84% of commercial buildings are retrofit.	2022 - 2030	79	Improve: Existing commercial and industrial buildings are retrofit to achieve 50% energy savings compared to BAP. Switch: Space and water heating is electrified.
B.11: 84% of industrial buildings are retrofit.			
B.10: 100% of municipal buildings are retrofit.	2022-2035	11	Improve: Existing municipal buildings are retrofit to achieve thermal savings of 75% and electrical savings of 50%. Switch: Space and water heating is electrified.

Objective 7: Industrial processes are increasingly efficient.			
B.12: Minimize process heat demand up to 50% (primary and secondary industry ⁵¹).	2022 - 2050	126	Reduce: Reduce energy use by making industrial processes more efficient.
B.13: Maximize woody biomass capacity factor of existing CHP systems (primary industry).	2021 - 2030	141	Improve: Increase capacity of existing power supply.
B.13a: Electrify remaining process heat (primary industry).	2030 - 2050		Switch: Natural gas is switched with electricity.
Objective 8: Combined heat-and-power systems are fueled by low carbon sources.			
B.14: Fuel switch remaining natural gas to low-carbon sources in secondary industrial/institutional CHP systems.	2022 - 2050	1	Switch: Natural gas is switched with low-carbon fuel.
Objective 9: Rooftop solar PV is deployed to assist with meeting building electricity needs.			
C.16: 50% of buildings (residential, commercial, industrial, municipal) have solar PV installed.	2022 - 2050	18	Switch: Roof-top PV is installed to help meet the community's energy needs.
Objective 10: Thunder Bay is a leader in renewable energy generation and produces enough energy to meet its needs.			
C.15: Install 290 MW of solar.	2022 - 2040	45	Switch: Install ground-mounted PV systems for local energy generation.
C.17: Install 250 MW of wind.	2022 - 2040	37	Switch: Wind turbines are installed to help meet the community's energy needs.

⁵¹ Secondary industry refers to industry that does not deal directly with natural resource extraction and processing (e.g. primary industry).

Objective 11: Natural gas is replaced with low-carbon fuels.

C.18: Increase procurement of RNG. (107.5 TJ from local sources, i.e. landfill and wastewater, 33.9 TJ procured from external sources)	2025 - 2050	7	Improve: Increase local production of RNG. Switch: Offset natural gas use with imported RNG.
C.18: Procurement and local production of hydrogen. 380 TJ of hydrogen is in use.	2035 - 2050	21	Switch: Offset natural gas consumption with locally produced hydrogen, the procure remainder.

Objective 12: Public transit is convenient, accessible, and low carbon.

D.19: Increase transit mode share up to 10%. Transit network reaches 80% of the population.	2021 - 2035	6	Reduce/Improve: Reduce vehicle trips by increasing transit use through transit improvements.
D.20: Convert municipal transit fleet to 100% electric.	2021 - 2035	4	Switch: Transition fleet to EV buses.

Objective 13: Residents in Thunder Bay drive less and walk or cycle more.

D.21: Linearly reduce private vehicle trips (home to work) by 9%.	2021 - 2050	3	Reduce: Enhance home-based work and flexible work policies to reduce vehicle travel.
D.22: 65% of trips within the city are carried out on foot or by bike. This applies to trips up to 2km for walking and 5km for cycling.	2021 - 2030	4	Reduce/Improve: Reduce vehicle trips by improving active transportation infrastructure and programming.
D.23: 10% of trips within the city and/or up to 10km are completed by electric car or bike share service.	2021 - 2050	2	Switch: Switch from fossil fuel based transportation to electric cars/bikes.
D. 24: 50% fewer vehicle trips, 50% less vehicle ownership in designated Active Transportation Zones.	2021 - 2031	11	Reduce: Reduce vehicle trips in the downtown cores by establishing active transportation zones that prioritize active transportation and public transit.

Objective 14: Vehicles are powered with low-carbon energy.

D.25: 100% of light-duty vehicle sales per year are zero-emissions by 2040.	2021 - 2040	148	Switch: Electrify personal-use vehicles.
D.26: All heavy-duty vehicles are hydrogen-based (or alternative low-carbon fuel).	2026 - 2040	52	Switch: Electrify freight and delivery vehicles.
D.26a: Light-duty commercial vehicles are 100% electric.	2021 - 2050		
D.28: 100% of the municipal fleet is electric.	2021 - 2040	2	Switch: Electrify municipal fleet.

Objective 15: Waste is appropriately managed to reduce methane emissions.

E.29: 95% of solid organic waste is rerouted to an anaerobic digester.	2021 - 2050	49	Reduce: GHGs released into the atmosphere via decomposing organic waste.
E.30: Increase landfill methane capture rate to 80%	2021 - 2040		

Objective 16: Municipal water and wastewater processes are increasingly efficient.

E.31: 30% increase in water and wastewater pumping efficiency.	2021 - 2030	1	Reduce/Improve: Reduce energy consumption by improving efficiency.
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APPENDIX C. The Net-Zero Energy and GHG Emissions Transition: Technical Analysis

Total Energy Demand by Source

Assuming full implementation of all the actions described above, Thunder Bay's total energy consumption in 2050 would be 11.2 petajoules, 15.1 petajoules less than 2016's energy use and 14.2 petajoules less than the Business-as-planned (BAP) scenario by 2050 (Figure 16).

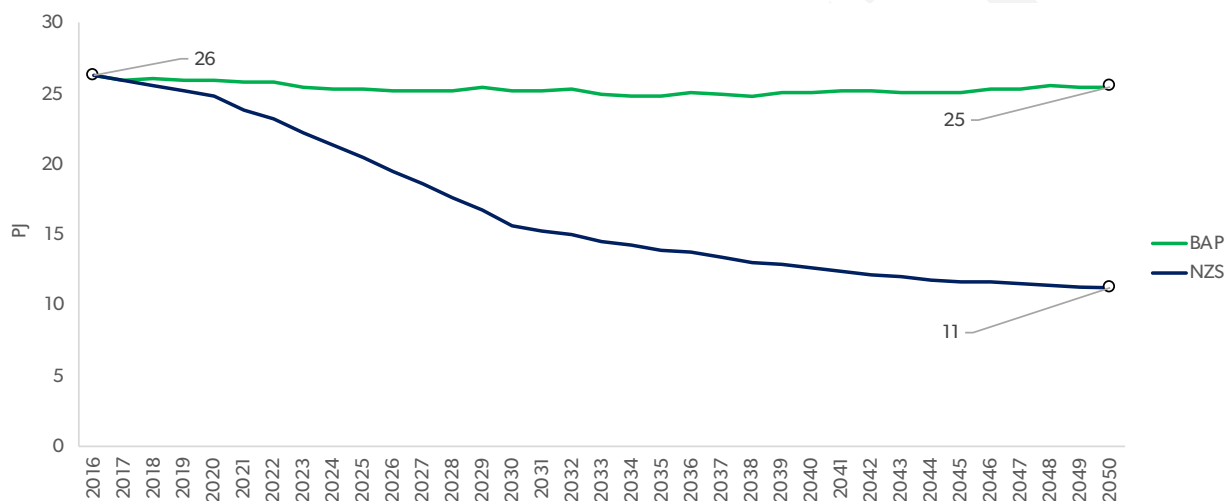


Figure 15. Net-zero (blue) versus BAP scenario (green) total community energy use, 2016-2050.

The targets in the Strategy will drive dramatic reductions in natural gas, gasoline, and Ontario grid electricity consumption (Figure 16). As electric vehicles gain market share through 2030, gasoline demand is replaced by electricity. While originally coming from the grid, grid energy is increasingly replaced by local renewable sources such as solar and wind. Energy from the district energy systems increases as the CHP plant in the primary industrial sector increases its capacity factor and replaces natural gas for heat processes with biomass.

In 2050, Thunder Bay can produce all of its energy locally and has displaced all natural gas; gasoline consumption has decreased by 92% and diesel by 54%. Energy comes from local solar PV plants and wind farms, and combined heat-and-power systems accounts for 48% of the total energy demand. The ancillary report, Supply and Constraints Analysis, reviews the city's potential wind and solar capacity.

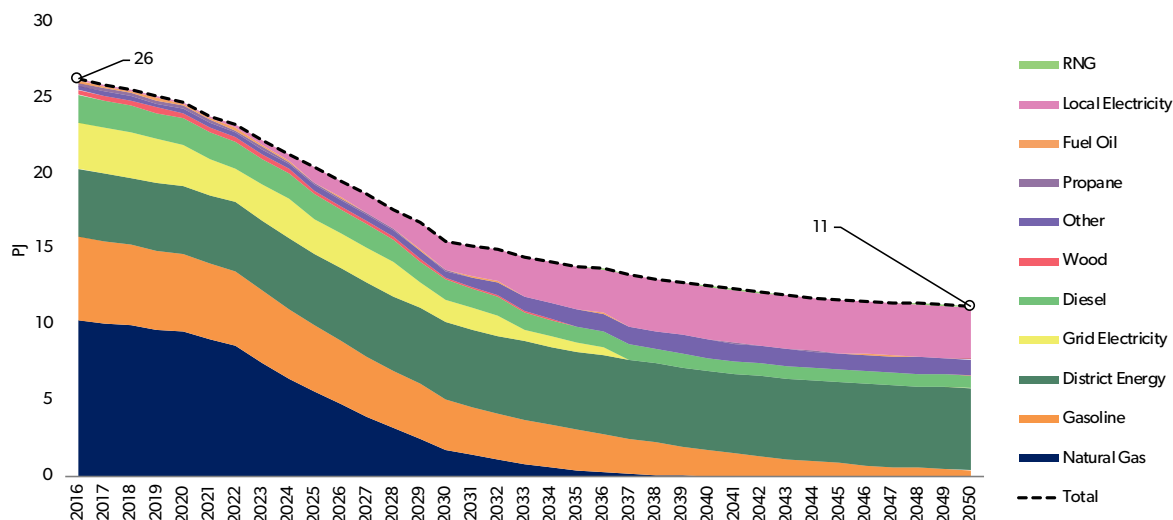


Figure 16. Community energy use by source (petajoules), 2016-2050.

'Other' in this context is primarily hydrogen energy for the industrial sector and geothermal energy for the residential sector.

Where Energy is Used

Commercial buildings use 81% less energy in 2050 than in 2016, while residential buildings use 71% less (Figure 18). Transportation energy use accounts for 5.3 petajoules, 69% less than 2016, mostly due to transformation of personal vehicles to electric, and the impressive energy efficiency of EVs⁵². Though it increases its overall share of total energy consumption from 40% in 2016 to 61% in 2050, the industrial sector reduces its own energy demand by 35%. The agriculture sector is a small sector and consumes only 0.001 petajoules in 2050.

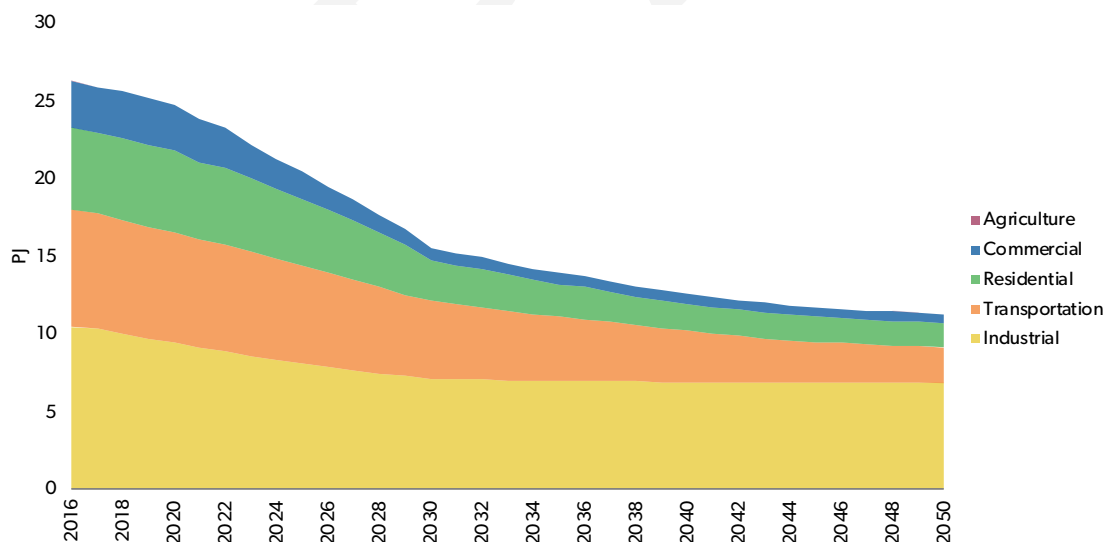


Figure 17. Community energy use by sector (petajoules), 2016-2050.

⁵² Electric vehicles convert over 77% of the electrical energy from the grid to power at the wheels, whereas the internal combustion energy vehicles convert about 12%–30%. US Department of Energy (n.d.) All-electric vehicles. Retrieved from: <https://fuelconomy.gov/feg/evtech.shtml>

How Energy is Used

Transportation and space heating drive major reductions in energy use by 2050 (Figure 19), accounting for 35% and 29% of the total decrease respectively. In line with the previous chart, industrial processes show a 33% decrease in energy use through the evaluation period.

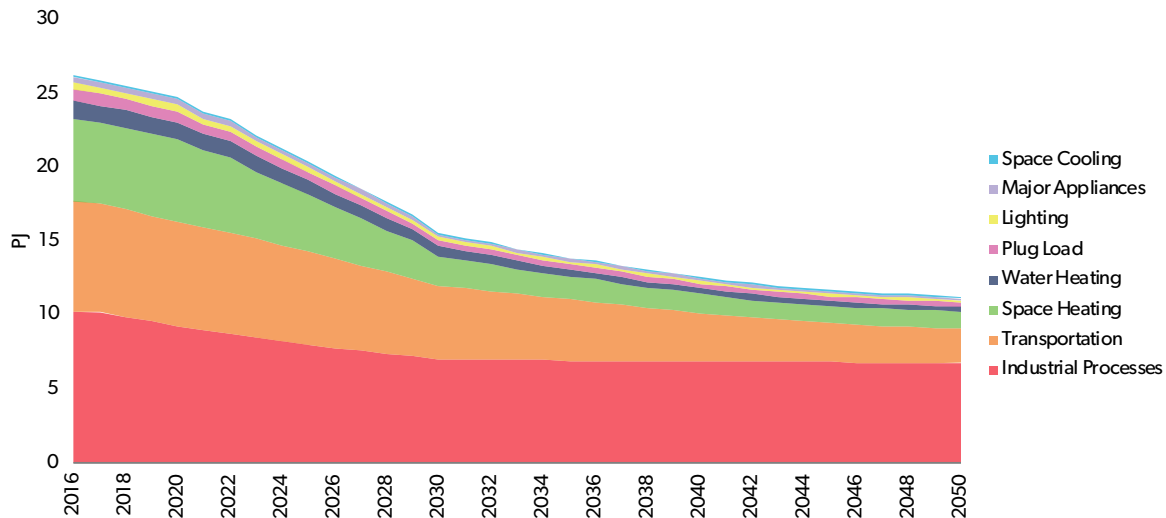


Figure 18. Community energy use by end use (petajoules), 2016-2050.

Total Emissions, by Source

As energy demand decreases under the NZS, so too do the emissions (Figure 20). This scenario achieves a 90% reduction from 2016 emissions levels and an 89% reduction in 2050 compared to BAP levels. This is an impressive outcome over a 30-year time period in an energy supply market currently dominated by fossil fuels. These reductions are enough to meet the Federal Government's commitment to achieve net-zero GHG emissions by 2050.

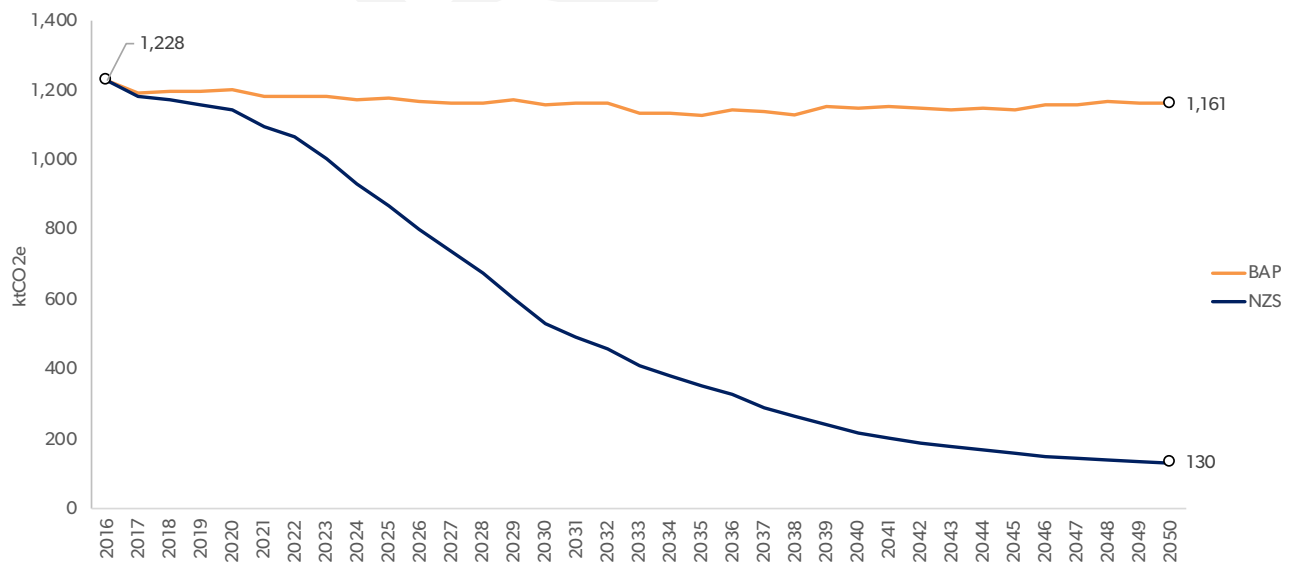


Figure 19. Projected total community emissions (ktCO₂e), 2016-2050.

Similar to the energy trend, natural gas and grid electricity emissions are completely removed from the inventory of Thunder Bay in 2040, and emissions from diesel, fuel oil, and gasoline are reduced by 52%, 86%, and 92% respectively compared with 2016. In contrast, the increase in district energy and local electricity consumption does not translate into higher emissions for those energy sources as they are considered emissions-free. Emissions from other sources⁵³ decrease by 83% through the evaluation period.

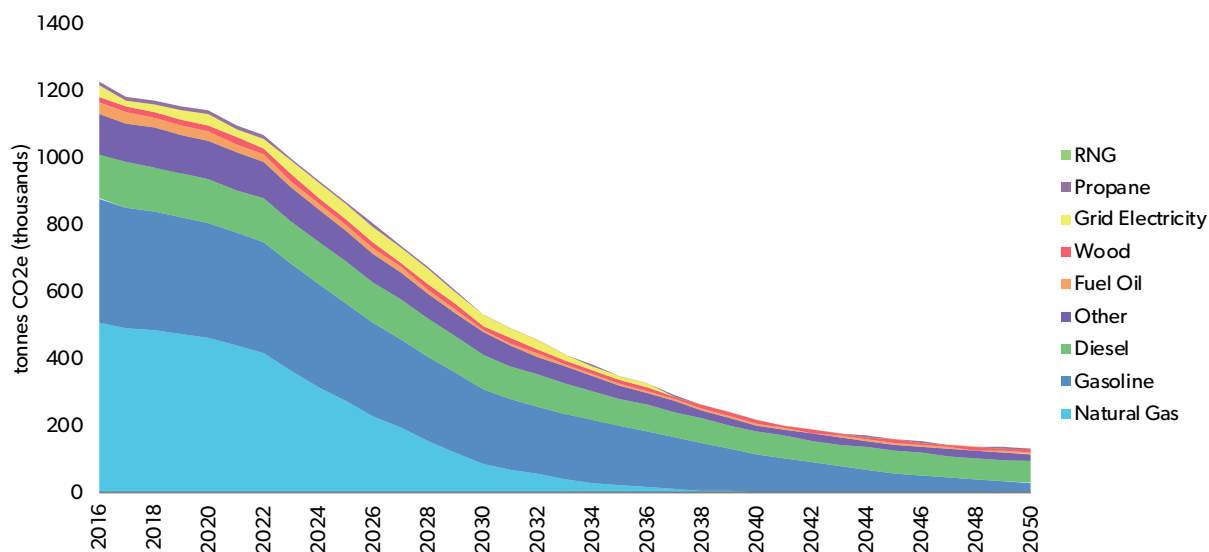


Figure 20. Net-zero pathway emissions by energy source (kilotonnes of CO₂e), 2016-2050.

The targets applied in the NZS will reduce emissions in all sectors. The greatest decrease in terms of net emissions are obtained in the transportation, industrial, residential, and commercial sectors with reductions of 409, 244, 227 and 117 ktCO₂e respectively. However, transportation remains the largest source of GHG emissions as gasoline and diesel consumption is still present in Thunder Bay in off-road vehicles.

Waste emissions are reduced by 68% whereas fugitive emissions⁵⁴ are removed completely from the community in 2040.

⁵³ Emissions “Other” mainly include non-energy such as waste and fugitive as explained in the following section.

⁵⁴ Fugitive emissions are those attributable to losses in energy transmission (e.g. natural gas escape).

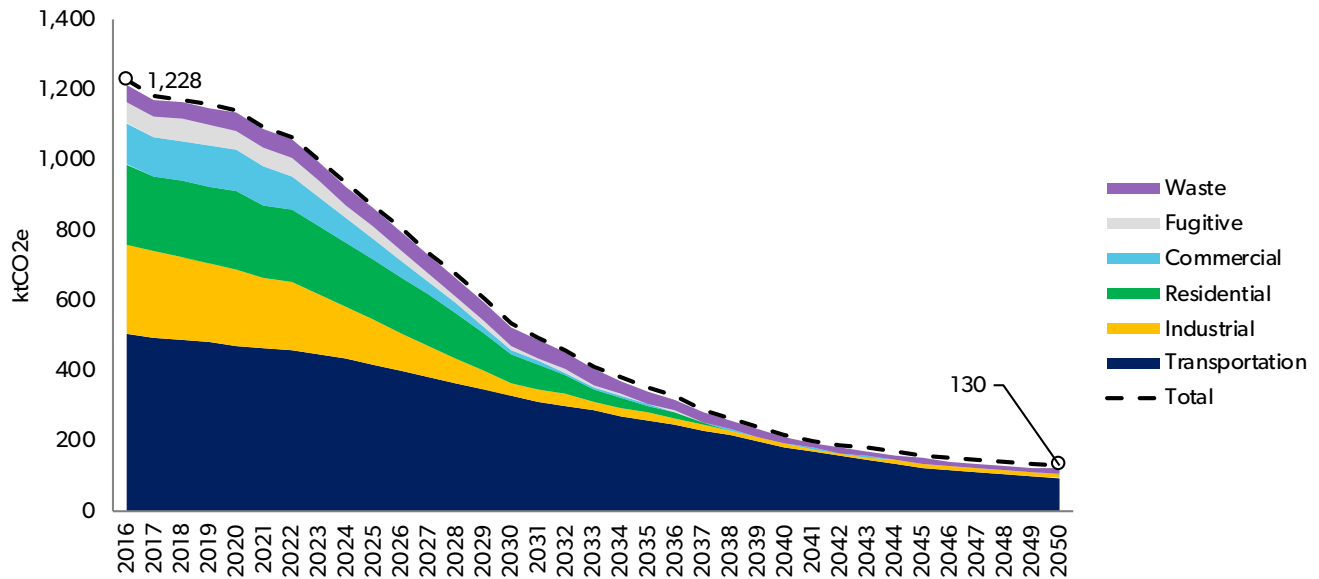


Figure 21. Net-zero pathway emissions by sector (ktCO₂e), 2016-2050.

Transportation Fuel Emissions

The transformation of the transportation sector is dramatic over the 2016-2050 time period resulting in reduced emissions by 81% from 2016 and 74% compared to the BAP scenario in 2050 (Figure 22).

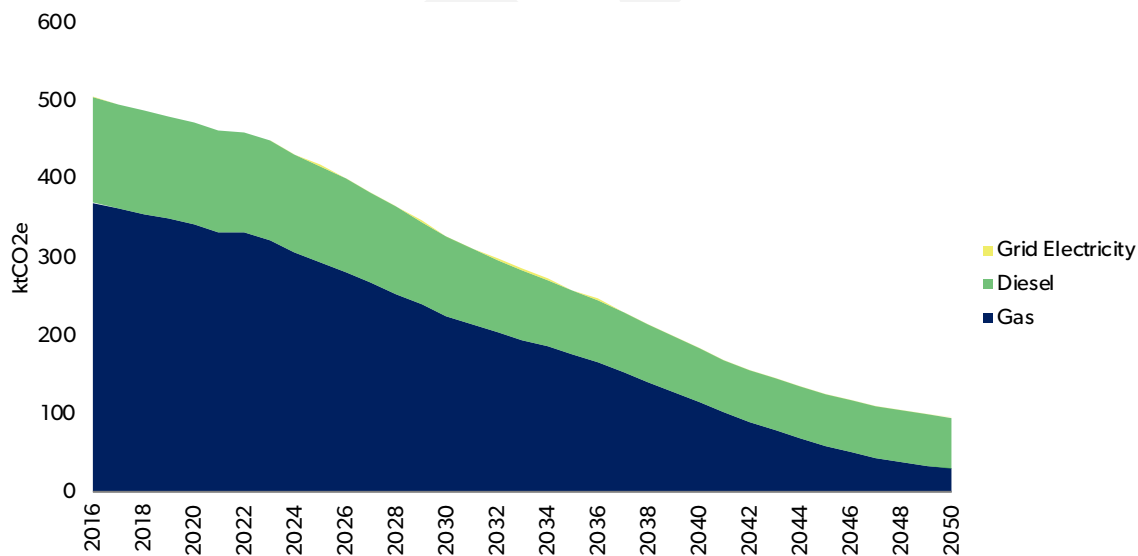


Figure 22. Net-zero pathway transportation sector emissions by fuel type, 2016-2050.

A major driver for this decrease is the shift from internal combustion engines to electric vehicles, especially the electrification of cars and light trucks for gasoline, and the transformation to hydrogen-based heavy trucks for diesel (Figure 24). Getting people out of cars and using active transportation or transit also contributes and keeps overall costs down. Several actions help achieve this target, including establishing two active transportation zones and developing targeted intensification zones (see Figure 25). The targeted intensification zones were identified

to increase the compactness of the community and avoid greenfield development, which reduces vehicle trips and enables higher rates of transit use and active transport.

Remaining transportation emissions from gasoline and diesel in 2050 mainly come from off-road vehicles in Thunder Bay.

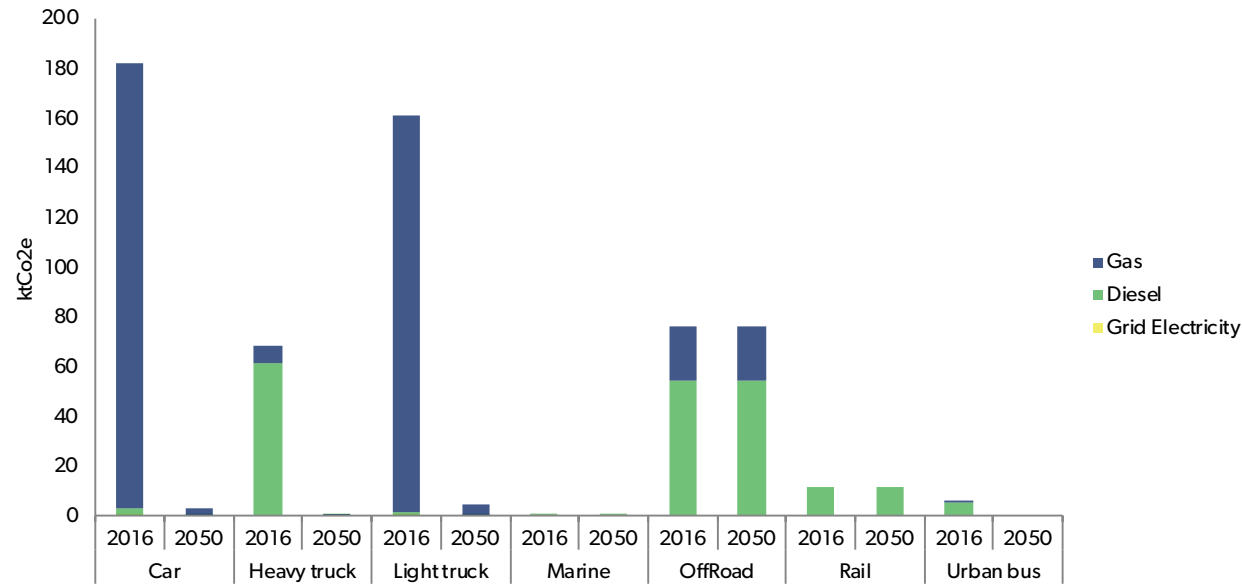


Figure 23. Transportation Emissions, by fuel and type, 2016 & 2050

Transportation emissions in the net-zero scenario by fuel type and vehicle type, 2016-2050.

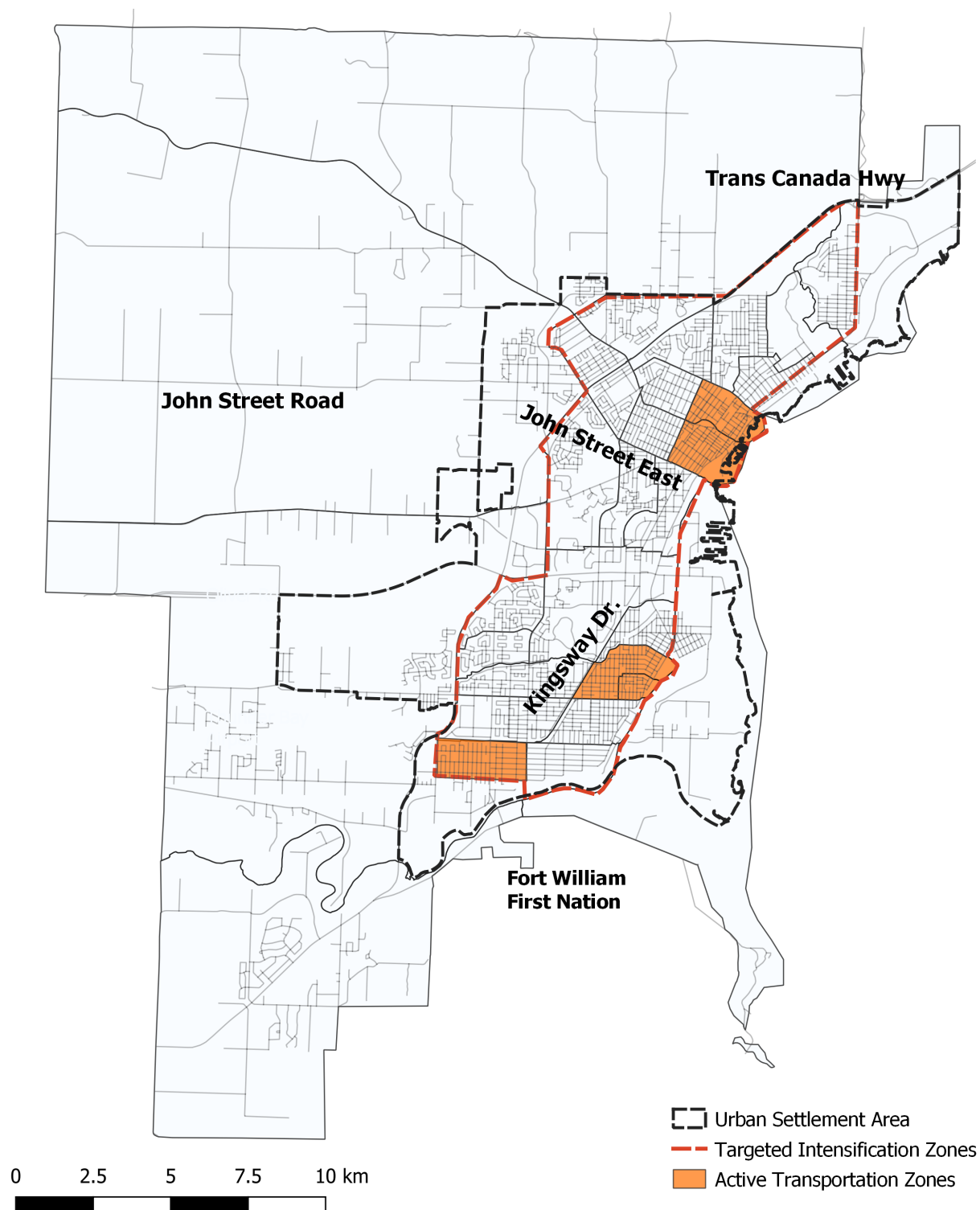


Figure 24. Active transportation and targeted intensification zones in Thunder Bay.

Buildings Emissions Sources

Implementation of new building energy performance requirements, deep energy retrofits of existing buildings, and efficiency improvements in the industrial sector along with fuel switching reduce emissions from buildings by 99.7% between 2016 and 2050. The largest gains are made in the space heating sector, followed by improvements in industrial processes where natural gas is replaced by electricity and biomass.

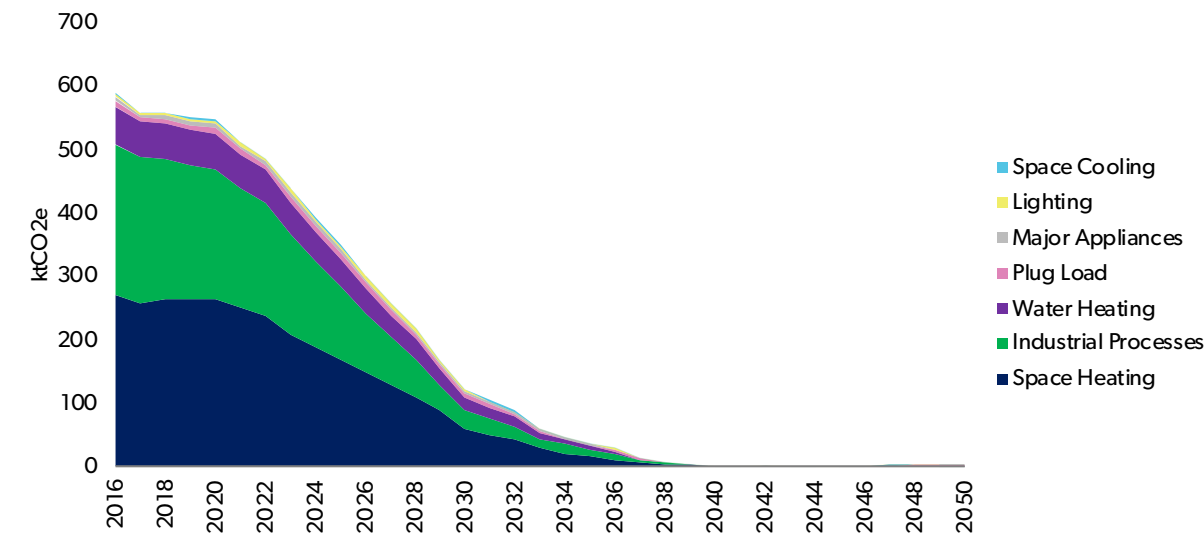


Figure 25. Net-zero pathway building sector emissions by end use, 2016-2050.

Waste Emissions

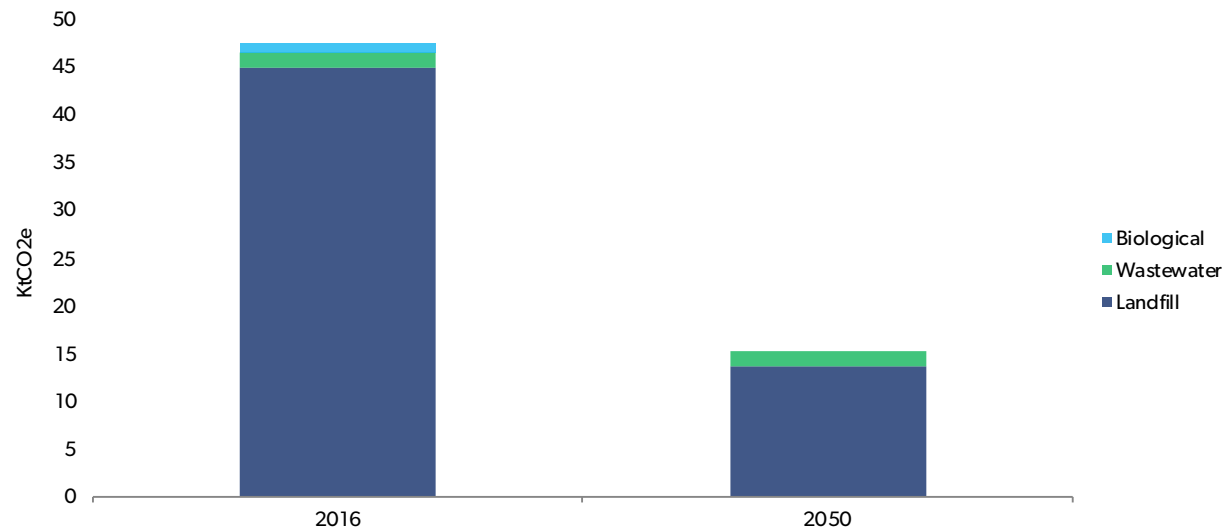


Figure 26. Net-zero pathway waste sector emissions by end use, 2016-2050.

Waste GHG emissions decline by approximately 70% in the NZS and will represent a projected 12% of GHG emissions by 2050. The City has already begun action on landfill waste and wastewater by capturing methane emissions through a landfill gas capture system and a wastewater treatment process that transforms methane to biogas. The NZS increases these efforts by diverting 95% of organic waste to an anaerobic digester where most GHG emissions are captured. The landfill gas capture system will also increase its capture rate from 15% to 80% by 2050, and water consumption rates decline by 25% due to behaviour change and improved technology.

APPENDIX D. Near-Term (2021-2025) Implementation Action Tables for the Corporation of the City of Thunder Bay

Legend

FOCUS AREA & SUPPORTING TARGET(S)	PRIORITY ACTIONS	MILESTONES	KEY PARTNERS	IMMEDIATE 2021	SHORT TERM 2022-2023	MEDIUM TERM 2023-2025	ONGOING
As identified in Appendix B: Detailed Sectoral Targets for the Net-Zero Pathway.	Specific projects or action areas that support associated targets.	Key milestones that are expected to be achieved by undertaking the priority actions.	Departments required for successful implementation.	Anticipated start date of each action.			

Note: Supporting departments and their roles will be identified and defined prior to initiating each action. All timelines and resources required are subject to annual review and subject to approval. Actions should be viewed as a starting point and are expected to change over time.

Table 8. Near-term actions to support Strategy implementation and integration in Corporate operations.

FOCUS AREA & SUPPORTING TARGET(S)	PRIORITY ACTIONS	MILESTONES	KEY PARTNERS	IMMEDIATE 2021	SHORT TERM 2022-2023	MEDIUM TERM 2023-2025	ONGOING
Implementation and Integration							
	Assign full time resources at the City to facilitate the implementation of the Strategy.	Resource assigned (1.0 FTE)	EarthCare		x		

FOCUS AREA & SUPPORTING TARGET(S)	PRIORITY ACTIONS	MILESTONES	KEY PARTNERS	IMMEDIATE 2021	SHORT TERM 2022-2023	MEDIUM TERM 2023-2025	ONGOING
	Establish a streamlined community GHG inventory and reporting process.	Reporting system/ strategy in place	EarthCare, Multiple Departments	x			
	Develop a 'climate lens' policy for municipal decision making to ensure City investments, policies, and programs support GHG reduction.	Creation of a Climate Lens Policy	EarthCare, Multiple Departments, City Council		x		
	Develop KPIs for monitoring and evaluation.	KPIs developed	EarthCare	x			
	Update Environment/ Community Sustainability Policy (04-02-02) in line with above.	Update, or integration, of Environment Policy	EarthCare		x		
	Assess finance mechanisms available to support Strategy implementation (ex, municipal bonds).	Finance mechanisms identified	EarthCare, Finance		x		
	Engage community stakeholders to help develop implementation strategies for the community and prioritize future work.	EarthCare Energy Working Group re-activated	EarthCare	x			
	Develop annual Action Plan outlining initiatives and priorities for upcoming year.	Annual Action Plan delivered to Council	EarthCare, Multiple Departments				x

FOCUS AREA & SUPPORTING TARGET(S)	PRIORITY ACTIONS	MILESTONES	KEY PARTNERS	IMMEDIATE 2021	SHORT TERM 2022-2023	MEDIUM TERM 2023-2025	ONGOING
	Promote energy and climate literacy in the Corporation and community.	Corporate Energy Workshop Update Community Engagement Strategy	EarthCare, Facilities, Fleet, & Energy Management				x

Table 9. Land Use and Natural Areas

FOCUS AREA & SUPPORTING TARGET(S)	PRIORITY ACTIONS	MILESTONES	KEY PARTNERS	IMMEDIATE 2021	SHORT TERM 2022-2023	MEDIUM TERM 2023-2025	ONGOING
A.1, A.3, A.5	Explore how the Zoning By-law can be used to support NZS implementation.	Zoning By-law update/recommendations	Planning Services	x			
A.1, A.3, A.5	Assess policies that promote compact, mixed-use development to increase density, reduce sprawl, and reduce transportation GHGs.	Policy recommendations	Planning Services		x		
A.5	Identify mechanisms that provide incentives for the preservation, establishment, and maintenance of green infrastructure.	Policy/program recommendations	Parks & Open Spaces, Engineering, Planning Services		x		

FOCUS AREA & SUPPORTING TARGET(S)	PRIORITY ACTIONS	MILESTONES	KEY PARTNERS	IMMEDIATE 2021	SHORT TERM 2022-2023	MEDIUM TERM 2023-2025	ONGOING
A.4	Integrate NZS principles into Urban Forestry Management Plan and operations.	Updated Urban Forestry Management Plan	Parks & Open Spaces		x		

Table 10. Energy Efficiency in Buildings and Industry

FOCUS AREA & SUPPORTING TARGET(S)	PRIORITY ACTIONS	MILESTONES	KEY PARTNERS	IMMEDIATE 2021	SHORT TERM 2022-2023	MEDIUM TERM 2023-2025	ONGOING
B.6, B.7	Develop green building standards ⁵⁵ to enable net-zero ready construction.	Green Building Standards adopted	Multiple Departments			x	
B. 6, B.10	Update Facility Design Standards policy (09-05-01) to enable net-zero ready construction.	Policy update	Multiple Departments		x		
B.6, B.7, B.8, B.9	Assess policies and strategies that address embodied carbon.	Policy recommendations	Multiple Departments	x			

⁵⁵ For more information and guidance on municipal green building standards, visit: <https://www.cleanairpartnership.org/wp-content/uploads/2020/10/GDS-toolkit.pdf>.

FOCUS AREA & SUPPORTING TARGET(S)	PRIORITY ACTIONS	MILESTONES	KEY PARTNERS	IMMEDIATE 2021	SHORT TERM 2022- 2023	MEDIUM TERM 2023- 2025	ONGOING
B.8, B.9	Conduct a feasibility study for establishing a Local Improvement Charge or alternative financing mechanism to support building retrofits.	Feasibility study/ business case	Multiple Departments	x			
B.10	Continue implementing the Corporate Energy Management Plan to achieve 5% reduction in energy consumption per year.	Annual energy consumption and GHG report (O. Reg. 507/18).	Facilities, Fleet & Energy Management				x
B.10,	Integrate NZS principles into next iteration of the Corporate Energy Management Plan.	Updated Conservation and Demand Management Plan (O. Reg. 507/18).	Facilities, Fleet & Energy Management			x	
B.10	Integrate NZS principles into existing energy audit process to determine net-zero readiness and create a priority retrofit list.	Priority retrofit list	Facilities, Fleet & Energy Management		x		
B.10	Identify municipal buildings that can support solar panel installations and create a priority list.	Feasibility study/ priority solar PV list	Facilities, Fleet & Energy Management, Synergy North			x	
B.9, B.11, B.12, B.13, B.14	Support the establishment of an ICI Energy Efficiency and Decarbonisation Working Group	Working group created	EarthCare	x			

Table 11. Renewable energy generation and procurement.

FOCUS AREA & SUPPORTING TARGET(S)	PRIORITY ACTIONS	MILESTONES	KEY PARTNERS	IMMEDIATE 2021	SHORT TERM 2022-2023	MEDIUM TERM 2023-2025	ONGOING
C.15, C.16, C.17, C.18	Identify mechanisms available to the Corporation to support local renewable energy generation.	Policy/program recommendations	EarthCare			x	
C.15, C.17, C.18	Assess opportunities for municipal owned renewable energy projects and partnerships.	Projects identified	EarthCare, Facilities, Fleet & Energy Management, Synergy North			x	
C.15, C.16, C.17, C.18	Advocate for changes to the energy system that support local renewable energy generation and non-wires solutions.	Communication with Province and Canada	Intergovernmental Affairs Committee				x

Table 12. Transport.

FOCUS AREA & SUPPORTING TARGET(S)	PRIORITY ACTIONS	MILESTONES	KEY PARTNERS	IMMEDIATE 2021	SHORT TERM 2022-2023	MEDIUM TERM 2023-2025	ONGOING
D.19, D.21	Continue implementing the Transportation Master Plan.	Increased sustainable modeshare	Transit, Infrastructure & Operations				x
D.21, D.22	Continue implementing the Active Transportation Plan Priority Route Networks.	Increased active modeshare, expansion of AT network (e.g., pedestrian and trail, cycling and trail)	Infrastructure & Operations				x
D.20, D.28	Review Corporate fleet policies, plans, and procedures. Update to include zero-emission vehicle targets.	Net-zero emissions vehicle target established	EarthCare, Facilities, Fleet & Energy Management		x		
D.20, D.28	Identify priority locations for installation of EV charging infrastructure for Corporate fleet, Transit, employees, and the public.	Expansion of EV charging network	Multiple Departments		x		
D.20	Develop a transit electrification strategy.	Electrification strategy	Transit, Facilities, Fleet & Energy Management		x		
D.19	Assess alternative transit fare structures to increase ridership.	Increased ridership	Transit, Finance				x
D.22, D.23, D.24	Establish a bike share program (or support the launch of a private program).	Bike share program	Engineering, EarthCare		x		
D.22, D.24	Establish an Active Transportation Zone, and supporting policy, that prioritizes non-emitting travel.	Active Transportation Zone	Engineering, EarthCare, Planning Services			x	

Table 13. Waste and Wastewater

FOCUS AREA & SUPPORTING TARGET(S)	PRIORITY ACTIONS	MILESTONES	KEY PARTNERS	IMMEDIATE 2021	SHORT TERM 2022-2023	MEDIUM TERM 2023-2025	ONGOING
E.29, E.30	Integrate NZS principles into solid waste management operations.	Policy or policy recommendations developed	EarthCare, Environment	x			
E.29	Establish residential organics collection program (anticipated Provincial regulation).	Organics program established	Environment, Ontario			x	
E.29	Assess opportunity for partnerships with regional municipalities/communities to establish an organic waste hub.	Partnership Commitment	EarthCare, Environment			x	
E.29	Assess feasibility of rerouting organics to an anaerobic digester.	Feasibility Study	Environment		x		
E.30	Increase existing landfill gas capture rate.	Technical Analysis & Monitoring	Environment, Synergy North, Tormont				x
E.31	Identify opportunities to reduce energy use in water and wastewater pumping process.	Technical Analysis	Environment				x

Financing the Near-Term Actions for the Corporation

A comprehensive review of available financing mechanisms to support Strategy implementation is included as an action item for the Corporation in Table 8. However, preliminary investigation reveals a number of potential financing and funding opportunities that could be leveraged to support the action items listed in Tables 9-13. While some projects will require additional expenditures, many of the actions listed above can be integrated into existing operations thereby reducing the cost of implementing GHG reduction initiatives.

INTERNAL FINANCING OPPORTUNITIES

The following is a non-exhaustive list of internal financing mechanisms available to the City:

I. Federal Gas Tax Fund

The federal Gas Tax Fund (GTF) is a permanent source of funding that can be used to fund municipal sustainability projects. The City receives over \$6,000,000 annually from the GTF and

estimates indicate it will receive the following funds over the next three years⁵⁶:

2021: \$6,844,700

2022: \$6,844,700

2023: \$7,142,296

Funds could be allocated to infrastructure projects, public transit, community energy systems, solid waste management, and capacity building. Municipalities can pool, bank, and borrow against this funding, providing significant financial flexibility. On March 25, 2021, Deputy Prime Minister Freeland introduced Bill C-25 which would permanently rename the GTF to the Canada Community-Building Fund and provide an additional \$2.2 billion to communities across Canada this year.

II. Energy Management Reserve Fund

Internal revolving energy funds like the existing Energy Management Reserve Fund can be leveraged to support energy efficiency programs and initiatives within the Corporation. A revolving fund uses the energy savings from implementing energy efficiency measures and invests them into a capital reserve fund dedicated to energy and emissions reduction projects.

The Corporate Energy Management Committee is in the process of reviewing the framework and application process for use of the Energy Management Reserve Fund to encourage uptake of the program.

III. Green Bonds

Under the Municipal Act, municipalities may raise revenues by accruing debt within reasonable limits. Some municipalities have begun issuing Green Bonds, or debentures, to finance environmental or climate-related projects. For example, the City of Ottawa has issued \$602 million in Green Debentures since 2017 with plans to issue an additional \$280 million in 2021.⁵⁷ The proceeds from these debentures have been used to fund stage 2 of Ottawa's Light Rail Transit (LRT) project.

In addition, Ontario is currently the largest issuer of Canadian dollar Green Bonds, with nine green issues totaling \$8.0 billion.⁵⁸ The net proceeds of the Bonds are allocated to eligible projects throughout the province. Projects in the following categories are generally considered eligible: clean transportation; energy efficiency and conservation; clean energy and technology; forestry, agriculture, and land management; and climate adaptation and resilience. To date, Green Bond proceeds have helped fund 23 projects across three categories.

EXTERNAL FUNDING OPPORTUNITIES

The following is a non-exhaustive list of external funding opportunities available to the City:

⁵⁶ Association of Municipalities of Ontario. (2021). 2019-2023 Allocations. Retrieved from: <https://www.gastaxatwork.ca/about-the-fund/allocations/2019-2023-allocations>.

⁵⁷ Green Bonds City of Ottawa, retrieved from: <https://ottawa.ca/en/business/research-and-data/investor-relations/green-bonds-city-ottawa#:~:text=The%20Green%20Debenture%20Program%20will,annually%20from%202022%20to%202025>.

⁵⁸ Province of Ontario Green Bonds, retrieved from: <https://www.ofina.on.ca/greenbonds/greenbonds.htm>

I. Canadian Infrastructure Bank Growth Plan⁵⁹

On October 1, 2020, Canada released a spending package of \$10 billion to be administered by the Canada Infrastructure Bank (CIB) called the Growth Plan. The three year Growth Plan aims to strengthen Canada's economic growth and accelerate Canada's transition to the low carbon economy. Three initiatives in the Growth Plan relevant to the Net-Zero Strategy are:

1. \$1.5 billion for zero-emission buses: To target the accelerated adoption of an estimated 4,000 zero-emission buses (ZEBs). Repayment of CIB's loans under the initiative are sourced solely from actual savings generated by the lower cost of operating ZEBs.
2. \$2.5 billion for clean power: To support the generation, storage, and transmission of clean power. Transmission includes interprovincial and regional systems which moves clean power between Provinces.
3. \$2 billion for energy efficient building retrofits: To help finance upfront capital costs of retrofits using long-term savings from efficiencies and operating cost savings as a repayment source.

In addition, \$500 million has been allocated for project development and early works to shorten critical paths to construction.

II. Green Municipal Fund⁶⁰

The Green Municipal Fund (GMF) is a \$1 billion program delivered by the Federation of Canadian Municipalities (FCM) and funded by the Government of Canada. FCM offsets up to 50-80% of eligible project costs incurred by municipalities completing environmental projects. Funding is available in the form of grants and low interest loans for studies, pilot projects, and capital projects intended to reduce GHG emissions. As of March 2021, 63 funding opportunities are available under GMF.

III. Anticipated Federal Climate Funding

On December 11, 2020, Canada introduced a strengthened climate plan, A Healthy Environment and a Healthy Economy, to help achieve the national net-zero target. The proposed plan is supported by an initial \$15 billion in investments in addition to the \$60 billion committed under the Pan-Canadian Framework. These planned investments align with the goals set out in the NZS, signaling that there will be a number of opportunities to leverage federal funding for local climate action.

Canada has also introduced a proposed Federal Greenhouse Gas Offset System designed to encourage GHG emissions reductions/removals.⁶¹ If passed, municipalities would be eligible to receive credits for reducing or removing GHG emissions. The first federal offset protocols being developed are: (1) landfill methane management, (2) improved forest management, (3) enhanced refrigeration systems, and (4) enhanced soil organic carbon.

⁵⁹ Canada Infrastructure Bank. (2020). \$10B Growth Plan: Investing in New Infrastructure. Retrieved from: <https://cib-bic.ca/wp-content/uploads/2021/03/Growth-Plan-101.pdf>.

⁶⁰ For more information on the Green Municipal Fund visit: <https://fcm.ca/en/programs/green-municipal-fund>.

⁶¹ Canada Gazette, Part I, Volume 155, Number 10: Greenhouse Gas Offset Credit System Regulations (Canada). Retrieved from: <https://canadagazette.gc.ca/rp-pr/pl/2021/2021-03-06/html/reg1-eng.html>

APPENDIX E. List of Ancillary Reports

- Baseline Inventory, Business-As-Planned Scenario and Energy Maps (2016-2050), May 2020
- Data, Methods, and Assumptions Manual, May 2020
- Net-Zero GHG Emissions Financial and Economic Analysis Summary, December 2020
- Supply and Constraints Analysis: Local Renewable Energy and Biomass, October 15, 2020
- **Access: EarthCare Thunder Bay - City of Thunder Bay**

DRAFT

APPENDIX F. Glossary

Air pollution	Degradation of air quality with negative effects on human health or the natural or built environment due to the introduction, by natural processes or human activity, into the atmosphere of substances (gases, aerosols) which have a direct (primary pollutants) or indirect (secondary pollutants) harmful effect.
Anthropogenic emissions	Emissions of greenhouse gases (GHGs), precursors of GHGs and aerosols caused by human activities. These activities include the burning of fossil fuels, deforestation, land use and land-use changes (LULUC), livestock production, fertilization, waste management and industrial processes.
Carbon dioxide	A naturally occurring gas, CO ₂ is also a by-product of burning fossil fuels (such as oil, gas, and coal), of burning biomass, of land-use changes (LUC) and of industrial processes (e.g., cement production). It is the principal anthropogenic greenhouse gas (GHG) that affects the Earth's radiative balance. It is the reference gas against which other GHGs are measured and therefore has a global warming potential (GWP) of 1.
Carbon price	The price for avoided or released carbon dioxide (CO ₂) or CO ₂ -equivalent emissions. This may refer to the rate of a carbon tax, or the price of emission permits. In many models that are used to assess the economic costs of mitigation, carbon prices are used as a proxy to represent the level of effort in mitigation policies.
Carbon sequestration	The process of storing carbon in a carbon sink. This is more likely to be in natural lands, forested areas, and soils at the moment. The future may permit carbon sequestration technology.
Climate change	<p>Climate change refers to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forces such as modulations of the solar cycles, volcanic eruptions, and persistent anthropogenic changes in the composition of the atmosphere or in land use. Note that the Framework Convention on Climate Change (UNFCCC), in its Article 1, defines climate change as: 'a change of climate which is attributed</p> <p>directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.' The UNFCCC thus makes a distinction between climate change attributable to human activities altering the atmospheric composition and climate variability attributable to natural causes.</p>
Decarbonization	The process by which countries, individuals or other entities aim to achieve a zero-fossil carbon existence.
Equality	A principle that ascribes equal worth to all human beings, including equal opportunities, rights, and obligations, irrespective of origins.

Equity (Climate Change)	<p>Equity is the principle of fairness in burden sharing and is a basis for understanding how the impacts and responses to climate change, including costs and benefits, are distributed in and by society in more or less equal ways. It is often aligned with ideas of equality, fairness and justice and applied with respect to equity in the responsibility for, and distribution of, climate impacts and policies across society, generations,</p> <p>and gender, and in the sense of who participates and controls the processes of decision-making.</p> <p>Intergenerational equity. Equity between generations acknowledges that the effects of past and present emissions, vulnerabilities and policies impose costs and benefits for people in the future and of different age groups.</p>
Feasibility	<p>The degree to which climate goals and response options are considered possible and/or desirable. Feasibility depends on geophysical, ecological, technological, economic, social, and institutional conditions for change. Conditions underpinning feasibility are dynamic, spatially variable, and may vary between different groups.</p>
Fossil fuels	<p>Carbon-based fuels from fossil hydrocarbon deposits, including coal, oil, and natural gas.</p>
Green (natural) infrastructure	<p>The interconnected set of natural and constructed ecological systems, green spaces, and other landscape features. It includes planted and indigenous trees, wetlands, parks, green open spaces and original grassland and woodlands, as well as possible building and street-level design interventions that incorporate vegetation. Green infrastructure provides services and functions in the same way as conventional infrastructure.</p>
Greenhouse gas (GHG)	<p>Greenhouse gases are those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of terrestrial radiation emitted by the Earth's surface, the atmosphere itself and by clouds. This property causes the greenhouse effect. Water vapour (H₂O), carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄) and ozone (O₃) are the primary GHGs in the Earth's atmosphere. Moreover, there are a number of entirely human-made GHGs in the atmosphere, such as the halocarbons and other chlorine- and bromine-containing substances, dealt with under the Montreal Protocol. Beside CO₂, N₂O and CH₄, the Kyoto Protocol deals with the GHGs sulphur hexafluoride (SF₆), hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs).</p>
Heat Pump	<p>An electrical device that extracts heat or cool from the outside air or ground to heat or cool an interior space. Heat pumps have significantly higher energy efficiency than even the most efficient natural gas furnace.</p>
Methane (CH ₄)	<p>One of the six greenhouse gases (GHGs) to be mitigated under the Kyoto Protocol and is the major component of natural gas and associated with all hydrocarbon fuels. Significant emissions occur as a result of animal husbandry and agriculture, and their management represents a major mitigation option.</p>
Mode share	<p>The relative proportion of trips taken by a certain mode of transportation choice. The share generally reflects yearly travel data.</p>

Net-zero emissions	Net-zero emissions are achieved when anthropogenic emissions of greenhouse gases to the atmosphere are balanced by anthropogenic removals over a specified period. Where multiple greenhouse gases are involved, the quantification of net-zero emissions depends on the climate metric chosen to compare emissions of different gases (such as global warming potential, global temperature change potential, and others, as well as the chosen time horizon)
Net-zero energy	Refers to a community-scale system or aspect of the built environment that produces as much energy as it consumes. This can be a neighbourhood or building.
Pathways	<p>The temporal evolution of natural and/or human systems towards a future state. Pathway concepts range from sets of quantitative and qualitative scenarios or narratives of potential futures to solution-oriented</p> <p>decision-making processes to achieve desirable societal goals. Pathway approaches typically focus on biophysical, techno-economic, and/or socio-behavioural trajectories and involve various dynamics, goals, and actors across different scales.</p> <p>1.5°C pathway. A pathway of emissions of greenhouse gases and other climate forcers that provides an approximately one-in-two to two-in-three chance, given current knowledge of the climate response, of global warming either remaining below 1.5°C or returning to 1.5°C by around 2100 following an overshoot.</p> <p>Adaptation pathways. A series of adaptation choices involving trade-offs between short-term and long-term goals and values. These are processes of deliberation to identify solutions that are meaningful to people in the context of their daily lives and to avoid potential maladaptation.</p>
Photovoltaic	A device that generates electricity directly from sunlight via an electronic process that occurs naturally in certain types of material, called semiconductors. Electrons in these materials are freed by solar energy and can be induced to travel through an electrical circuit, powering electrical devices or sending electricity to the grid.
Scenario	In this report, the term 'scenario' refers to a plausible description of how the future may develop based on a coherent and internally consistent set of assumptions about key driving forces (e.g., rate of technological change, prices) and relationships. Note that scenarios are neither predictions nor forecasts but are used to provide a view of the implications of developments and actions.
Well-being (Climate)	A state of existence that fulfils various human needs, including material living conditions and quality of life, as well as the ability to pursue one's goals, to thrive, and feel satisfied with one's life. Ecosystem well-being refers to the ability of ecosystems to maintain their diversity and quality.

DRAFT



THUNDER BAY WALKABILITY COMMITTEE

May 25, 2021

Dear Mayor and Members of Council,

I am writing to you on behalf of the Thunder Bay Walkability Committee, a working group of EarthCare Thunder Bay, to express our support for Climate-Forward City: Thunder Bay Net-Zero Strategy and the ambitious target of reaching net-zero by 2050.

Climate change represents an economic and environmental threat to our community, as acknowledged by the climate emergency declared by City Council on January 13, 2020. Addressing the climate emergency is an urgent priority and we are counting on you to take strong action. The Net-Zero Strategy provides one potential pathway for us to kick-start this action. We must all do our part and find ways to reduce our impact on the planet.

The Thunder Bay Walkability Committee supports climate action by advocating for a walkable community where pedestrians of all ages and abilities can walk for health, leisure, and transportation in safe and beautiful environments.

The Net-Zero Strategy includes a number of objectives that align with our committee's goals, including striving for complete, compact, and walkable neighbourhoods that prioritize active and public transit.

Accomplishing the objectives outlined in this Strategy will be challenging and require significant collaboration and investment. There is a cost for making change, whether it be building retrofits, renewable energy generation, or increasing the use of electric vehicles. However, there is substantial cost to doing nothing.

We applaud the leadership that the City of Thunder Bay has demonstrated on climate action since 1997. The adoption of this Net-Zero Strategy will signal to residents, businesses, institutions, and other levels of government that the climate crisis warrants serious attention and urgent action.

Sincerely,

Joanna Carastathis
Chair, Thunder Bay Walkability Committee

Corporate Report

DEPARTMENT/ DIVISION	Infrastructure & Operations- (Engineering & Operations)	REPORT NO.	R 76/2021
DATE PREPARED	05/17/2021	FILE NO.	
MEETING DATE	06/07/2021 (mm/dd/yyyy)		
SUBJECT	Centennial Botanical Conservatory – Facility Renewal		

RECOMMENDATION

WITH RESPECT to Report R 76/2021 (Infrastructure & Operations – Engineering & Operations) we recommend that Administration proceed with the renewal of the Centennial Botanical Conservatory facility as outlined in this report;

AND THAT \$1,400,000 budget be established for this project from the Renew Thunder Bay Fund in support of the Canada Cultural Spaces Fund application;

AND THAT the Mayor and Clerk be authorized to execute all necessary documentation;

AND THAT Appropriation Change Order No. 11 be approved;

AND THAT any by-laws as necessary be presented for ratification.

LINK TO STRATEGIC PLAN

This report directly supports the ‘Renew’ and ‘Lead’ strategy of the 2019-2022 Corporate Strategic Plan: Focus on essential infrastructure, and further our commitments to climate adaptation and sustainability.

EXECUTIVE SUMMARY

The proposed Conservatory renewal provides improved functionality through strategic upgrades of existing spaces, providing more versatility and improved access for users. It includes multiple energy efficiency upgrades, renewal of structures and operational areas, improvements to accessibility through walkway and doorway widening, and modifications to the east wing so that it can function as a multi-purpose room for small gatherings, events, and programming. Future Capital improvements to the Conservatory site including parking lots, green space, and other site amenities are being planned in coordination with the Conservatory renewal, and may support alternative vending opportunities in lieu of a coffee bar inside the facility.

The Conservatory renewal was informed through an expanded services opportunity report that recommended upgrading the East wing to function as a multi-purpose room, the addition of a coffee bar, and improved educational programming experiences. Upon further evaluation it has been confirmed that educational programming and other small group activities align well with the multi-purpose room functionality however, integration of a permanent coffee bar inside the facility is not recommended as it would likely result in loss of display area and access impediments.

The estimated cost of the proposed Conservatory renewal is \$3.96M - \$4.67M. Multiple opportunities for external funding are currently being pursued, including the Canada Cultural Spaces Fund, which has a 2/3 Capital funding threshold requirement. Administration recommends that the matching City funding for this application be established at this time, as this will best position the application to move forward to the next stage of evaluation and will provide access to Capital funds for detailed planning and design to begin in 2021, which will support construction in 2022-2023.

DISCUSSION

Expanded Services Opportunities

The Conservatory renewal was informed through an expanded services opportunity report that recommended upgrading the east wing into multi-purpose room, installation of coffee bar, and improved educational programming as the top three priorities for consideration to increase activity levels and revenues.

Select stakeholders were contacted in January of 2021 to provide additional feedback regarding use of the multi-purpose room and to gauge interest levels in programming. The majority of respondents expressed interest in participating or hosting programming, and provided input related to functionality considerations of the multi-purpose room. This provided valuable information for the essential needs of the space, and identified that provision of a small space for refreshments within the multi-purpose room was perceived as sufficient.

Integrating a permanent coffee bar inside the facility is not recommended as it would likely result in loss of display area and existing functionality of the space and walkways. Alternate options for integration of stand alone vending solutions elsewhere on site will be explored in Capital renewal plans moving forward.

Operational Approach

The planned approach for the renewal and expanded services is to provide functional space that will require minimal coordination and effort from existing operational staff, and will allow users to access and use the assets within the facility. Some direct support will be provided to set up and participate in educational programming that relates to the operations, but activity will largely rely on stakeholders and user groups to plan, execute, and deliver programming.

In order to be successful with this approach it is recommended that a Conservatory Advisory Committee be established, including stakeholders and users that can contribute to program planning and provide feedback to facility and operational performance. As the programming and activities mature, the performance of the committee would be evaluated to assess its effectiveness.

Potential Funding Opportunities

An application was submitted to the Canada Cultural Spaces Fund (CCSF) in February of 2021, which included the greenhouse replacements and Conservatory renewal as a single combined project. We have since been advised that the greenhouse component of the application would not qualify for funding through the CCSF program, however the Conservatory renewal would qualify for consideration. In order for the application to proceed further a resolution in support of the Conservatory renewal project must be provided by Council. In addition, the program has a 2/3 funding requirement that must be attained prior to processing the application fully. The 2/3 funding can include the projected CCSF funding, which is typically 37% of the project amount. Therefore, in order to establish 2/3 funding the City would be required to allocate 30% of the funding at this time, which calculates to \$1.4M. Administration recommends establishing project funding to meet the 2/3 requirement, as it will strengthen the application. The City funding portion would then also be available to begin the detailed planning and design of the facility in 2021.

An application has also been submitted to the Northern Ontario Heritage Fund Corporation (NOHFC) Enhance Your Community Stream fund. This program provides up to 50% (maximum \$2M) funding for repairs or renovations that extend the useful life of capital assets that support the community. This application was submitted in March and is currently in the phase 1 review.

The proposed Conservatory renewal includes inclusive and energy efficiency components that are eligible for the Infrastructure Canada Green and Inclusive Community Buildings fund. These include the facility re-glazing, HVAC system upgrades, and accessibility improvements to walkways and doors. If successful, this program could provide up to 80% funding.

Facility Renewal

The total cost of the proposed Conservatory renewal is estimated at \$3.96M - \$4.67M. This includes the cost of fundamental facility renewal improvements, renovations to the East wing for the multi-purpose room, and the addition of an operational annex building that will support upgrades to the existing washroom facilities and various operational efficiencies. A detailed breakdown of the renewal components is summarized below.

Fundamental Facility Renewal Improvements

In order to fully open the facility to the public, meet accessibility requirements, realize efficiencies in operations, and eliminate the safety netting from the Tropical Display house the following renewal improvements are recommended:

1. Re-inforce the East and West wing aluminum structures
2. Re-finish portions of the existing steel structure and piping in the Tropical Display House
3. Re-Glaze the entire facility
4. Add automated venting and irrigation systems
5. Replace the entire HVAC system of the facility
6. Remove existing asbestos
7. Redevelop the existing Tropical Display House area layout, including fully accessible walkways, while preserving as many of the plants as possible
8. Replace the underground drainage systems in the display area
9. General refurbishment of the remaining public and workspaces in the facility.

Upgrade East Wing to Multi-Purpose Room

The East wing multi-purpose room renovations will consist of the following:

1. Removal of existing walkways and existing planting area
2. Installation of accessible flooring surface
3. Reinforcement of existing perimeter ivy display tables/benches
4. Addition of an exterior doorway to the adjacent green space
5. Additional electrical to support equipment and refreshment area
6. Installation of ceiling fans and an exterior garden door

Operational Annex

Increasing the washroom capacity is an essential part of the Conservatory renewal accessibility improvements. While the existing facility in its current form does not have sufficient space to complete this upgrade, Administration has identified a solution through the construction of a new operational annex area (refer to Attachment A – Conservatory Renewal Improvements), which will connect to the Conservatory as well as the new production greenhouses. The proposed annex provides the following benefits:

1. Frees up space in the existing Conservatory operational area for expansion of washrooms
2. Provides replacement operational area, including functionality improvements
3. Provides common space for greenhouse operations to utilize that will maximize available growing space within the new production greenhouse
4. Provides a controlled space for users to de-contaminate prior to entering the greenhouse
5. Provides connectivity opportunities for future modular growing facilities

Operation and Maintenance Savings

Based on a recently updated energy audit, completion of the work noted in this report, combined with the production greenhouse replacements, is expected to achieve approximately \$80K in annual energy savings.

Additional annual savings in the amount of \$10K can also be realized with the elimination of the current annual glass replacement and boiler maintenance.

LINK TO EARTHCARE SUSTAINABILITY PLAN

The proposed upgrades to the Conservatory when working together would result in an 83% reduction in Greenhouse Gas Emissions from the current state. This directly aligns with The Sustainability Plan's Energy Goal to promote the wise use of energy and the transition to a carbon-neutral future. It also aligns with the Green Building goal for Thunder Bay buildings to minimize energy consumption and conserve resources. This project aligns with Sustainability Plan Green Building Objective D: New and retrofitted structures create a sense of place that enhances local values by integrating buildings as part of a vibrant city-scape. Actions for Corporation: Preserve buildings that are historically significant from an architectural or cultural point of view.

FINANCIAL IMPLICATION

The estimated cost for the proposed Conservatory Renewal as outlined in this report is \$3.96M - \$4.67M.

Currently \$61K of Capital funds are in place which were received through public donations.

Potential funding opportunities been identified through the CCSF, Enhance Your Community Fund, the Canada Green and Inclusive Community Buildings fund, and the NOHFC Enhance Your Community Stream. In order to advance the CCSF application it is recommended that Council allocate \$1.4M from the Renew Thunder Bay Fund to achieve the 2/3 program funding requirement.

Appropriation No. 11 will add the Renew Thunder Bay funds into the 2021 Budget.

Energy costs are expected to be reduced by \$80K annually with the installation of the new Production Greenhouses and the renewed Conservatory facility.

CONCLUSION

It is concluded that the proposed Conservatory Renewal, including the multi-purpose room and operational annex addition, should proceed, and that 2/3 funding be established for the CCSF application, and that detailed design and planning begin in 2021 with renewal work completed in 2022-2023.

It is also concluded that Council should receive and approve Appropriation number 11 to add the Renew Thunder Bay funds into the 2021 Capital Budget

BACKGROUND

The Conservatory has been open to the public in a limited capacity since February 2012. The main tropical display area was closed in 2012 as a precautionary measure after identified hazards related to breaking glass were deemed to present an unacceptable level of risk to the visitors. It was later re-opened after the installation of temporary netting to address the hazard concerns. The East and West wings have remained closed to the public since 2012 after an engineering assessment determined that they did not meet the snow and rain load requirements of the Ontario Building Code to allow public access.

Report No. R 23/2020 Centennial Botanical Conservatory – Expanded Services Opportunity Evaluation and Facility Renewal Updates was presented March 02, 2020 and October 5, 2020 Committee of the Whole meetings. The resulting resolution directed Administration to proceed with the Production Greenhouse replacements in 2021, and to report back in June of 2021 with renewal options for the Conservatory.

Report No. 2012.079 Conservatory Update Requirements and Report No. 2012.135 Core Business Review – Phase 2 Report were presented at August 27, 2012 and the September 24, 2012 Committee of the Whole meetings. The resulting Resolutions directed Administration to proceed with the installation of the netting in the Tropical Display House to facilitate public access, and to proceed with an interim capital redevelopment strategy for the Conservatory in keeping with Option #1 of the Core Business review, which included restoring the existing Conservatory and continuing with greenhouse, planting and maintenance operations.

REFERENCE MATERIAL ATTACHED:

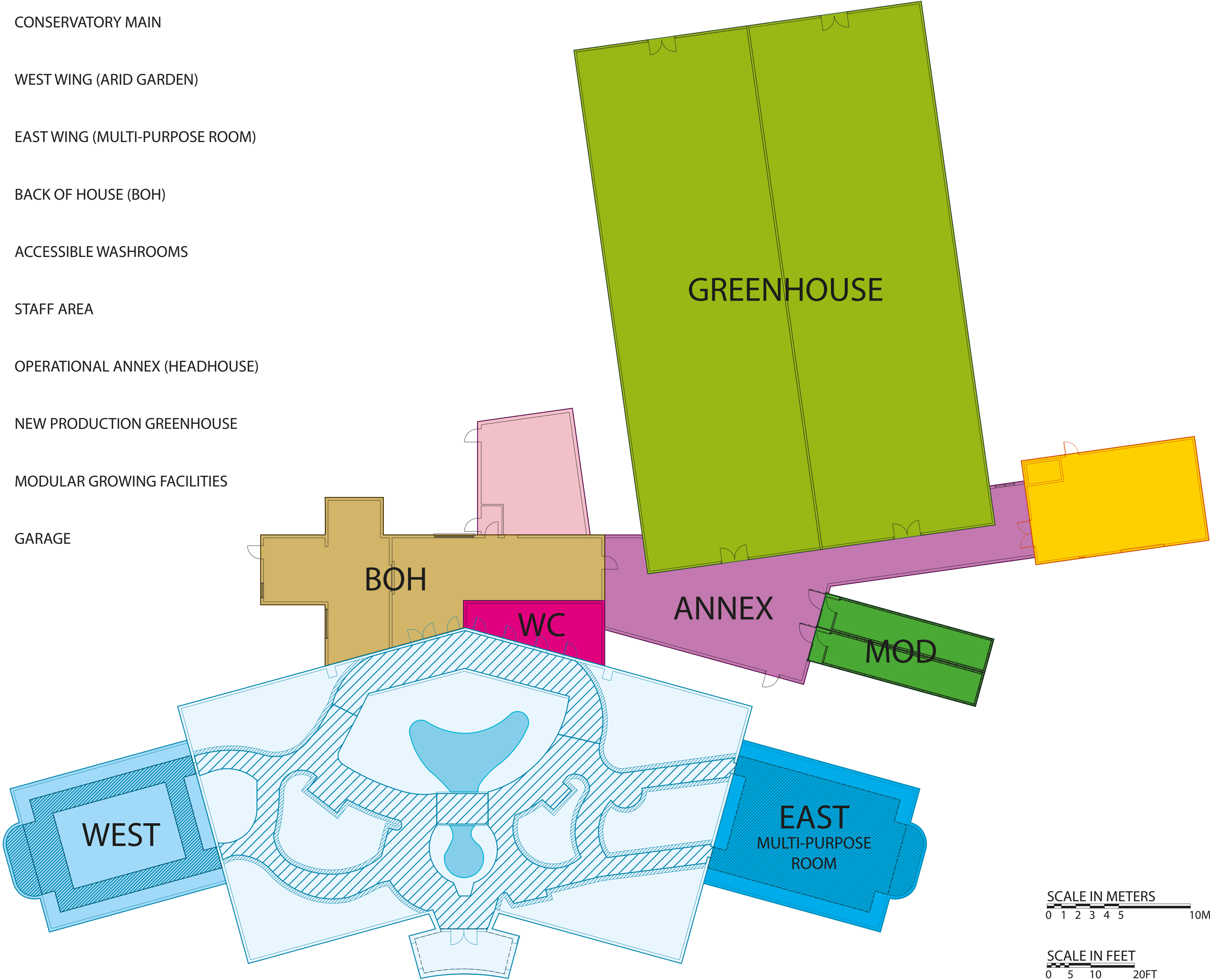
Attachment A – Conservatory Renewal Improvements
Attachment B – Appropriation Change Order No. 11

PREPARED BY: Cory Halvorsen, C.E.T. – Manager, Parks & Open Spaces

THIS REPORT SIGNED AND VERIFIED BY: (NAME OF GENERAL MANAGER)	DATE:
Kerri Marshall, General Manager – Infrastructure & Operations	May 27, 2021

FIGURE 1
CONSERVATORY RENEWAL IMPROVEMENTS

- CONSERVATORY MAIN
- WEST WING (ARID GARDEN)
- EAST WING (MULTI-PURPOSE ROOM)
- BACK OF HOUSE (BOH)
- ACCESSIBLE WASHROOMS
- STAFF AREA
- OPERATIONAL ANNEX (HEADHOUSE)
- NEW PRODUCTION GREENHOUSE
- MODULAR GROWING FACILITIES
- GARAGE



SCALE IN METERS
0 1 2 3 4 5 10M

SCALE IN FEET
0 5 10 20FT

DEPARTMENT: Infrastructure & Operations		The City of Thunder Bay		DATE: 05/18/2021	
DIVISION: Parks/Engineering		REQUEST FOR APPROPRIATION CHANGE		<input type="text"/>	
		REQUEST FOR ADDITIONAL APPROPRIATION		<input checked="" type="checkbox"/>	
				<div style="border: 1px solid black; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">11</div> APPROP NO.	

WBS ELEMENT	DESCRIPTION	BUDGET AVAILABLE	INCREASE	DECREASE	ADMIN USE	
					IM Position	Fund Code
IOT-PKS-210001-GP-13-1	Conservatory Display Buidling		1,400,000		5.4	90
	Renew Thunder Bay RF			1,400,000		
			1,400,000	1,400,000		

EXPLANATIONS/REASONS: Report 76/2021 Centennial Botanical Conservatory - Facility Renewal	EFFECT ON LEVEL OF SERVICE: <table style="width: 100%;"> <tr> <td style="width: 33%;">DECREASE</td> <td style="width: 33%;">INCREASE</td> <td style="width: 33%;">MAINTAINED</td> </tr> <tr> <td style="text-align: center;"><input type="text"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="text"/></td> </tr> </table> <div style="text-align: right;"> DATE: _____ RECOMMENDED/APPROVED <u>Linda Evans</u> City Treasurer <u>Norm Gale</u> City Manager </div>	DECREASE	INCREASE	MAINTAINED	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>
DECREASE	INCREASE	MAINTAINED					
<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>					

PREPARED BY: _____ Shari Dykeman REVIEWED BY: <u>Kerri Marshall</u> K. Marshall GENERAL MANAGER Infrastructure & Operations	VERIFIED BY FINANCE: <u>Moira Gallagher</u> Moira Gallagher, CPA, CMA Budget & Planning Accountant Corporate Services & Long Term Care Department	COMMITTEE OF THE WHOLE <table style="width: 100%;"> <tr> <td style="width: 50%;">APPROVED</td> <td style="width: 50%;">NOT APPROVED</td> </tr> <tr> <td style="text-align: center;"><input type="text"/></td> <td style="text-align: center;"><input type="text"/></td> </tr> <tr> <td colspan="2">DATE: _____</td> </tr> </table>	APPROVED	NOT APPROVED	<input type="text"/>	<input type="text"/>	DATE: _____	
APPROVED	NOT APPROVED							
<input type="text"/>	<input type="text"/>							
DATE: _____								

Memorandum

TO: Krista Power, City Clerk

FROM: Cory Halvorsen, Manager-Parks & Open Spaces

DATE: May 21, 2021

SUBJECT: Report No. R 76/2021, Centennial Botanical Conservatory-Facility Renewal
Request to Present Information – June 7, 2021 COW Meeting

We request the opportunity to provide a presentation relative to Report No. R 76/2021, Centennial Botanical Conservatory-Facility Renewal to the Committee of the Whole at the meeting on Monday, June 7, 2021. With the assistance of Guy Walter, Landscape Architect, we will provide a brief presentation describing the planned renewal of the facility.

Sincerely,

Cory Halvorsen
Manager- Parks & Open Spaces

cc: Dana Earle- Deputy City Clerk
Leanne Lavoie- Council & Committee Clerk
Kayla Dixon- Director, Engineering & Operations
Guy Walter-Landscape Architect

Corporate Report

DEPARTMENT/ DIVISION	Infrastructure & Operations- (Engineering & Operations)	REPORT NO.	R 68/2021
DATE PREPARED	05/13/2021	FILE NO.	
MEETING DATE	06/07/2021 (mm/dd/yyyy)		
SUBJECT	Contract 11, 2021- Multi-Use Trail Reconstruction		

RECOMMENDATION

WITH RESPECT to Report R 68/2021 (Infrastructure & Operations - Engineering & Operations), we recommend that Contract 11, 2021 – Multi-Use Trail Reconstruction be awarded to Pete's Backhoe Service Ltd who submitted the lowest revised tender in the amount of \$775,138.77 [inclusive of HST]; it being noted that the amount shown is based on estimated quantities; final payment for this contract will be based on measured quantities for the completed work;

AND THAT the \$1,606,329 contribution from the Investing in Canada Infrastructure Program - COVID Resilience fund be accepted into the 2021 Capital Budget for trail construction and improvements;

AND THAT the General Manager of Infrastructure and Operations report any circumstances to City Council should significant variation in the contract quantities occur;

AND THAT the Mayor and City Clerk be authorized to sign all documentation related to these matters;

AND THAT Appropriation Change No. 12 be approved;

AND THAT any necessary by-laws be presented to City Council for ratification.

LINK TO STRATEGIC PLAN

This report directly supports the 'Renew' strategy of the 2019-2022 Corporate Strategic Plan: focus on essential infrastructure, revitalize our cores and enhance our Image Routes. It also supports the 'Grow' pillar: Focus on city building and social infrastructure to strengthen our economy, lifestyle and well-being.

EXECUTIVE SUMMARY

This project is largely funded by ICIP COVID Resiliency Funds. There were eight (8) tenders received for the work. The lowest tender for this project is Pete's Backhoe Service Ltd. They are a new firm taking on City project work but have heavy equipment and trucking capability for excavation and gravel projects. Administration recommends them as the low tenderer and capable of doing the work.

DISCUSSION

As a result of the call for tenders, eight (8) responses as listed below were received for the reconstruction of multi-use recreation trails and other trail additions.

The tender costs include the applicable HST. The bids have been checked for mathematical errors and the corrections noted.

Contractor	Tender Opening Bid	Corrected Bid
Pete's Backhoe Service Ltd	\$775,143.07	\$775,138.77
Allen Corporation	\$782,496.69	\$781,755.41
P.N.I. Contracting	\$782,851.85	
Taranis Contracting	\$931,948.40	\$929,688.40
PDR Contracting	\$949,071.35	\$949,099.87
Bruno's Contracting	\$989,005.49	
Bay City Contracting	\$1,085,787.62	
Wilco Contractors	\$1,136,409.36	\$1,136,974.36

The pretender estimate for the work on this contract was \$765,300.00.

The contract includes replacement of 1.7km of asphalt multi-use recreation trail sections in four different areas where the existing trail surface has deteriorated due to poor trail base or drainage concerns. The reconstructed trail will be widened to the current 3.0m width standard.

The trail repair work includes the following locations:

1. McVicar Creek trail - Castlegreen section - Thunder Bay Expressway to Castlegreen access point
2. McVicar Creek trail - County Park section - Halton Street to Wardrop Avenue
3. McVicar Creek trail - Madeline Street to Bruce Street
4. McIntyre River trail - George Burke Park connection - EQ Jennings School to Golf Links Road

In addition to asphalt, trail base and culvert repairs, other elements including addition of swing gates, reconstruction of accessible sidewalk ramps and low impact drainage features are included for some sections. For the Madeline street trail, provisions are incorporated to allow for the creation of a future pedestrian crossover at Madeline Street and the trail. The pedestrian crossover was removed from the proposed 2021 budget by Council as a saving. The George

Burke trail will include the establishment of a new gravel access between the paved trail and John street that will serve as construction access and also gravel base for a future trail connection and bridge crossing at the river.

The City's Parks & Open Spaces Section will follow up with other wayfinding signage and markings for the trail system once construction work is complete.

The low tenderer on this contract is Pete's Backhoe Service Ltd. They have not undertaken construction contract work previously for the City but are a local firm equipped with machinery and trucking resources required for this project. In past years they have complete snow removal assignments at Transit stops, Community Centers and ice rinks. They have successfully completed projects for private industrial clients, school board and other adjacent municipalities. The actual paving of the trails will be subcontracted out. Administration is recommending this company as the low bidder and capable of carrying out the work on this contract.

FINANCIAL IMPLICATION

The City received \$1,606,329 from the Investing in Canada Infrastructure Program - COVID Resilience stream which will largely fund this project and has significantly expanded the extent of trail work being undertaken this year under this contract and others. The 2021 capital budget also includes funds for trail reconstruction and will be used to cover ineligible expenses.

Appropriation Number 12 will add the Canada Infrastructure Program - COVID Resilience funds into the 2021 Budget.

The work in this contract falls within the available budget allocation.

Projected Costs	Breakdown
Contract Tender price	\$775,138.77
HST Rebate	(\$77,102.30)
Subtotal:	\$698,036.47
Engineering	\$60,000.00
Other City Labour & Material	\$10,000.00
TOTAL:	\$768,036.47

This contract includes a contingency allowance for work that is unforeseen and can only be expended with the approval of the General Manager of Infrastructure and Operations.

CONCLUSION

It is concluded that City Council should award Contract 11, 2021 for Multi-Use Trail Reconstruction to Pete's Backhoe Service Ltd as the lowest qualified tender. It is recommended that all work should proceed.

It is also concluded that Council should approve Appropriation Number 12 to add the ICIP COVID Resilience funds into the 2021 Capital Budget for trail construction and improvements.

BACKGROUND

The Parks and Open Spaces staff assess existing multiuse trail conditions and make assessment for trails in the capital program to be reconstructed or added.

A number of added trail linkages or connections have been included within the 2021 Capital program as these locations were identified in the City's Active Transportation Plan.

The trail projects are financially supported through the City's allotment of the ICIP-COVID Resilience stream.

REFERENCE MATERIAL ATTACHED:

Attachment A: Appropriation Change Order No. 12

PREPARED BY: Rick Harms, P. Eng., Project Engineer

THIS REPORT SIGNED AND VERIFIED BY: (NAME OF GENERAL MANAGER)	DATE:
Kerri Marshall, General Manager – Infrastructure & Operations	May 26, 2021

DEPARTMENT: Infrastructure & Operations		The City of Thunder Bay		DATE: 05/19/2021	
DIVISION: Parks/Engineering		REQUEST FOR APPROPRIATION CHANGE		<input type="text"/>	
		REQUEST FOR ADDITIONAL APPROPRIATION		<input checked="" type="checkbox"/>	
				<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">12</div> APPROP NO.	

WBS ELEMENT	DESCRIPTION	BUDGET AVAILABLE	INCREASE	DECREASE	ADMIN USE	
					IM Position	Fund Code
IOT-PKS-210003-RT-03-1	Multi Use Trails & Trail Systems		1,606,329		5.4	148
	ICIP - Covid Resilience			1,606,329		
			1,606,329	1,606,329		

EXPLANATIONS/REASONS: Report 68/2021 Contract 11-2021 Multi-Use Trail Reconstruction	EFFECT ON LEVEL OF SERVICE: <table style="width: 100%;"> <tr> <td style="width: 33%;">DECREASE</td> <td style="width: 33%;">INCREASE</td> <td style="width: 33%;">MAINTAINED</td> </tr> <tr> <td style="text-align: center;"><input type="text"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="text"/></td> </tr> </table> <div style="text-align: right;"> DATE: _____ RECOMMENDED/APPROVED <u>Linda Evans</u> City Treasurer <u>Norm Gale</u> City Manager </div>	DECREASE	INCREASE	MAINTAINED	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>
DECREASE	INCREASE	MAINTAINED					
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PREPARED BY: _____ Shari Dykeman REVIEWED BY: <u>Kerri Marshall</u> K. Marshall GENERAL MANAGER Infrastructure & Operations	VERIFIED BY FINANCE: <u>Moira Gallagher</u> Moira Gallagher, CPA, CMA Budget & Planning Accountant Corporate Services & Long Term Care Department	COMMITTEE OF THE WHOLE <table style="width: 100%;"> <tr> <td style="width: 50%;">APPROVED</td> <td style="width: 50%;">NOT APPROVED</td> </tr> <tr> <td style="text-align: center;"><input type="text"/></td> <td style="text-align: center;"><input type="text"/></td> </tr> <tr> <td colspan="2">DATE: _____</td> </tr> </table>	APPROVED	NOT APPROVED	<input type="text"/>	<input type="text"/>	DATE: _____	
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Corporate Report

DEPARTMENT/ DIVISION	Infrastructure & Operations - Engineering & Operations	REPORT NO.	R 72/2021
DATE PREPARED	05/13/2021	FILE NO.	
MEETING DATE	06/07/2021 (mm/dd/yyyy)		
SUBJECT	Emerald Ash Borer 2020 Update		

RECOMMENDATION

WITH RESPECT to Report R 72/2021 we recommend the current Emerald Ash Borer (EAB) Management Strategy be revised as noted in this report beginning in 2022;

AND THAT updates on the state of the EAB infestation and management plan implementation be provided every two years;

AND THAT the Mayor and Clerk be authorized to execute all necessary documentation;

AND THAT any by-laws as necessary be presented for ratification.

LINK TO STRATEGIC PLAN

This Report directly supports a priority of the City of Thunder Bay 2019-2022 Corporate Strategic Plan One City, Growing Together of Environmental Stewardship.

This Report directly supports point 5 under the Lead section to “Further our commitments to sustainability and climate adaptation.”

This Report further supports Strategic Questions under the Renew section, specifically “Is this taking care of what we have in ways that are adaptive, resilient, clean, green, and beautiful?” and “Does this further our commitments to environmental leadership?”

EXECUTIVE SUMMARY

This report provides a status update on the Emerald Ash Borer (EAB) Active Management 50% Treatment Strategy that began implementation in 2017.

The original 10-year plan anticipated pest infestation levels peaking within the 10-year period resulting in high tree mortality rates and tree removal requirements. As the plan enters its fifth year of implementation the projected levels of infestation and ash mortality have not been

experienced. While avoiding rapidly increasing infestation levels is a positive short-term result for the EAB Strategy response, the infestation is still present and continues to pose the same threat to the ash canopy.

In order to mitigate the EAB risk, the management approach must change to account for the low infestation and mortality rates. Administration recommends adapting the current strategy by extending it 4 years with completion in 2030, and reducing the number of preserved ash trees remaining at the end of the plan from 50% (1700 trees) to 25% (850 trees).

The plan adaptation will require increased strategic ash removals vs removals driven by infestation levels. However, it will reduce the overall intensity of annual removals for the duration of the plan and will extend the benefits of the existing untreated ash canopy an additional 4 years. The adapted plan can be completed within the original estimated budget, in large part by leveraging the capacity of the skilled arborist crews in the City's Forestry work unit.

DISCUSSION

At the October 3, 2016, Committee of the Whole Meeting, Corporate Report R 141/2016 (Engineering & Operations) Options for Management of Emerald Ash Borer (EAB) was presented. City Council authorized Administration to proceed with an Active Management EAB Strategy at a 50% treatment level approach.

The plan consisted of treating select mature ash trees in order to preserve a portion of the City's ash tree canopy while removing the remaining ash trees over time, as they become a hazard, or as part of strategically planned removals over a period of 10 years. At the start of implementation in 2017 approximately 6300 boulevard and parks trees in the City of Thunder Bay were ash, with a plan to treat 1700 of the mature ash trees and to remove and replace the remaining 4600 ash trees.

As the plan enters its fifth year of implementation the projected levels of infestation and ash mortality have not been experienced. The slowed rate of infestation is likely due to multiple factors including local climate, the life cycle of the insect, and the proactive measures of the Active Management Strategy such as treatment, and strategic removals/pruning

Monitoring Of the Infestation

EAB monitoring results in the past 5 years of the program provided the following data:

Year	Total Number of Traps	Number of Positive Traps	Total EAB Insects	Percentage of Positive Traps
2016	116	5	5	4%
2017	100	10	12	10%
2018	99	16	27	16%
2019	54	5	5	9%
2020	53	17	37	32%

In 2020 EAB finds were concentrated on the South side of town, particularly the Northwood area, but also Westfort (refer to Figure 2 – 2020 EAB Traps and Finds). The following may have effected the slight increase in positive EAB finds:

- Relatively warmer winter without extended periods of sudden extreme cold in 2019-2020
- Significantly less rainfall than previous years stressing trees
- Large proportion of EAB population likely having a two-year life cycle (2018 also saw larger numbers)

Tree Assessment and Treatment

In order to determine which mature ash trees are treated an assessment is completed on each asset. Criteria established to assess trees include the structure of the tree, percentage of viable canopy, and conflicts with its environment. This process is repeated annually as the assets and environmental factors are continuously changing.

Trees require treatment using the biopesticide TreeAzin© every second year; therefore, approximately half of the total sum of trees being preserved will be treated each year in order to equalize annual costs. In 2020, 503 ash trees totalling approximately 21,400 centimeters in diameter were treated (refer to Figure 3: 2020 Injections and Removals).

It is becoming increasingly challenging to find sufficient ash trees eligible for treatment in order to meet the original program target of 1700 trees (850 annually). This is due to losses related to infrastructure conflicts, damages due to weather events, and changing assessment values.

Removals and Pruning

Trees that show indicative symptoms of EAB infestation are removed and disposed of properly. In 2020, very few removals were required due to EAB infestation alone, and in total 170 ash trees were removed from City boulevards and parklands. These trees were removed due to their condition, conflicts with hydro lines, or conflicts with capital construction projects (refer to Figure 3: 2020 Injections and Removals).

Several larger ash logs were once again delivered to Lakehead University (LU) to be sawn on site and kiln dried by the Faculty of Natural Resources Management. At this point, our removal intensity has surpassed the intake capacity of the LU program and we are searching for alternative value-added processes for the wood from ash removals.

Ash trees across the City continue to be pruned with a focus on areas with a high density of ash. This is a low cost preventative maintenance activity that improves tree health and structure, reducing the stress that makes them more susceptible to EAB.

Tree Replacements

Tree planting was strategically accelerated at the beginning of the program while the removal requirements were low. This balanced the program work loads and will result in the tree canopy being larger at the time removals take place.

In 2020, Forestry & Horticulture planted 755 trees as part of the EAB replacements program, which included 255 - 50mm caliper trees and 510 – 30mm caliper trees (refer to Figure 4: 2020 Tree Plant). The 30mm caliper trees are cost effective in that two can be planted for the cost of one 50mm caliper tree. They are not used in all situations; however, they are effective in many areas including open Park spaces or large boulevard areas. This strategy has increased the total number of trees planted within the original planned budget.

2021 Implementation

The recommended adapted strategy, if approved, would not begin until 2022, therefore would not impact the removals or tree planting in 2021.

The ash tree removal program will continue to remove trees of substandard form, trees of small diameter that are not eligible for injection, or trees that are in conflict with utilities. Replacements tree planting will continue, as well as accelerated plantings focussing on locations that do not currently have established tree canopy.

The pheromone trapping program will continue in 2021 as it identifies “hot spots” of insect activity which are used to prioritize inspections, removals, and area trims.

Tree replacements will continue with approximately 300-50mm caliper and 500-30mm caliper trees planned to be planted in 2021.

Area work will be favoured as opposed to responding to individual homeowner requests. This process increases efficiencies and production and is in line with the recommendations of the Urban Forest Management Plan. All tree related requests will continue to be assessed and those that require immediate attention will be dealt with expediently.

Adapted Plan Recommendations

The projected levels of infestation and ash mortality used in the initial plan have not been experienced. These circumstances are good for the overall health of the urban canopy, but leave the inevitable decline of ash trees to happen over a longer period of time. While it is true that we have not experienced a crisis-level decline in the health of the City's ash trees, the risk of that occurring remains while there are still many ash trees standing.

In order to mitigate the EAB risk and move forward with the management plan, the approach must change to account for the lower infestation and mortality rates. Administration recommends adapting the current strategy in 2022 by extending the program 4 additional years and reducing the number of preserved ash trees remaining at the end of the plan from 50% (1700 trees) to 25% (850 trees)

The plan adaptation will see a significant increase in ash removals compared to removal rates experienced to date. However, these will be strategic removals vs mortality driven. Some of these removals will result in mass loss of street trees in mono culture areas. Strategically removing ash trees before they are infected and extending the program by 4 years will reduce the overall intensity of annual removals when compared to completing the plan based on tree infestation/mortality within the original 10 year timeframe.

Reducing the amount of preserved trees to 850 is more feasible based on the amount of candidate mature ash trees, and is more cost effective as it makes it possible for Forestry staff to complete the injections in perpetuity.

The adapted plan can be completed within the original estimated budget, in large part by leveraging the capacity of the skilled arborist crews in the City's Forestry work unit.

LINK TO EARTHCARE SUSTAINABILITY PLAN

This Report supports Goal 9 of the EarthCare Sustainability Plan 2014-2020 to "protect, maintain, and improve the biodiversity, ecosystems and the well-being of the green infrastructure of Thunder Bay".

FINANCIAL IMPLICATION

In 2020 and 2021, \$700,000 was allocated for EAB Management in the Parks Capital budget.

Following the adapted EAB management strategy outlined in this report the annual Capital budget required for EAB is expected to be \$400,000 from 2022 forward.

CONCLUSION

It is concluded that the current Emerald Ash Borer Management Strategy be revised as noted in this report beginning in 2022. This will extend the program duration an additional 4 years to 2030, and will reduce the number of preserved ash trees to 850.

It is also concluded that bi-annual updates on the state of the EAB infestation and management plan implementation be provided until completion of the program.

BACKGROUND

Report R 122/2016 confirmed the Parks & Open Spaces Section (Forestry & Horticulture Section) will provide Council with annual updates on the state of EAB infestation, monitoring and activities in Thunder Bay and region, beginning in the fall of 2016.

Report R 141/2016 - Options for Management of Emerald Ash Borer (EAB) directed current EAB management strategy.

Report R 53/2018 – Emerald Ash Borer (EAB) Management Update

Report R 57/2019 – Emerald Ash Borer 2018 Update

Report R 94/2020 – Emerald Ash Borer 2019 Update

REFERENCE MATERIAL ATTACHED:

Figure 1- 2015 Ash Tree Canopy

Figure 2- 2020 EAB Traps and Finds

Figure 3- 2020 Injections and Removals

Figure 4- 2020 Tree Plant

PREPARED BY: Cory Halvorsen, C.E.T. – Manager, Parks & Open Spaces

THIS REPORT SIGNED AND VERIFIED BY: (NAME OF GENERAL MANAGER)	DATE:
Kerri Marshall, General Manager – Infrastructure & Operations	May 20, 2021

Figure 1: 2015 Ash Tree Canopy

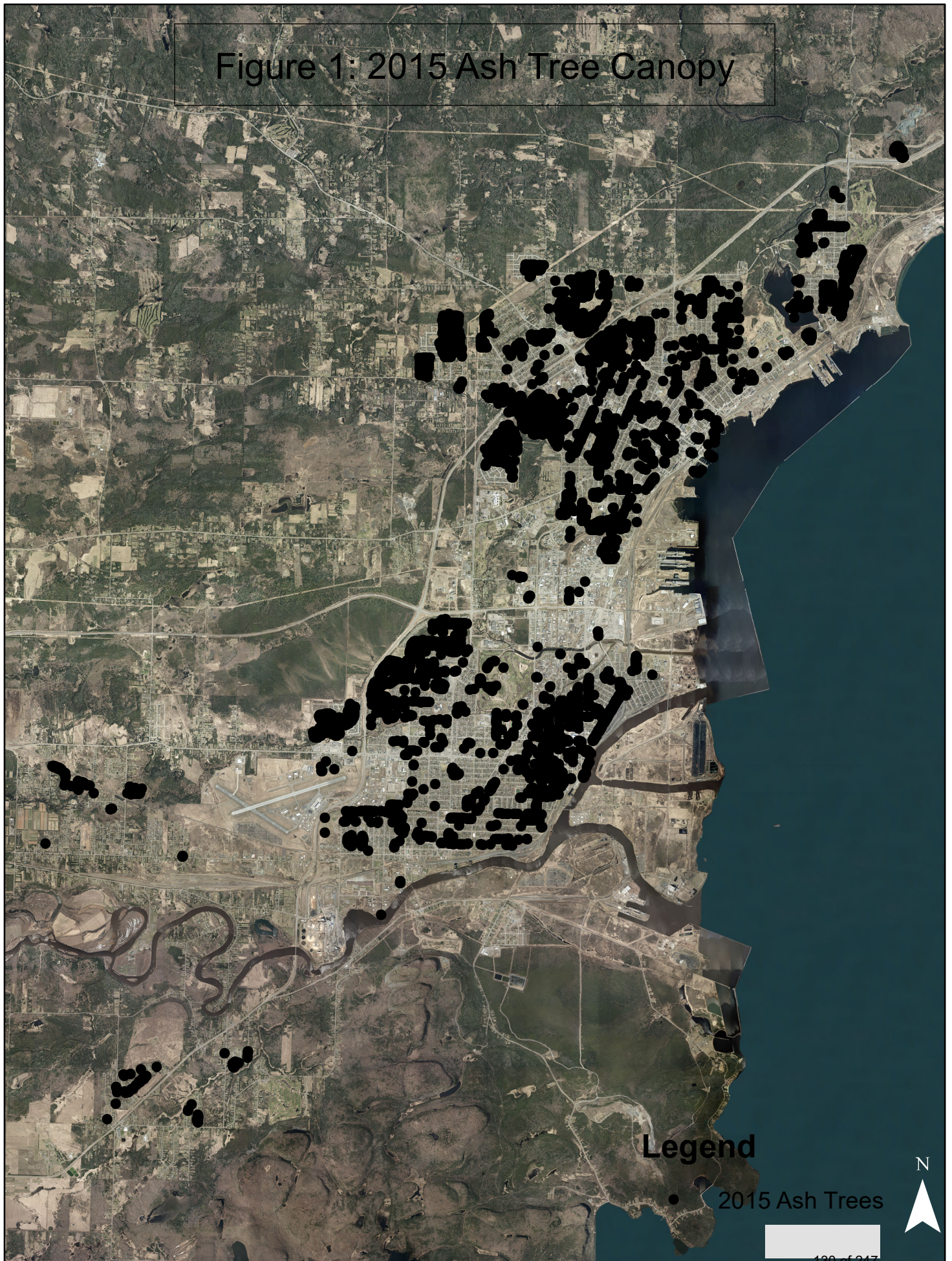


Figure 2: 2020 EAB Traps and Finds

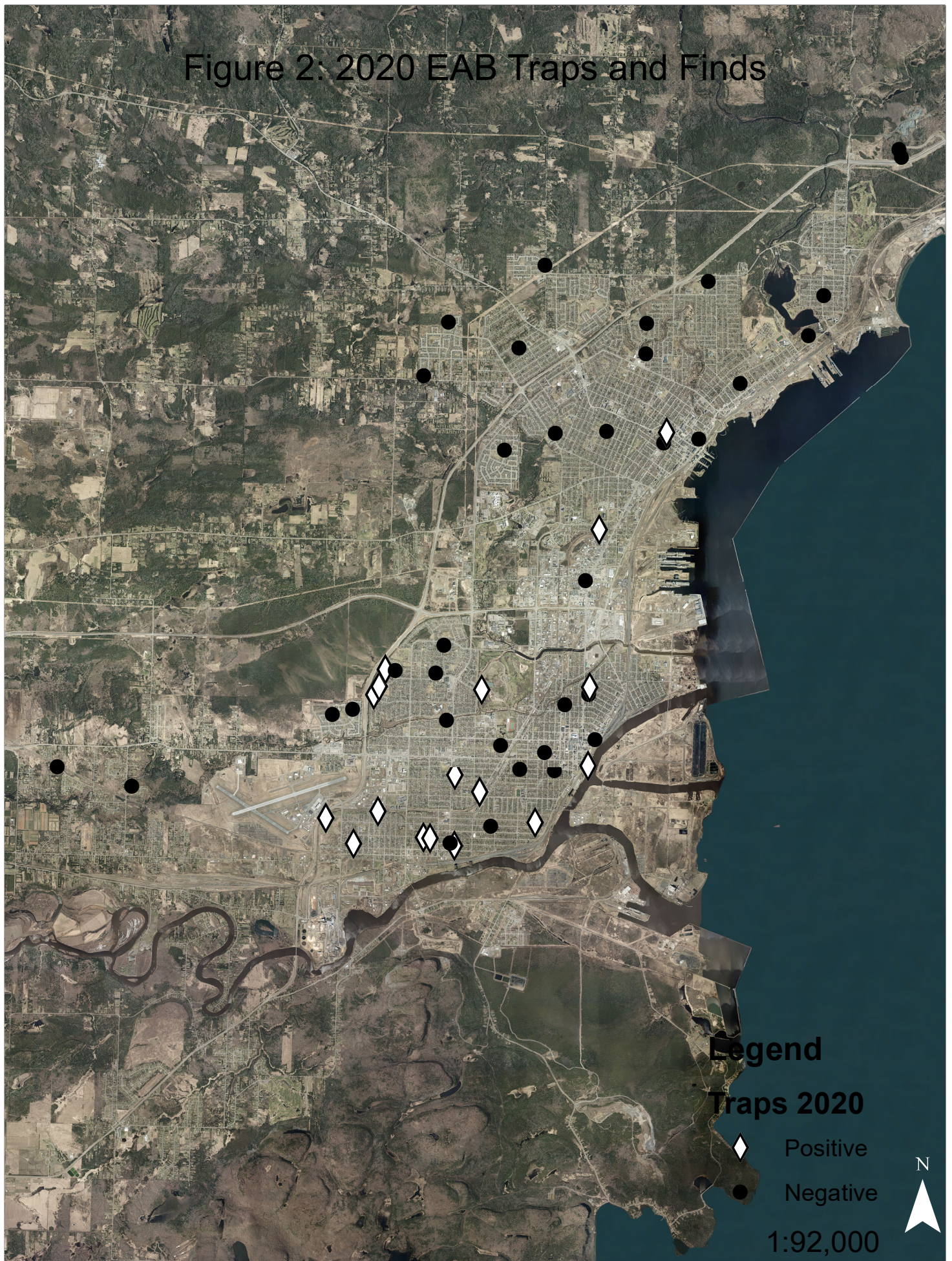


Figure 3: 2020 Injections and Removals

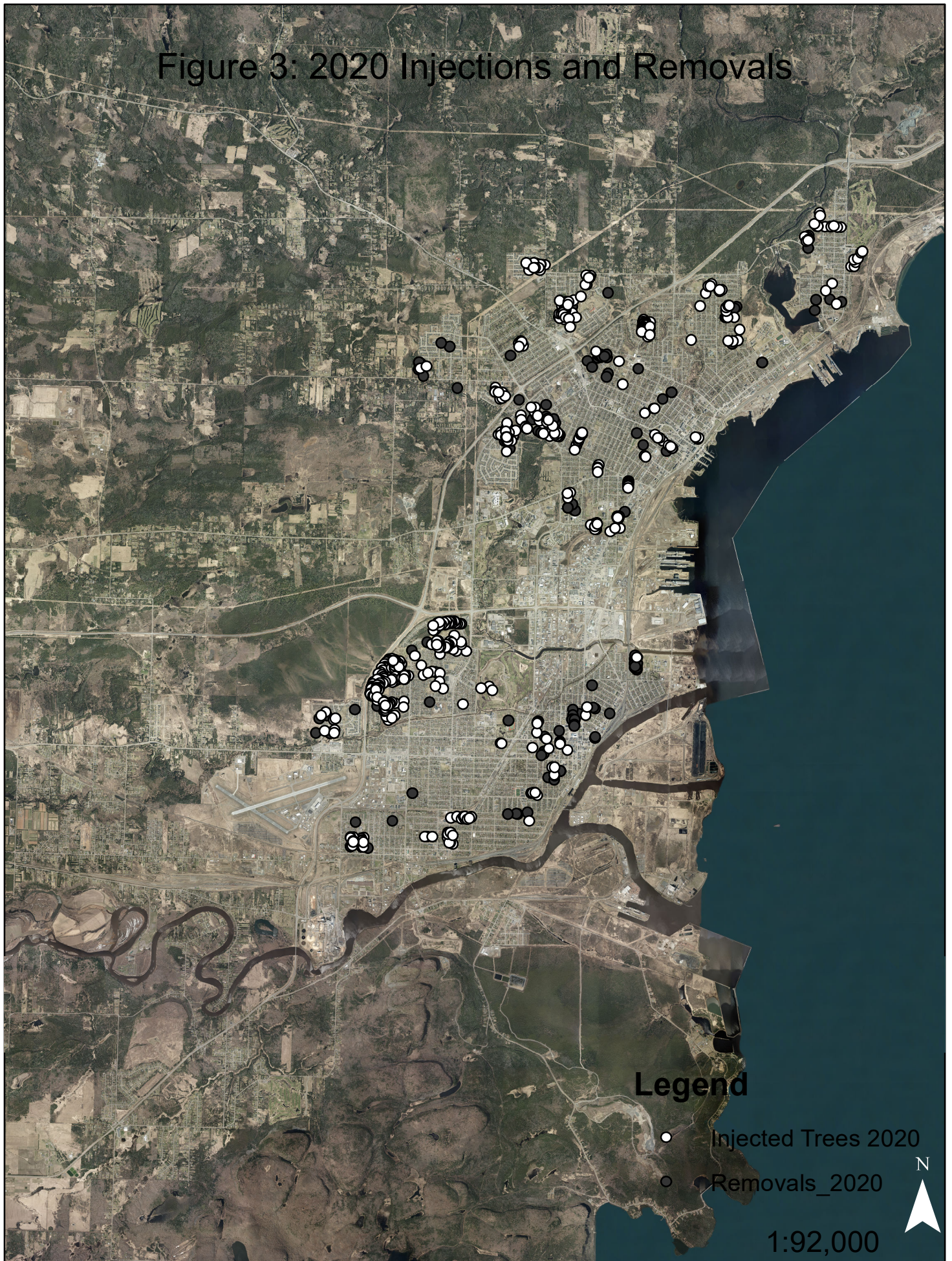
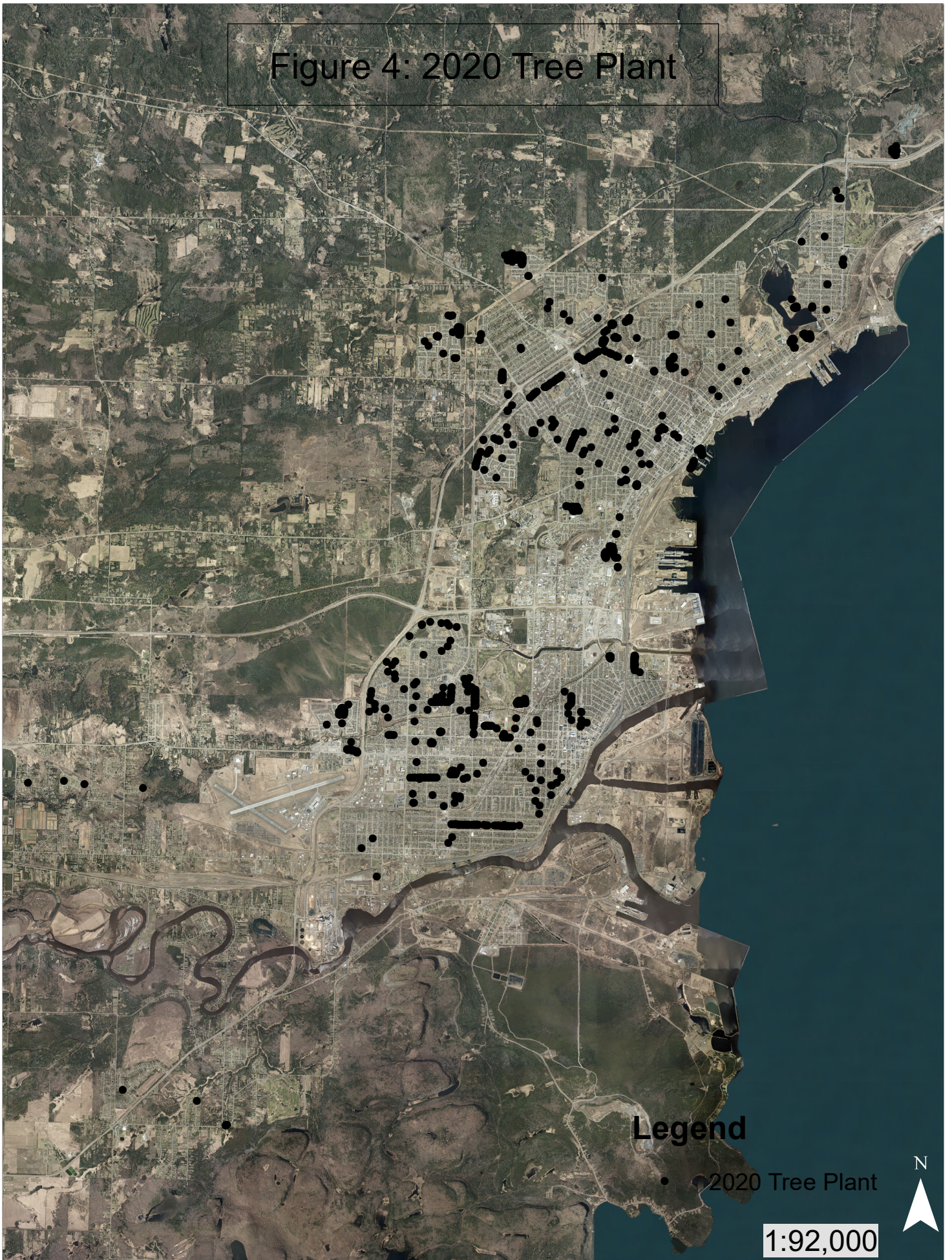


Figure 4: 2020 Tree Plant



Corporate Report

DEPARTMENT/ DIVISION	Infrastructure & Operations - Central Support	REPORT NO.	R 35/2021
DATE PREPARED	03/22/2021	FILE NO.	
MEETING DATE	06/07/2021 (mm/dd/yyyy)		
SUBJECT	External Funding For Various Capital Works		

RECOMMENDATION

WITH RESPECT to Report R 35/2021 (Infrastructure & Operations – Central Support), we recommend approval of the receipt and expenditure of funding from Northern Ontario Heritage Fund Corporation, Tree Chipping Revenue from Resolute, Environment and Climate Change Canada, Minister of Transport, Trans Canada Trail, The Friends of Chippewa Park and Conservatory Donations as outlined in this Report;

AND THAT Appropriation Change Order No. 36 be approved;

AND THAT any necessary by-laws be presented to City Council for ratification.

LINK TO STRATEGIC PLAN

This report supports the Vision and Priorities of the 2019-2022 Corporate Strategic plan to foster partnerships and prioritize financial sustainability to provide and maintain service levels and infrastructure. This report outlines eight projects where Infrastructure & Operations has accessed external funding directly and with the support of partner organizations.

EXECUTIVE SUMMARY

This report provides information to City Council about funding received outside of the 2020 Budget process. It addresses funds received from Northern Ontario Heritage Fund Corporation, Tree Chipping Revenue from Resolute, Environment and Climate Change Canada, Minister of Transport, Trans Canada Trail, The Friends of Chippewa Park and Conservatory Donations and outlines its use for Capital and Operating works within the Infrastructure & Operations Department.

DISCUSSION

Northern Ontario Heritage Fund Corporation

Northern Ontario Heritage Fund Corporation (NOHFC) has provided a financial contribution of \$31,500.00 for an Emerald Ash Borer (EAB) Services Coordinator Intern who will plan, coordinate and streamline efforts to control the spread of the Emerald Ash Borer through ash tree treatments, removals and replacements. The grant provided 74.7% of the costs for this 52 week position.

Resolute Forest Products Inc. – Biomass Supply Agreement

Resolute Forest Products Inc. provided a financial contribution of \$ 19,225.62 for deliveries of biomass chips sourced from local City trees to the Thunder Bay Pulp and Paper Mill, including Ash trees removed as part of the Emerald Ash Borer Management Plan. Applications for additional Biomass Supply Agreements will be made yearly.

Environment and Climate Change Canada

Environment and Climate Change Canada under the program Great Lakes Protection Initiative – Restoring Areas of Concern has provided a financial contribution of \$12,000.00 for McVicar Creek naturalization near its mouth at Lake Superior. This initiative is to improve riparian habitat by eradicating the invasive plant Himalayan balsam, replace with native vegetation and measure turbidity to assess changes in water quality.

Minister of Transport

Minister of Transport responsible for the Rail Safety Improvement Program provided \$40,000.00 towards enhanced active transportation public safety using jughandle widenings along the road shoulder at the Vickers Street North grade crossing.

Trans Canada Trail

Trans Canada Trail provided a financial contribution of \$60,000 towards the Neebing River Trail from Ford Street to Legion Track Drive. This project relocated the trail close to the Neebing River to higher land to reduce the impact the current trail is having on the adjacent riparian habitat and rehabilitate the old location.

The Friends of Chippewa Park – Chippewa Carousel

The Friends of Chippewa Park provided \$ 25,397.75 towards renewal of the Chippewa Carousel to cover expenses incurred in 2020.

The Friends of Chippewa Park – Chippewa Breakwater

The Friends of Chippewa Park provided \$63,954.39 towards planning and designing processes to facilitate the removal and reconfiguration of the breakwater at Chippewa Park meant to improve the water circulation and water quality of the main beach area.

Conservatory Donations

The Conservatory received donations of \$61,100.00.

The Friends of Chippewa Park – Ontario Job Creation Partnership program

The Friends of Chippewa Park provided \$15,897.96 towards operating expenses incurred in 2020 for cabin renewals at Chippewa Park under the Ontario Job Creation Partnership program through the Minister of Labour, Training and Skills Development. The objective of the program is to support partnership projects that provide participants with opportunities to gain meaningful work experience to improve their long-term employment prospects.

LINK TO EARTHCARE SUSTAINABILITY PLAN

One of the projects outlined in this report responds to specific Waste challenges faced by the City of Thunder Bay. The Resolute Forest Products Inc. Agreement allows Resolute to purchase waste wood chips creating a revenue source for the City. This will reduce waste through an integrated waste management approach that provides benefit to both the City and Resolute Forest Products Inc. Other projects receiving funding support green infrastructure and mitigation of invasive species which also support goals of the EarthCare Sustainability Plan and work groups.

FINANCIAL IMPLICATION

Administration of these projects will be carried out within existing resources, with funding as outlined in Appropriation Change Order No. 36 and funds deposited to the Parks Capital and Operating account.

CONCLUSION

It is concluded that the Appropriation Change Order No. 36 should be approved for Infrastructure & Operations Capital Projects as outlined in this Report.

BACKGROUND

The Infrastructure & Operations Department oversees the management of various public assets and makes applications where appropriate and available, for support from various levels of government and other agencies to support the operation and maintenance of sustainable infrastructure.

REFERENCE MATERIAL ATTACHED:

ATTACHMENT "A" - APPROPRIATION CHANGE ORDER NO. 36 - GRANT FUNDING –
INFRASTRUCTURE & OPERATIONS.

PREPARED BY: Laurie Fors – Supervisor Budgets & Capital Programs – Central Support

THIS REPORT SIGNED AND VERIFIED BY: (NAME OF GENERAL MANAGER)	DATE:
Kerri Marshall, General Manager – Infrastructure & Operations	May 26, 2021

DEPARTMENT: Infrastructure & Operations		The City of Thunder Bay		DATE: December 31, 2020	
DIVISION: Parks/Engineering		REQUEST FOR APPROPRIATION CHANGE		<input type="text"/>	
		REQUEST FOR ADDITIONAL APPROPRIATION		<input checked="" type="checkbox"/>	
				<div style="border: 1px solid black; padding: 5px; display: inline-block;"> 36 </div> APPROP NO.	

WBS ELEMENT	DESCRIPTION	BUDGET AVAILABLE	INCREASE	DECREASE	ADMIN USE	
					IM Position	Fund Code
IOT-PKS-200005-UF-04-2	EAB - NOHFC Intern	-	31,500.00		5.4	11
	NOHFC Intern Grant					11
IOT-PKS-200005-UF-07-1	Tree Chipping Revenue - Resolute		19,225.62		5.4	66
	Resolute					66
IOT-PKS-200005-UF-05-2	Invasive Species		12,000.00		5.4	74
	ECC Grant					74
IOT-RDS-200003-AR-05-3	Rail Crossing Improvements-Northern		40,000.00		5.5.2	5
	Transport Canada					5
IOT-PKS-190003-RT-01-2	Trans Canada Trail - Neebing		60,000.00		5.4	66
	Trans Canada Trail					66
IOT-PKS-200001-GP-11-1	Chippewa Carousel		25,397.75		5.4	66
	TFOCP					66
IOT-PKS-200001-GP-10-1	Chippewa Breakwater		63,954.39		5.4	66
	TFOCP					66
IOT-PKS-200001-GP-12-1	Conservatory - (Donations)		61,100.00		5.4	66
	Donations					66
			313,177.76	-		

EXPLANATIONS/REASONS: Corporate Report 35/2021 External Funding for Various Capital Works	EFFECT ON LEVEL OF SERVICE: <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> DECREASE <input type="text"/> </div> <div style="text-align: center;"> INCREASE <input checked="" type="text"/> </div> <div style="text-align: center;"> MAINTAINED <input type="text"/> </div> </div> <div style="text-align: right;"> DATE: _____ </div> <div style="text-align: right;"> RECOMMENDED/APPROVED <i>Linda Evans</i> City Treasurer <i>Norm Gale</i> City Manager </div>
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PREPARED BY: _____ Shari Dykeman REVIEWED BY: <i>Kerri Marshall</i> K. Marshall GENERAL MANAGER Infrastructure & Operations	VERIFIED BY FINANCE: <i>Moira Gallagher</i> Moira Gallagher, CPA, CMA Budget & Planning Accountant Corporate Services & Long Term Care Department	COMMITTEE OF THE WHOLE <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> APPROVED <input type="text"/> </div> <div style="text-align: center;"> NOT APPROVED <input type="text"/> </div> </div> DATE: _____
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Corporate Report

DEPARTMENT/ DIVISION	Infrastructure & Operations- Central Support	REPORT NO.	R 36/2021
DATE PREPARED	03/22/2021	FILE NO.	
MEETING DATE	06/07/2021 (mm/dd/yyyy)		
SUBJECT	Eye on the Street Program Renewal		

RECOMMENDATION

WITH RESPECT to Report R 36/2021 (Infrastructure & Operations – Central Support), we recommend that the revisions to the Eye on the Street Program as outlined in this report be approved;

AND THAT the Code of Practice be amended to reflect the changes;

AND THAT the Mayor and Clerk be authorized to execute an agreement, in form and content satisfactory to the City Solicitor and the Chief of Thunder Bay Police Service, to establish a memorandum of understanding as outlined in the Code of Practice;

AND THAT the Mayor and Clerk be authorized to execute an agreement, in form and content satisfactory to the City Solicitor with the owners of buildings upon which CCTV equipment will be installed;

AND THAT the necessary by-law to enact the City's video surveillance programs be presented to City Council for ratification.

LINK TO STRATEGIC PLAN

The Eye on the Street Program renewal project supports the strategic goal of supporting public safety in the priorities of the One City, Growing Together 2019-2022 Strategic Plan.

Improvements in technology and software analysis will allow the Thunder Bay Police Service (TBPS) to better respond to and investigate crime. The solution is scalable, allowing additional cameras to be added as well as supporting potential future safety measures such as monitored panic alarms.

EXECUTIVE SUMMARY

This report recommends updates to the Eye on the Street Program (Program), including amendments to the Code of Practice (Attachment A) which provides established guidelines for

the operation of the Program. The Project Team has focused efforts to modernize the existing Program including the renewal and upgrade of the hardware and network, as well as, an increase to the number of and locations of cameras. The upgrade will include the installation of new cameras in strategic locations selected to increase public safety in areas of the TBPS and community concerns.

DISCUSSION

In partnership with the TBPS, work has commenced on the renewal and upgrade to the Program. With the support of a grant from the Solicitor General's Office Guns and Gangs Program, the following upgrades will be carried out:

1. Replace and expand the number of cameras within the Program to provide improved video monitoring and recording.
2. Create a secure private network to connect the cameras to a central control centre.
3. Provide advanced video analytics to greatly improve search capabilities for police to investigate crimes or other serious incidents which are captured and recorded by the Program cameras.
4. Increase technology reliability and provision for future expansion.

A Project Team with representation from Corporate Information Technology, Corporate Strategic Services, Infrastructure & Operations, Office of the City Clerk - Records and Archives Section, as well as external representatives from the TBPS and Tbaytel are supporting this work.

Camera Locations

The Program was previously comprised of thirteen (13) camera locations in the downtown cores and Business Improvement Areas (BIA). New locations have been selected in consultation with the TBPS Criminal Investigations Branch and the Intelligence Unit, as well as the City of Thunder Bay's Crime Prevention Council (CPC). More than 40 potential locations have been identified as high value for both live monitoring and continuous recording for follow up investigations. In order to work within the available budget, the project will be completed in phases and as funding allows. Phase 1 includes up to 20 locations (Attachment A, page 21) and includes new locations outside of the existing BIA's. Administration will report back to Council if future funding becomes available to expand the Program to include Phase 2 locations.

Prior to installation, a signed agreement between the structure Owner and the Corporation will be executed.

Camera locations are positioned to avoid a view into a private dwelling greater than that of a passerby on a municipal right-of-way. Each camera will be identified with a sign indicating the corresponding By-Law, contact information for questions and concerns, as well as the City's and TBPS logo.

Code of Practice

The Code of Practice is a set of established guidelines and procedures for those involved in managing, delivering, auditing, and utilizing the Program. The Code of Practice was originally approved by Council in 2005 with amendments approved in 2006 and 2007.

A review of the Code was carried out by the Project Team, with input from a representative from the Crime Prevention Council (CPC), the Internal Audit & Continuous Improvement Division, and the Service Provider. Attachment A is an updated version of the Code. Changes were made to the goals/objectives of the program, the mandate and roles of the Advisory Committee, camera locations, categories of activity, as well as general updates such as terminology. Amendments to the Code continue to support a balance between privacy and achieving the goal of improving community safety.

An Advisory Committee will be established with representation from the City (one Manager, two appointees) and the Crime Prevention Council (three representatives). In addition, one appointee of the Chief of TBPS and one representative of the Service Provider will sit in an advisory capacity on the Committee. An annual evaluation of the Program and report will be presented to the Advisory Committee and to City Council.

Privacy Impact Assessment Report

A privacy impact assessment (PIA) report will be submitted to the Information and Privacy Commissioner (IPC). The IPC is responsible for overseeing and balancing Ontario's privacy and access laws by balancing the right of the public to access to information held by public institutions, while ensuring that personal information held by certain institutions (such as health care providers) remains private and secure. The IPC also has a mandate to uphold the public's right to know and right to privacy and encouraging open, accountable and transparent public institutions¹. The IPC's Guidelines for the Use of Video Surveillance, 2015 was referenced throughout the Program renewal process.

The PIA assessed the appropriate steps taken to analyze the risks and harms of the program; it was determined there were not likely harms of identity theft with the Program. The PIA determined that the risk of identify theft was low with the use of the Program. In addition, the report reviews the current and proposed business practices, the governance and roles of the Program, and the benefits of the business process. Further, information regarding use of signage to identify cameras, public consultation, and the audit, lawful use and disclosure of information are discussed. The *Municipal Act, 2001*, provides municipalities the authority to pass a by-law for the safety and security of its residents and of its property. Under that general power, a municipality may pass a by-law allowing for the use of video surveillance for these purposes. The use of video surveillance and personal information is collected in compliance with the *Municipal Freedom of Information and Protection of Privacy Act* (MFIPPA). Video surveillance is currently used in the City through the Program, public transit buses and city facilities.

¹ "Our Goals and Values." *Information and Privacy Commissioner of Ontario*. Information and Privacy Commissioner of Ontario, n.d. Web. 10 May 2021.

CONSULTATION

Two community consultation meetings were held virtually on March 23, 2021 and April 7, 2021, which included a presentation from Administration and an open question and answer period. The role of the TBPS and the proposed use of analytics software was described. There was a total of 19 registered attendees. In addition, a survey was available to the Community via the Get Involved page from April 2 to April 18, 2021. There was a total of 370 visitors and 79 responses. The targeted consultation also included a social media campaign.

The virtual meetings and online survey included three, open-ended questions specific to the level of community support for the Program. A summary of responses can be found in Attachment B.

The CPC was included in the consultation process. The CPC holds a unique partnership between the citizens, community organizations, and service providers who work to make Thunder Bay safer. Currently, the CPC is leading the provincially mandated Community Safety and Well-Being (CSWB) planning process which, through comprehensive community consultation, has identified the increase in gang-related activity in recent years as a top community concern.

FINANCIAL IMPLICATION

An expansion to the proposed 2022 Operating Budget is estimated in the range of \$15,000-\$20,000 for costs associated with the expanded program.

The Capital Budget for the Program includes sufficient carry forward amounts for the Phase 1 upgrade to the server, software, and control center equipment required. The Ministry of the Solicitor General provided a grant of \$200,000 to the Thunder Bay Police Services through their CCTV Grant program to support other components of the overall upgrade. These funds must be spent by August 31, 2021. An in-kind contribution of \$50,000 was received from Tbaytel.

CONCLUSION

It is concluded that the revisions to the Code of Practice should be approved as presented and that Phase 1 of the update should proceed.

BACKGROUND

The Eye on the Street Program was approved by Council at the April 4, 2005 Committee of the Whole, and launched on November 22, 2005.

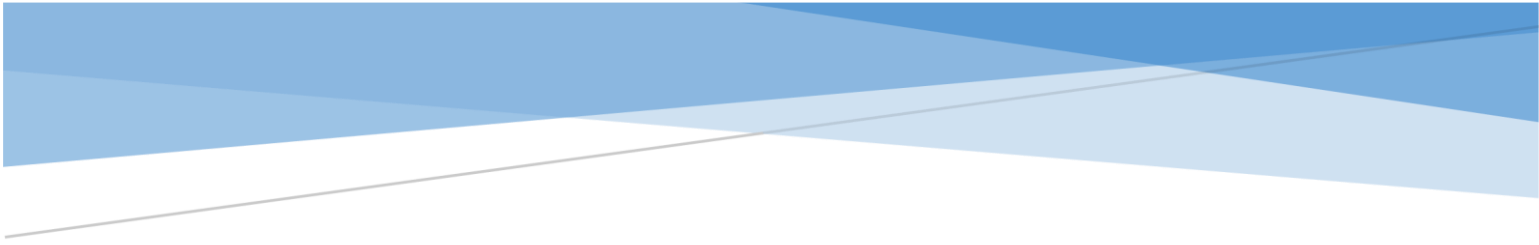
REFERENCE MATERIAL ATTACHED:

Attachment A-Code of Practice

Attachment B-Summary of Community Consultation

PREPARED BY: ***Julie Wiejak, Policy & Research Analyst***

THIS REPORT SIGNED AND VERIFIED BY: (NAME OF GENERAL MANAGER)	DATE:
Kerri Marshall, General Manager – Infrastructure & Operations	May 28, 2021



CODE OF PRACTICE

Eye on the Street

Revised: June 7, 2021



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1 INTRODUCTION & GLOSSARY

1.1 INTRODUCTION

The Eye on the Street Program (Program) uses a closed circuit television (CCTV) monitoring system to monitor and record activity at various locations throughout the City. The Program was introduced in 2005 and will receive a renewal and upgrade in 2021.

The purpose of this Code of Practice is to establish guidelines and procedures for those involved in managing, delivering, auditing and utilizing this Program. It will provide a balance between the protection of privacy and fulfilling the goal of improving community safety.

The Program is managed by the City of Thunder Bay and is delivered by a contracted Service Provider. An Advisory Committee supports program oversight with representation from the City of Thunder Bay, the Thunder Bay Police Service (TBPS), the Service Provider and the Crime Prevention Council (CPC).

A hard copy of this Code of Practice may be obtained from City Hall. An electronic copy, with the exception of Appendix A, is available on the City's website (www.thunderbay.ca). Appendix A is a publication of the Information and Privacy Commissioner of Ontario (IPC), and is available in pdf format on that agency's website (www.ipc.on.ca).

1.2 GLOSSARY

This Code of Practice uses several abbreviations, acronyms and defined terms. This glossary provides a resource to the reader in this regard.

Advisory Committee (Committee): Group of persons addressed in Section 6 of this Code of Practice.

Closed Circuit Television (CCTV): Within the Program, CCTV cameras send signals to television monitors located in the Command Centre. The CCTV cameras record information continually and the record is stored on hard computer drives unless or until downloaded to a portable medium (CD, DVD).

CCTV Equipment: Any and all equipment required and/or used for the operation of the Program.

CCTV Monitoring: Refers to the operation of all of the CCTV cameras and/or television monitors.

Camera Monitoring Logs: Physical or electronic records maintained in the Command Centre or computer servers where Camera Operators make notations as required by this Code of Practice.

Camera Operators: Person(s) who physically view the landscape being recorded by the CCTV cameras making up the Program, who control the positioning of the views being recorded by the CCTV cameras and who have various obligations and duties as detailed in this Code of Practice.

City: The Corporation of the City of Thunder Bay, a duly incorporated Ontario municipal corporation.

Command Centre: The room within which the scenes being recorded by the CCTV cameras can be viewed by Camera Operators.

Committee: Advisory Committee, defined above.

Contract: The agreement between the City and the Service Provider.

CPC: Crime Prevention Council

IPC: The Information and Privacy Commissioner of Ontario, as contemplated by the MFIPPA.

Manager: The person within the City's employ who is assigned the task of managing the Program. The Manager of the Program is a designate of the General Manager-Infrastructure & Operations Department.

MFIPPA: An acronym for the *Municipal Freedom of Information and Protection of Privacy Act*, R.S.O. 1990, c. M.56, as amended.

MFIPPA Coordinator: The person within the employ of the City who is assigned as a resource person with respect to MFIPPA procedures and advice.

Program: The City's CCTV system, also known as Eye on the Street.

Retention By-law: The City's by-law governing retention and destruction of corporate records and/or any approved City policies governing same.

Service Provider: The person contracted by the City to operate the CCTV equipment and assist with the delivery of the Program.

TBPS: Thunder Bay Police Service

2 DEFINING THE RESPONSIBLE PERSONS

2.1 CITY CLERK

As the Head under the *Municipal Freedom of Information and Protection of Privacy Act* (MFIPPA), the City Clerk is legally responsible for the disclosure of information from the Program. The City employs an MFIPPA Coordinator, who has been assigned certain responsibilities by the City Clerk with respect to the Program.

2.2 ADVISORY COMMITTEE

The Advisory Committee described in Section 6 reviews the operation of the Program. The Advisory Committee is comprised of representatives from the City of Thunder Bay, the TBPS, the Service Provider, and the CPC.

2.3 MANAGEMENT OF THE PROGRAM

2.3.1 Manager of the Program

The Manager is responsible for monitoring the day to day compliance with the requirements of this Code of Practice, field inquiries from the public, undertake an annual evaluation and provide reports to the Advisory Committee and City Council.

The Manager shall consult with and take advice from the MFIPPA Coordinator with respect to:

- a. maintaining the security of information collected by the Program;
- b. controlling the storage and release of information recorded by the Program;
- c. holding the Service Provider and others involved in operating the system to strict compliance with this Code of Practice; and
- d. liaising with the TBPS, other agencies and persons concerning the implications of the MFIPPA and other related privacy legislation regarding the proper operation of the Program.

2.3.2 MFIPPA Coordinator

The MFIPPA Coordinator will provide assistance and advice from time to time, as set out in this Code of Practice.

2.4 INTERNAL AUDIT & CONTINUOUS IMPROVEMENT

The City's Internal Auditor, in the Internal Audit & Continuous Improvement Division of the Corporate Services & Long Term Care Department, is responsible for conducting quarterly audits of the Program. The audits are submitted to the Manager and the Advisory Committee.

3 GOALS/OBJECTIVES & PRINCIPLES OF MONITORING

The purpose of the Program is to promote safety in our community and for our residents in the City of Thunder Bay.

3.1 GOALS & OBJECTIVES

The goals and objectives of the Program are:

- to foster and help maintain a safe environment in the City of Thunder Bay;
- to deter violence, unlawful activity and other anti-social behavior;
- to provide information to the TBPS to assist with its response to unlawful activity and anti-social behavior;
- to act as one component of downtown revitalization and increase pedestrian traffic;

- to discourage incidents of vandalism in order to reduce the number of insurance claims and/or repair costs associated with them; and
- to monitor, prevent and respond to any crime displacement to surrounding areas not monitored by the cameras.

3.2 PRINCIPLES OF MONITORING PROCEDURE

The monitoring procedures are performed by the Camera Operators according to the following principles:

- a. CCTV monitoring is conducted in a manner consistent with the law;
- b. CCTV monitoring is conducted in a professional and ethical manner;
- c. Camera Operators are appropriately trained and supervised in the responsible use of the cameras and recording equipment;
- d. information obtained through CCTV monitoring is used exclusively for security and law enforcement purposes and is only released in strict accordance with the MFIPPA;
- e. the records are handled in a manner that provides continuity and security of the recorded information;
- f. CCTV camera locations and operation do not provide visual access to residential areas, which would not otherwise be available to the general public;
- g. the monitored areas are appropriately signed advising the community of monitoring and recording; and
- h. Camera Operators will not view or record individuals in any manner which would constitute a violation of the *Human Rights Code*.

4 MUNICIPAL FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY ACT

This Code of Practice has been drafted to conform to practices outlined by the Information and Privacy Commissioner of Ontario (IPC) in a document entitled “Guideline for Using Video Surveillance Cameras in Public Places” (Appendix A). The IPC has indicated that after careful consideration, an institution may decide to use video surveillance for purposes in accordance with MFIPPA. Section 2 of MFIPPA defines “videotapes” in the term “record” and also provides a definition of “personal information” as recorded information about an identifiable individual.

5 CHANGES TO THE CODE OF PRACTICE

This Code of Practice will be revised as required in order to take account of developments in the interpretation of the provisions of the data protection legislation, developments in the technology involved in the recording of images and developments in the use of such technologies. The Manager of the Program is responsible to report changes to the Code of Practice to City Council.

6 ADVISORY COMMITTEE

The Advisory Committee consists of the following partner representatives as outlined in the Committee's Terms of Reference (Appendix B):

- a. the Manager;
- b. two appointees of the Manager; and
- c. three representatives of the Crime Prevention Council (CPC), at the discretion of that body.

In addition, one appointee of the Chief of the TBPS and one representative of the Service Provider sit in an advisory capacity on the Committee.

Members, other than members of the TBPS, who agree to serve on the Advisory Committee are required to sign an oath of confidentiality and are not permitted to participate directly in the Audit Program. Members of the TBPS take a statutory oath which covers the circumstances that the oath of confidentiality would have covered.

The Manager shall request the presence of other members of City Administration at Committee Meetings, as required by the meeting agenda. For example, it may be prudent or necessary to invite the MFIPPA Coordinator to attend Advisory Committee meetings from time to time. Persons invited in this capacity attend in an advisory capacity and do not vote on matters before the Advisory Committee.

7 PUBLIC INFORMATION AND INPUT

The City is committed to operating the Program in accordance with the principles in the MFIPPA.

7.1 CAMERA LOCATION

CCTV cameras will be located in such a way that will only monitor those spaces to which the public has access. The view of each CCTV camera will be restricted so that Camera Operators cannot position the CCTV camera to overlook private residential areas that are not otherwise available for general public viewing. All Camera Operators will be appropriately trained and will be made aware of the purpose(s) for which the CCTV cameras have been established. Camera Operators will be advised that they are prohibited from using the CCTV cameras for any other purpose.

7.2 SIGNS

Signs will be placed at the perimeters of the video surveillance areas to advise members of the public that they are entering an area which is covered by CCTV surveillance equipment. The signs will be clearly visible to members of the public and will contain the logo of the City and partners, as well as the following information:

Eye on the Street Video Surveillance Area

The Eye on the Street Program is a community public safety initiative. Monitoring is for safety and security purposes only. Legal Authority for the collection of information is the Municipal Freedom of Information and Protection of Privacy Act (Ontario Legislation). For information, contact the Infrastructure & Operations Dispatch at 625-2195.

7.3 BROCHURES AND WEBSITE INFORMATION

Brochures will be available to inform the public about the Program. Information about the Program will also be available on the City's website and through regular media releases issued by the Manager.

7.4 PUBLIC INPUT PROCESS

Any individual who wishes to speak to the City about the Program, either to provide comment or to make a complaint, should contact the person indicated on the signage, the Manager, in writing.

Complaints, comments, suggestions, inquiries or other input may involve any of the following:

- the operation of the Program;
- the treatment of an individual;
- the interpretation of this Code of Practice; and/or
- the administration of the Program.

A record of the number and type of complaints or inquiries will be maintained by the Manager. A report on those numbers and types will be collected by the Advisory Committee in order to assess public reaction to and opinion of the use of the Program. The Advisory Committee is responsible for undertaking regular reviews of the documented procedures to ensure that the provisions of this Code of Practice are being complied with. A report on those reviews will be provided to City Council in order that compliance with legal obligations and provisions with this Code of Practice can be monitored. Complaints which cannot be resolved at an administrative level will, should the complainant so desire, be forwarded to City Council for resolution.

8 AREAS COVERED BY THE PROGRAM

A listing of CCTV camera locations can be found in Appendix C.

While the Program has not been designed to cover residential areas, some CCTV cameras have residential accommodations in close proximity. Measures will be taken to ensure that CCTV

equipment cannot view into private dwellings to a degree greater than a passerby on the municipal right of way could view.

9 EVALUATION AND MONITORING OF THE PROGRAM

The Manager is responsible to undertake an annual evaluation of the Program and provide reports to the Advisory Committee and City Council. The Advisory Committee is responsible to review the results of the annual evaluation of the program and the results of the quarterly audits.

9.1 ANNUAL REPORT

The Manager will submit an annual report to the Advisory Committee and to City Council. The report will be made available to the public. The report will evaluate the effectiveness of the Program. Effectiveness will be assessed against the stated purpose, goals, objectives and principles of the Program. The report will include information outlined in Appendix D and assessments of the quarterly audits submitted by the Internal Audit & Continuous Improvement Division of the Corporate Services & Long Term Care Department.

9.2 AUDITS

The audit of the Program is the responsibility of the Internal Audit & Continuous Improvement Division of the Corporate Services & Long Term Care Department. The City's Internal Auditor is responsible for assigning any assistance they may require. A minimum of two (2) representatives will perform each audit at the Command Centre. Persons who perform the audit must not sit on the Advisory Committee. Members of the audit team will be required to individually sign an oath of confidentiality.

An audit of the Program is performed quarterly. At the conclusion of the audit, a member of the Audit Team will provide an audit report to the Manager for the annual report. The audit constitutes a record under the MFIPPA and therefore are retained by the City for the time period as prescribed in the Retention By-law. Audit procedures can be found in Appendix E.

The auditing rules are:

- No one may be present in the Command Centre when camera images are displayed without the presence of at least one (1) Service Provider representative.
- The audit involves a review of a random selection of recorded information from various locations for the purpose of ascertaining whether the Service Provider has complied with the Code of Practice for camera use and has not monitored (or has not allowed to be monitored) individuals in any manner that would constitute a violation of the *Human Rights Code* or the MFIPPA. The Audit Team will provide the Service Provider with a list of four (4) times and locations within one 7-day recording period that it wishes to review. The Service Provider will make arrangements for the records to be viewed by the Audit Team within the Command Centre. If required, the Service Provider will copy the requested information and will release it to the Audit Team after making an entry in the Camera Monitoring Logs. The recorded

information cannot leave the Command Centre unless a formal request has been made to export it to the TBPS for law enforcement purposes or to a member of the public under the MFIPPA.

- During a live emergency, the TBPS will have access to live camera feeds in keeping within the standards of the Code of Practice.
- A review of the Camera Monitoring Logs will also be conducted for the following purposes:
 - a) to check whether any reported incidents were properly recorded;
 - b) to confirm that only authorized persons have had access to the Command Centre; and
 - c) to confirm that recorded information has been released in strict accordance with the Code of Practice requirements for release of information.
- The audit will also include a review of the information requests filed by any person(s) or agencies under the MFIPPA.

10 CAMERA OPERATORS

The successful operation of the Program relies on Camera Operators being well disciplined, having integrity and dedication and maintaining the confidentiality that is required for the operation of the CCTV equipment in accordance with the MFIPPA.

A thorough vetting of potential Service Providers will take place prior to one being contracted to deliver the Program. The successful Service Provider must ensure that candidates for the position of Camera Operator are fully trained and capable, to the satisfaction of the Manager, of operation of the CCTV equipment in accordance with all technical requirements, as well as this Code of Practice.

Privacy issues must form a regular part of Camera Operator training. The Service Provider will not hire or use any Camera Operator unless and until they have signed an agreement of confidentiality, possess a satisfactory Police Records Check, and commit to adhering to this Code of Practice.

Those persons involved in the management, supervision and audit of the Program are all required to pay particular attention to privacy issues in managing and operating the Program.

The Programs CCTV equipment must be operated in a manner that is sensitive to the privacy of those people living and working in the area.

11 CONTROL AND OPERATION OF THE CAMERAS

Camera locations are continually recording in a way that provides the most effective coverage of the monitored area. Viewing screens are located in the Command Centre.

One (1) camera operator will be present within the Command Centre based on hours agreed to between the Service Provider and the Manager. Camera Operators must act with the utmost integrity. Only authorized Camera Operators are permitted to use the CCTV equipment.

The CCTV equipment is installed and set up to prevent any Camera Operator from viewing residential areas or monitoring individuals in any manner that would constitute a violation of Provincial legislation. Camera Operators' job requirements will provide that they must not use the cameras to collect information not permitted under MFIPPA. Similarly, Camera Operators' job requirements will provide that they must not use the cameras to discriminate against individuals based on the prohibited grounds under the Ontario *Human Rights Code*. These prohibited grounds include ability (physical, mental, developmental, and sensory), age, sex, sexual orientation, race, ancestry, place of origin, colour, ethnic origin, citizenship, creed, family and/or marital status.

Camera Operators are made aware that recordings are subject to audit procedures and they may be required to justify their actions. Disciplinary proceedings will follow any misuse of authority by any Camera Operator.

11.1 ACTIONS OF THE CAMERA OPERATOR WHEN OBSERVING SUSPICIOUS ACTIVITY

If the Camera Operator observes suspicious activity, the following procedure will commence:

- The Camera Operator, upon observing suspicious activity, may isolate the camera to determine whether a police response is required.
- When a Camera Operator believes that a police response is required, the Camera Operator should use whatever camera features are available to attempt to record the identity of the involved parties for evidentiary purposes.
- The Camera Operator will notify the TBPS utilizing the 9-1-1 system immediately upon observing an incident that they believe requires the dispatch of a patrol Officer. At the same time, the Camera Operator will activate the output signal to the designated monitor at the TBPS.
- The Camera Operator will maintain the focus of the camera on the incident and/or the immediate area, if required, until the incident has concluded.
- The Camera Operator will make an entry in the Camera Monitoring Log indicating weather conditions, date, time, incident type, and the start time and end time of the incident.

11.2 ACTIONS OF THE THUNDER BAY POLICE SERVICE

The participation and actions of the TBPS are governed by policies of the TBPS.

12 ACCESS TO THE COMMAND CENTRE

The procedure for accessing the Command Centre can be found in Appendix F.

Access to the Command Centre is only permitted for lawful, proper and sufficient reasons and must be authorized by the Manager or, where a matter is referred to the TBPS, an Officer designated by

TBPS. Records are kept of all access, including recording the name of the individual concerned and the time of arrival and departure.

13 USE AND STORAGE OF INFORMATION

Ownership of the recorded material, in whatever medium, remains with the City except in accordance with Section 15.2 of this Code.

Recorded material is only used for the purposes defined by this Code of Practice and in accordance with the MFIPPA. The viewing of live information on a CCTV is not considered use of recorded information. However, if this information is accessed by TBPS or downloaded onto a medium accessed at the end of the retention time period, then the recorded information is considered used and must be retained for the period prescribed in the Retention By-law.

The use of recorded information is allowed only in accordance with the law.

14 ACCESS TO RECORDED INFORMATION

Access to recorded information is only permitted in accordance with this Code of Practice and the MFIPPA. Material may not, under any circumstances, be sold or used for commercial purposes or for the provision of entertainment.

Access to recorded information should be restricted to those responsible for the administration of the Program and to:

- a. law enforcement agencies where the images recorded would assist in a specific investigation; and
- b. the people whose images have been recorded and retained who make a request under the MFIPPA.

Where a request is granted pursuant to the MFIPPA, it may be necessary pursuant to that legislation to ensure that the images of some individuals are disguised or blurred. If the City does not have the facilities to carry out that type of redaction, an editing company may be hired to carry out that editing.

Individuals who make a request under the MFIPPA for images from the Program are provided with information which describes the types of images which are recorded and retained, the purposes for which those images are recorded and retained, and information about the disclosure policy in relation to those images. This should be provided at the time that the City's standard freedom of information request form is provided to an individual. All requests will be dealt with by the MFIPPA Coordinator.

All Camera Operators will be trained and aware of individuals' rights under the MFIPPA.

15 DEALING WITH INCIDENTS

Authorized members of the TBPS must agree to comply with this Code of Practice before being permitted access to the Command Centre live video feeds, recorded video files or before undertaking any activities in any other matter, under the jurisdiction of this Code of Practice and not otherwise under the jurisdiction of the TBPS. A memorandum of understanding between the City and the TBPS in general terms, in this regard, will meet the requirements of this section. In the absence of any such memorandum of understanding, authorized members of the TBPS will need to individually undertake to comply.

15.1 APPROVAL AND LOG BOOK

Police Officers may, from time to time, require records from the CCTV system. The request may involve an incident or may be related to an incident occurring up to 14-days prior in one of the camera surveillance areas. Access to images will only be granted when required information on the incident and purpose of the footage is logged. This information will be tracked and form the basis of the reports to the Advisory Committee, Council and the public.

All communication between the TBPS and the Command Centre is logged in the Camera Monitoring Log as follows:

- a. the date and time at which access was allowed or the date on which disclosure was made;
- b. the identification of the party who was allowed access or to whom disclosure was made;
- c. the reason for allowing access or disclosure; and
- d. the extent of the information to which access was allowed or which was disclosed.

15.2 DIGITAL RECORDING DEVELOPMENT

A memorandum of understanding (MOU) will exist between the City of Thunder Bay and the Thunder Bay Police Service detailing the use and utilization of video images captured by Program. This MOU will also detail the procedures involving the process for communication between the Command Centre/Service Provider and the TBPS.

When a Camera Operator reports an incident through live monitoring of the CCTB system to the 911 communications centre, the Camera Operator will:

- If the incident is ongoing, advise the TBPS that a live feed of the camera(s) is available.
- Review the recorded video image(s) of the immediate and surrounding area of the incident to determine if particulars of the incident were captured by the camera(s).
- Advise the TBPS that these images exist.

- Note that these images may be required for further investigation by the TBPS.

The TBPS will also contact the Command Centre requesting recorded video, from time to time, that may be related to other investigations.

The following procedure is to be followed for the exporting of Eye video recordings to the TBPS:

1. When a digital recording is required for release to the police, the requesting TBPS member will make a formal request, using an approved form to the Service Provider. This request will include a specific link to the TBPS digital evidence management system (DEMS) for the uploading of the file(s).
2. The Service Provider locates the specific video file(s) and uploads those files to the URL address provided by the TBPS member.
3. Every time that video is exported at the request of the TBPS, the Service Provider will document the resulting actions taken to provide the video file(s) in the Command Centre log. This documentation will include:
 - a. a copy of the email and corresponding request form from the requesting TBPS member;
 - b. the incident number and the date and time;
 - c. the date of the record creation;
 - d. the name of person who created the video file export; and
 - e. the date and time of the video export/upload to the TBPS DEMS.

The Service Provider shall, upon reasonable request of the TBPS member, swear an affidavit with respect to the circumstances surrounding the export and upload to the TBPS DEMS.

16 VIOLATIONS OF THE CODE OF PRACTICE/MFIPPA

16.1 GENERAL

Any violation of this Code of Practice is also considered a violation under the MFIPPA; there are consequences associated with violations of that statute.

16.2 DEALING WITH A VIOLATION OF MFIPPA

Any person who suspects that MFIPPA has been violated shall report the suspicion to the Manager. The Manager shall investigate the alleged violation and determine, in consultation with the MFIPPA Coordinator, whether or not a violation occurred.

Where a breach has occurred, the Manager shall determine the scope of the breach and take all appropriate steps to contain the damage caused by the violation. For example, where personal information has been inappropriately disclosed, retrieval of the information should be attempted.

Upon reaching a conclusion that a violation has indeed occurred, the Manager shall immediately inform the MFIPPA Coordinator. The MFIPPA Coordinator shall conduct a breach investigation and inform the City Clerk, any affected individuals, and the IPC.

Independent of any action taken by the IPC, the Manager shall conduct an internal investigation into the matter, report all findings to the Advisory Committee and to the City Clerk (as Head under MFIPPA), and quickly implement any recommendations that they, the Steering Committee and/or the City Clerk determine are reasonable. The objectives of the internal investigation shall include:

- a review of the circumstances surrounding the event;
- the adequacy of existing policies and procedures in protecting personal privacy and/or personal information; and
- preventative measures, such as additional or enhanced training and/or policy or procedural amendments, to avoid recurrence.

Any corporate-wide implications should be reported to the City Clerk. For example, where a facsimile transmission has been misdirected, corporate policies may also warrant review by others, independent of this Code of Practice.

17 APPENDICES

APPENDIX A: GUIDELINES FOR USING VIDEO SURVEILLANCE CAMERAS IN PUBLIC PLACES (NOT APPENDED — AVAILABLE ON IPC WEBSITE)

The Information & Privacy Commissioner (IPC) Guidelines are available on the website of the Office of the Information and Privacy Commissioner of Ontario (www.ipc.on.ca).

APPENDIX B: TERMS OF REFERENCE FOR THE ADVISORY COMMITTEE

Purpose of the Program

The purpose of the Program is to promote safety in our community and for our residents in the City of Thunder Bay.

Goals/Objectives of the Program

The goals and objectives of the Program are:

- to foster and help maintain a safe environment in the City of Thunder Bay;
- to deter violence, unlawful activity and other anti-social behavior;
- to provide information to the TBPS to assist it with its response to unlawful activity and anti-social behavior;
- to act as one component of downtown revitalization and increase pedestrian traffic;
- to discourage incidents of vandalism in order to reduce the number of insurance claims and/or repair costs associated with them; and
- to monitor, prevent, and respond to any crime displacement to surrounding areas not monitored by the cameras.

Mandate of the Advisory Committee

The mandate of the Advisory Committee is to:

- a. provide ongoing review of the operation, direction, and timelines of the Program;
- b. provide advice on camera locations, including adding or eliminating camera locations in future years;
- c. review all research including, where appropriate, public opinion surveys of this Program; and
- d. review the results of the annual evaluation of the program and the results of the quarterly audits.

Advisory Committee Membership and Rationale

The Advisory Committee shall consist of the following partner representatives:

- a. the Manager;
- b. two persons appointed by the Manager; and
- c. three community representatives as recommended by the Crime Prevention Council.

One representative of the Service Provider shall attend any Advisory Committee meeting, at the request of the Advisory Committee, to act as a resource person. They shall not be a voting member of the Advisory Committee.

One representative from the TBPS, appointed by the Chief of Police, may attend any Advisory Committee meeting, in response to a request of the Advisory Committee and at the direction of the Chief of Police, to act in an advisory capacity. They shall not be a voting member of the Advisory Committee.

Members who agree to serve on the Advisory Committee will be required to sign an Oath of Confidentiality and will not participate directly in an audit of the Program.

Meetings

The Committee will meet regularly, at such place and time as specified in notice to all Committee members, provided not less than one (1) week prior to the proposed meeting. Frequency of meetings shall be at the discretion of the Committee, however, a minimum of two (2) meetings shall be held annually.

Specific Roles and Responsibilities

The Chair of the Advisory Committee shall be appointed by the Committee from amongst the Committee members. The following duties shall be carried out by the Service Provider and by members of the Advisory Committee.

The Service Provider Representative:

- Attends any meeting of the Advisory Committee which they have been requested to attend, and responds to questions or concerns about day to day operations.
- Manages the Program on a day to day basis, including:
 - monitors to ensure, to the best of their ability, that there is always at least one (1) Camera Operator present within the Command Centre throughout operating hours;
 - ensures that all Camera Operators who have access to the Command Centre are appropriately trained and have signed an agreement of confidentiality and a commitment to adhere to this Code of Practice;
 - supervises and trains Camera Operators;
 - manages documentation of all incidents related to the Program;
 - monitors installation to ensure, to the best of their ability, that the view of the cameras has been restricted so that they cannot overlook private dwelling spaces;
 - maintains the security of information collected by the system; and
 - ensures appropriate access to the Command Centre.

The Manager:

- Participates as a member of the Advisory Committee and carries out the associated duties noted in the Code of Practice;
- oversees the management of the Program and monitors the Service Provider;
- liaises with the TBPS, other agencies and persons concerning the proper operation of the Program;
- receives, documents and responds to public comments and complaints about the Program;
- develops, in consultation with the City's Corporate Communications Office, and reviews media releases;
- ensures appropriate access to the Command Centre;
- conducts an annual evaluation of the Program which will consider:
 - an assessment of the impact, if any, on crime statistics;
 - an assessment of neighbouring areas not covered by the Program;
 - a review of the costs associated with the maintenance of the Program;
 - the administration of the Program and its policies and procedures; and
 - recommendations arising out of audits.
- recommends to Council from time to time any required revisions to the Code of Practice, to take account of developments in the interpretation of the provisions of the data protection legislation, developments in the technology involved in the recording of images, and developments in the use of such technologies; and
- develops an annual report, which evaluates the effectiveness of the system, for presentation to Council.

Appointees of the Manager:

- Participate as members of the Advisory Committee and carry out the associated duties noted in the Code of Practice; and
- assists the Manager with their duties noted above.

Thunder Bay Police Service Representative (Chief of Police Appointee):

- Attends any meeting of the Advisory Committee which they have been requested to attend, and responds to questions or concerns with respect to the TBPS participation, experiences and/or liaison;
- continually monitors the success of the Program to meet the requirements;
- provides the Manager with required statistics;
- liaises with the Steering Committee with respect to the Advisory Committee's research; and
- liaises with the TBPS on all aspects of the Program.

Representatives from the Crime Prevention Council:

- Participate as members of the Advisory Committee and carry out the associated duties set out in this Code of Practice;
- represent the views of Crime Prevention Council to the Committee; and
- provide data and statistics from the Crime Prevention Council perspective, as required.

APPENDIX C: CAMERA LOCATIONS

Based on criteria approved by the City, camera locations were identified as listed below. For structures not owned by the City, a signed agreement will need to be in place prior to installation. Additional locations have been identified for future expansion of the program.

- Arthur Street West and Mountdale Avenue
- Bay Street and Algoma Street South
- City Hall – Northeast Corner
- City Hall – Northwest Corner
- Cumberland Street North and Camelot Street
- Harbour Expressway and Golf Links Road
- Intercity- Kaministiquia River - Fort William Bridge
- Intercity- Kaministiquia River - Memorial Bridge
- Landmark Inn - Northeast Corner
- May Street South and George Street
- May Street South and Victoria Avenue East
- Red River Road and Court Street South
- Red River Road and Cumberland Street South
- Red River Road and Junot Street South
- Red River Road –Walkway
- Syndicate Avenue South and Donald Street East- Victoriaville Parkade
- Victoria Avenue East and Archibald Street South- Victoriaville Entrance
- Waterfront Transit Terminal- Inside
- Waterfront Transit Terminal- Northeast Corner
- Waterfront Transit Terminal- Southwest Corner

APPENDIX D: ANNUAL REPORT

Categories of Activity

There are a variety of incidents or situations that the Eye cameras may capture. Each incident should be identified under one of the following categories and aggregate statistics for the current and five (5) prior years should be provided for each category identified. Categories may be added or changed based on Program review recommendations and input from the Advisory Committee and the TBPS.

Incident Types:

- Violent Crime
- Property Damage (including vehicles)
- Theft
- Substance Abuse
- Medical Distress
- Personal Injury
- Suspicious Activity
- Hazards/Dangers (unsafe use of waterways/walkways/trails, unsafe road surfaces or other activities or conditions viewed as a threat to personal safety)

Results Attributed to Camera Operators

Incidents identified by the live monitoring of the Eye cameras will be concluded by any of the following comments:

- Medical Intervention
- Police Intervention
- Multi-Tiered Response (Police, Fire, EMS)
- Further Investigation Required
- Emergency Response Cancelled

Results from Video Evidence Provided

Where video has been collected by TBPS and is used in an investigation, the outcome should be categorized as

- Cleared by Charge
- Ongoing Investigation
- Alternative Follow-up/Resolution

The aggregate summary of these results will be reported annually for the current and five (5) prior years.

APPENDIX E: PROCEDURE FOR THE AUDIT

This Appendix has been developed to enhance the description for audits in the Code of Practice.

Audits are to be performed quarterly by the Internal Audit & Continuous Improvement Division of the Corporate Services & Long Term Care Department of the City.

Each audit must be performed by a minimum of two (2) persons. The persons assigned to complete the audit are jointly responsible for completing the Audit Checklist and preparing the Audit Report. Each assigned person must sign the report.

The Audit Checklist is a tool to be used when conducting each quarterly audit and it should be attached as the appendix to the Audit Report. It can be completed by hand.

The Audit Report is the formal report of issues and findings, which is based upon the results of the Audit Checklist.

The Audit Team contacts the Manager to initiate the audit. The Manager is informed that the Audit Team will be requesting recorded information, access to the Camera Monitoring Logs and access to the information request forms as outlined in the Audit Checklist.

The completed Audit Report is to be forwarded to the Manager and subsequently to the Advisory Committee for inclusion in the annual report to Council for this Program. The auditors must be given the opportunity to respond to the Audit Report in the report to Council.

Date of Audit: _____

Names of Audit Team Members Performing this Audit:

Name(s) of Camera Operators present at the time of the audit:

Review of Recorded Information

Audit activity: The audit team will:

1. Determine four (4) time periods from four locations within the 14-day period to be reviewed (the retention period for information is 14-days)
2. Provide the Camera Operator with the dates and times of the four (4) periods and requests that these be recorded onto an appropriate medium.
3. Review the recordings for assurance that the Camera Operators have complied with the Code of Practice for camera use and have not monitored individuals in any manner that would constitute a violation of the *Human Rights Code*.

Observations:

Date of 14-day Recording Period: _____

Time Period #1: Date/Time:	Location:	Compliance with Code	
_____	_____	Yes	No

Notes:

Time Period #2: Date/Time:	Location:	Compliance with Code	
_____	_____	Yes	No

Notes:

Time Period #3: Date/Time:	Location:	Compliance with Code	
_____	_____	Yes	No

Notes: _____

Time Period #4: Date/Time:

Location:

Compliance with Code

Yes

No

Notes: _____

Camera Monitoring Log

Audit Activity: The Audit Team will obtain and review entries in the Camera Monitoring Log from the date of the last audit for assurance that:

- Reported incidents were properly recorded.
- Only authorized staff had access to the Command Centre.
- Recorded information was released only in strict accordance with to the Code of Practice requirements for the release of information.

OBSERVATIONS:

YES / NO

Were all the log books since the last audit available for review? Yes / No

Compare different entries. Are all entries complete? Yes / No

Is the information captured noted in a consistent format? Yes / No

Were entries made in the log for instances when cameras were not operating or required repair or cleaning? Yes / No

Were log records complete for incidents of suspicious activity where the camera was isolated and the pan, tilt and zoom features were used? Yes / No

Were entries made in the log when information request forms were received? Yes / No
Entries should include: date and time of request; person making the request; date and time of requested information; and reason for request.

Were records complete for Police requests for recorded information 'after the fact.'? Records must include: date and time of access or date on which disclosure was made; identification of requesting party; the reason for access or disclosure; and the extent of information to which access was allowed or disclosed. Yes / No

Were records complete for other instances when information was recorded (i.e. for audit purposes, for equipment testing)? Yes / No

Notes: _____

Audit Log Log Book # _____ Start Date: _____ End Date: _____

Five Instances of Access to the Command Centre

	Date	Time	Notes	Recorded Correctly?	
1)	_____	_____	_____	Yes	No
2)	_____	_____	_____	Yes	No
3)	_____	_____	_____	Yes	No
4)	_____	_____	_____	Yes	No
5)	_____	_____	_____	Yes	No

Five Records of Incidents

	Date	Time	Notes	Recorded Correctly?	
1)	_____	_____	_____	Yes	No
2)	_____	_____	_____	Yes	No
3)	_____	_____	_____	Yes	No
4)	_____	_____	_____	Yes	No
5)	_____	_____	_____	Yes	No

Five Instances of Disclosure

	Date	Time	Notes	Recorded Correctly?	
1)	_____	_____	_____	Yes	No
2)	_____	_____	_____	Yes	No
3)	_____	_____	_____	Yes	No
4)	_____	_____	_____	Yes	No

5) _____ Yes No

Five Instances of Recorded Data

Date	Time	Notes	Recorded Correctly?	
1) _____	_____	_____	Yes	No
2) _____	_____	_____	Yes	No
3) _____	_____	_____	Yes	No
4) _____	_____	_____	Yes	No
5) _____	_____	_____	Yes	No

Review of Information Request Forms under MFIPPA

Audit Activity: The Audit Team will review a sample of information request forms since the time of the last audit and determine if they satisfy the requirements of MFIPPA.

OBSERVATIONS:	YES / NO
As confirmed through discussion with the MIFPPA Coordinator, were all of the information request forms since the time of the last audit made available to the audit team?	Yes / No
Were information request forms completely filled out such that all requirements for MFIPPA would be satisfied? Essential items are: date of request; name of requestor; and the date and time of information requested.	Yes / No
Were information request forms forwarded to the MFIPPA Coordinator promptly?	Yes / No
Were information request forms referenced to the police log control sheets?	Yes / No

Notes: _____

APPENDIX F: COMMAND CENTRE PROTOCOL

General Information

- Access to the Command Centre will be controlled by the Service Provider in strict compliance with the Code of Practice.
- At any one time, a minimum of two (2) members of the team authorized to conduct the Program audit, will be permitted to access the Command Centre.
- Any person permitted to access the Command Centre must have taken the Oath of Confidentiality.

Responsibilities

Service Provider:

- Prepare and confirm a duty roster for Camera Operators based on hours agreed to between the Service Provider and the Manager;
- provide access to the Command Centre only to persons identified in the contract or persons with authorization;
- determine whether or not immediate access, without written documentation, should be granted to Police Officer(s), depending upon the nature and severity of the incident;
- use the Digital Recorder to access the information requested by the Police Officer(s); and
- notify the Manager that access has been provided.

Camera Operators:

- Provide no access to the Command Centre without instruction or authorization by the Service Provider or the Manager;
- monitor the cameras during designated shifts; and
- record access to the Command Centre in the Camera Monitoring Logs, noting who accessed, the reason for access and time of access.

Manager:

- Post signage advising “Authorized personnel Only”;
- ensure limited access (i.e. security card or code) to the Command Centre for the permitted persons;
- maintain a current listing of authorized person to access the Command Centre;

- refer to the MFIPPA Coordinator all requests that they receive for access to the CCTV information; and
- obtain and approve written requests to access the Command Centre, CCTV equipment and/or information (e.g. from the TBPS, Technology Services).

MFIPPA Coordinator:

- Provide decisions for formal requests to access CCTV information pursuant to the MFIPPA.

APPENDIX G: OATH OF CONFIDENTIALITY

THE CORPORATION OF THE CITY OF THUNDER BAY
OATH OF CONFIDENTIALITY

I _____ do swear that I will observe and comply with the laws of Canada and Ontario and except as I may be legally required, I will not disclose or give to any person any information or document that comes to my knowledge or possession by reason of my duties with the Eye on the Street Program.

Sworn/affirmed before me at the

City of Thunder Bay, Ontario

This ____ day of _____ A.D. 20__

Signature

Commissioner for taking Oaths

Attachment B: Summary of Community Consultation

Two community consultation meetings were held virtually on March 23, 2021 and April 7, 2021, which included a presentation from Administration and an open question and answer period. The role of the TBPS and the proposed use of analytics software was described. There was a total of 19 registered attendees. In addition, a survey was available to the Community via the Get Involved page from April 2 to April 18, 2020. There was a total of 370 visitors and 79 responses. The targeted consultation also included a social media campaign.

The virtual meetings and the online survey included three specific, open-ended questions. The responses to each question indicated community support for the Eye in the Street program. The following summaries of responses are based on the Corporate Records Manager and City Archivists attempt to synthesize into meaningful groupings. Not all participants/responders answered all three questions; some answers were appropriate to more than one category.

Question 1: What controls are needed to balance public safety and personal privacy?

- Thirty-four (34) responses were favourable to the Program and included the following themes:
 - Need more surveillance
 - In public- no expectation of privacy
 - Like the status quo
 - Public safety and reduction of crime trumps privacy
- Forty-three (43) responses were in favour of the Program if done properly, including consulting with the IPC, signage, and a Code of Conduct.
- Seven (7) responses were not in favour of the Program and included the following themes:
 - Need more Police instead of cameras
 - Fear of invasion of privacy

Question 2: What measures should be used to assess project outcomes?

- Forty (40) responses related to the reduction in crime statistics and/or increase in public safety.
- Eighteen (18) responses related to an independent review and included the following themes:
 - Public scrutiny/opinion
 - Legal oversight
 - Outside review

- Seven (7) responses related to footage use versus conviction rate, and/or finding missing persons.
- Five (5) responses related to a cost-benefit analysis.
- Three (3) responses related to consistent and realistic measurements.
- Three (3) responses indicate it is impossible to measure/not sure.
- One (1) response related to providing Police easier access to footage.
- One (1) response related to more cameras.
- One (1) response related to no cameras.

Question 3: What should be considered when identifying potential camera locations?

- Seventy-one (71) responses related to public safety and included the following themes:
 - Input of Police
 - High risk to public safety
 - High crime areas
 - Locations with high calls for Emergency Services
- Seven (7) responses related to locations in public areas (non-residential) versus private (residential) areas.
- Three (3) responses related to the economic impact/business demand.
- Three (3) responses related to no cameras anywhere.
- Two (2) responses related to put in as many cameras as possible.
- Two (2) responses related to avoiding invasion of privacy and areas where vulnerable populations congregate.
- One (1) responses related to considering environmental impacts on locations of cameras.

Comments on Social Media

The comments left on social media have been summarized as follows:

- Eleven (11) comments related to support for a surveillance program.
- One (1) comment related to the need for better technology.

- Five (5) comments did not support a surveillance program.
- Three (3) comments support a surveillance program if it is proven effective.
- Eleven (11) comments were irrelevant.

MEETING DATE 06/07/2021 (mm/dd/yyyy)

SUBJECT Red Light Camera Public Consultation Update

SUMMARY

At the March 1, 2021 Committee of the Whole meeting, Report R 15/2021 (Infrastructure & Operations – Engineering & Operations) was presented, recommending that Administration implement a Red Light Traffic Camera program at ten intersections. At that time, a resolution was passed referring the item to Administration for public consultation and directing Administration to report back on or before June 7, 2021.

Memorandum from Mr. D. Binch, Traffic Technologist, dated May 18, 2021 containing an update on public consultation relative to red light cameras, for information.

Original motion, as contained in Report R 15/2021 (Infrastructure & Operations – Engineering & Operations), re-presented.

RECOMMENDATION

WITH RESPECT to Report R 15/2021 (Infrastructure & Operations – Engineering & Operations), we recommend that Administration implement a Red Light Traffic Camera program at ten intersections;

AND THAT Council provide a letter of intent addressed to the Minister of Transportation;

AND THAT Administration include costs to implement the Red Light Camera program in the 2022 budget for Council's consideration;

AND THAT any necessary by-laws be presented to Council for ratification.

ATTACHMENTS

1 D Binch memo dated May 18 2021

Memorandum

TO: Krista Power, City Clerk

FROM: David Binch – Traffic Technologist
Engineering & Operations

DATE: May 18, 2021

SUBJECT: Red Light Camera Public Consultation Update
Committee of Whole – June 7, 2021

At the March 1st, 2021 Committee of the Whole meeting, Administration presented R 15/2021 Red Light Camera Program (Infrastructure & Operations – Engineering & Operations) recommending that Administration implement a Red Light Traffic Camera program at ten intersections. Council referred R15/2021 to Administration for public consultation to get feedback on the implementation of a Red Light Camera Program. Feedback received was reviewed and summarized. Many respondents see running red lights as a safety concern in Thunder Bay, but respondents are equally split on supporting a Red Light Camera Program. Administration continues to recommend implementation of the program.

Administration created a public engagement survey to gather public opinion on the potential implementation of Red Light Cameras on the City of Thunder Bay roadways. The survey was available online at the Get Involved Thunder Bay city webpage from March 11th to April 16th. A total of 473 residents of the community participated in the survey. An introductory page providing background information on the proposed Red Light Camera Program as well as roadway accident statistics and facts published by the Ministry of Transportation was placed before the survey questions on the website.

Following is a synopsis of the results:

Question 1: Do you consider red light running to be a safety concern on Thunder Bay's roadways?

NO: (35.8%)

YES: (64.2%)

Question 2: Do you approve of the use of red light cameras at ten of Thunder Bay's intersections, where running red lights has caused accidents?

NO: (50.7%)

YES: (49.3%)

Question 3: The Red Light Camera program may generate excess revenues. If the City implements the program, are you in favour of allocating these funds to road safety improvements?

NO: (18.2%)

YES: (65.6%)

ANOTHER SPECIFIC AREA: (16.2%)

The fourth section of the survey was a text response whereby the participants could convey additional thoughts and viewpoints. Of the 473 total respondents, 332 included written comments detailing their thoughts on the program. Of the 332 answers reviewed, the answers showed variations in the responses; however, most followed seven identifiable themes which are summarized below:

1. Support Red Light Cameras - 35%
2. Red Light Cameras exist solely for revenue creation - 11%
3. Cost of the program does not justify Camera implementation - 20%
4. Red Light Cameras do not improve safety - 12%
5. Update the traffic signal timing first - 14%
6. Make speed cameras a first priority - 2%
7. Red Light running violations should be solely enforced by police - 5%

An additional request of administration was to provide historical data of red light violation offence tickets issues by police and the ratio of accidents. City Council was also concerned with ticket payment compliance. Data presented below shows good compliance.

Year	# of tickets issued by police	# of tickets paid	% Paid	# of tickets due to accident
2016	159	151	95%	43
2017	127	119	94%	37
2018	111	99	89%	38
2019	100	80	80%	30

DB

cc: Krista Power – City Clerk
 Norm Gale, City Manager
 Kerri Marshall, GM – Infrastructure & Operations
 Kayla Dixon, Director Engineering & Operations

MEETING DATE 06/07/2021 (mm/dd/yyyy)

SUBJECT Request for Report – Question on the Ballot

SUMMARY

Memorandum from Councillor Peng You, dated May 25, 2021 containing a motion requesting a report on the process required to add the following question “Are you in favour of a smaller city council, one made up of 8 councillors elected at-large and one mayor elected at-large?” to the ballot for the 2022 municipal election.

RECOMMENDATION

WITH RESPECT to the memorandum from Councillor Peng You dated May 25, 2021, we recommend that Administration be directed to complete a report on the process required to add the following question “Are you in favour of a smaller city council, one made up of 8 councillors elected at-large and one mayor elected at-large?” to the ballot for the 2022 municipal election;

AND THAT this report include information with respect to what legislative consequences may result should the vote received on the question be binding for the municipality;

AND THAT this report be received on or before September 27, 2021;

AND THAT any necessary by-laws be presented to City Council for ratification.

ATTACHMENTS

1 Peng You memo dated May 25 2021

Memorandum

Office of the City Clerk
Fax: 623-5468
Telephone: 625-2230

TO: Krista Power, City Clerk

FROM: Councillor Peng You

DATE: May 25, 2021

SUBJECT: Request for a Report – Question on the Ballot
Committee of the Whole – June 7, 2021

It is my belief that there is a desire to change the composition of city council. I believe that residents of Thunder Bay wish to decrease the size of council. They also wish to eliminate the ward system. While I understand that council has made a decision to complete a review of ward boundaries and of council composition in 2023 and that a notice of motion may be required for this request, it is my wish that a question be placed on the ballot for 2022. I am proposing to ask whether residents would like to move to a fully at-large system, and to decrease the size of council to 9 in total.

I contacted the City Clerk with this request earlier this year. I requested the following resolution be placed before a Committee of the Whole: "Are you in favour of a smaller city council, one made up of 8 councillors elected at-large and one mayor elected at-large?"

The City Clerk is currently awaiting information from Legal Services on this file. The clerk has advised me that a formal notice of motion may be required before the question may be put on the ballot. However, she has not yet provided a definitive answer on that issue.

It is the Clerk's desire to present council with a full report on the criteria, process and potential consequences of adding a question to the ballot for the 2022 municipal election as it relates to a decrease in council composition and a move from a ward system to an at large system. I have agreed to the Clerk's request and as such present the following motion for consideration.

WITH RESPECT to the memorandum from Councillor Peng You dated May 25, 2021, we recommend that Administration be directed to complete a report on the process required to add the following question "Are you in favour of a smaller city council, one made up of 8 councillors elected at-large and one mayor elected at-large?" to the ballot for the 2022 municipal election;

AND THAT this report include information with respect to what legislative consequences may result should the vote received on the question be binding for the municipality;

AND THAT this report be received on or before September 27, 2021;

AND THAT any necessary by-laws be presented to City Council for ratification.

c.c. Norm Gale, City Manager
Cynthia Cline, Acting City Solicitor
Dawne Latta, Deputy City Solicitor

MEETING DATE 06/07/2021 (mm/dd/yyyy)

SUBJECT Request for Report – Infrastructure Priorities

SUMMARY

Memorandum from Mayor B. Mauro dated May 3, 2021 containing a motion relative to the above noted.

RECOMMENDATION

WITH RESPECT to the Memorandum from Mayor B. Mauro dated May 3, 2021, we recommend that Administration be directed to complete a report on a list of the top 20-25 major infrastructure projects and the level of priority for each project:

AND upon return of the report City Council provide feedback on the list and on the priorities for council going forward;

AND THAT this report be received on or before a date to be determined by City Council;

AND THAT any necessary by-laws be presented to Council for ratification.

ATTACHMENTS

1 B Mauro memo dated May 3 2021

Memorandum

Office of the Mayor
Fax: 623-1164
Telephone: 625-3601

TO: Krista Power, City Clerk
FROM: Mayor Bill Mauro
DATE: May 3, 2021
SUBJECT: Request for Report – Infrastructure Priorities
Committee of the Whole – June 7, 2021

There are reports from Administration on occasion that ask council to determine infrastructure priority projects, especially as it relates to funding and applications for dollars from other levels of government. It would be to council's benefit and for the public to best understand what projects are currently forecasted and if possible in what priority those projects are planned to come forward. While we all realize that there is necessity for such a list to be flexible to respond to emerging opportunities for funding and align with other infrastructure work (i.e. roads and sidewalk construction), it would be a benefit to create a master list that Administration monitors and advises council on the progress on an annual basis.

I present the following for Council's consideration,

WITH RESPECT to the Memorandum from Mayor B. Mauro dated May 3, 2021, we recommend that Administration be directed to complete a report on a list of the top 20-25 major infrastructure projects and the level of priority for each project:

AND upon return of the report City Council provide feedback on the list and on the priorities for council going forward;

AND THAT this report be received on or before a date to be determined by City Council;

AND THAT any necessary by-laws be presented to Council for ratification.

MEETING DATE 06/07/2021 (mm/dd/yyyy)

SUBJECT Weight Restriction Review – East Avenue

SUMMARY

Memorandum from Councillor A. Aiello, dated May 6, 2021 containing a motion relative to the above noted.

RECOMMENDATION

WITH RESPECT to the memorandum from Councillor A. Aiello dated May 6, 2021, we recommend that Administration review the feasibility of implementing weight restrictions on East Avenue including potential of issuing and enforcing fines for non-compliance;

AND THAT Administration report back on or before December 2, 2021;

AND THAT any necessary by-laws be presented to City Council for ratification.

ATTACHMENTS

1 A Aiello memo dated May 6 2021

Memorandum

Office of the City Clerk
Fax: 623-5468
Telephone: 625-2230

TO: Krista Power, City Clerk

FROM: Councillor Albert Aiello

DATE: May 6, 2021

SUBJECT: Weight Restriction Review – East Avenue
Committee of the Whole – June 7, 2021

I have received numerous complaints about tractor trailers/commercial vehicles accessing the private parking lot at County Fair Plaza via East Avenue. I understand that the parking lot is private lands and any issues associated with parking in the parking lot should be directed to the property manager. I would like Administration to review the feasibility of implementing a weight restriction on East Avenue as well as any opportunity to issue fines to those who are not following the restrictions and report back with recommendations to reduce commercial vehicle traffic on this residential street.

I present the following motion for City Council's consideration:

WITH RESPECT to the memorandum from Councillor A. Aiello dated May 6, 2021, we recommend that Administration review the feasibility of implementing weight restrictions on East Avenue including potential of issuing and enforcing fines for non-compliance;

AND THAT Administration report back on or before December 2, 2021;

AND THAT any necessary by-laws be presented to City Council for ratification.

MEETING DATE 06/07/2021 (mm/dd/yyyy)

SUBJECT Engineering Construction Contract Summary

SUMMARY

Memorandum from Ms. K. Dixon, Director - Engineering & Operations, dated May 27, 2021 containing a construction contract summary showing the variance between the original contract award price and final contract cost for Engineering projects from 2001 to 2020, for information.

ATTACHMENTS

1 K Dixon memo dated May 27 2021

Memorandum

TO: Krista Power
City Clerk

FROM: Kayla Dixon, P. Eng., MBA
Director of Engineering & Operations

DATE: May 27, 2021

SUBJECT: Engineering Construction Contract Summary
June 7, 2021 – Committee of Whole Meeting

Please find attached an updated Construction Contract Summary listing all projects administered by Engineering from 2001 to 2020 showing the variance between the original contract award price and final contract cost. The attached spreadsheet shows that contracts administered by Engineering are cumulatively under spent by \$8.5M in this 20-year time period.

Please note that some 2020 projects are still in progress and final costs will be reported in future summaries. Contract 8, 2020 is part of a three year renewal contract and the original contract award value was updated from last year's report to reflect additional lead service removal work that was completed in the Fall of 2020 under this contract.

Regards,

KD

Att

cc: Norm Gale – City Manager
Kerri Marshall – General Manager – Infrastructure & Operations

Construction Contract Summary - 2001 to 2020

Contract Number	Description	Original Contract Price (GST/HST Extra)	Projected/Final Contract Price	Difference	Variation Percent	Status	Comment
1-2001	WPCP-Secondary Treatment					Not Tendered	
2-2001	Asphalt Surface Rehabilitation	2,362,706.10	2,365,721.23	-3,015.13	-0.13%	Complete	
3-2001	McKellar Lift Bridge- Second Vehicle Lane	536,748.00	513,022.00	23,726.00	4.42%	Complete	
4-2001	Hot in Place recycling	462,255.30	441,973.48	20,281.82	4.39%	Complete	
5-2001	Road and Sewer Const- Margaret, Simpson, Waverly, Park	1,641,384.50	1,752,887.59	-111,503.09	-6.79%	Complete	one block sewer& paving added(Simpson st)-see report 2002.112
6-2001	Sidewalks, Traffic signals, Busbays	610,002.82	596,730.36	13,272.46	2.18%	Complete	
7-2001	Victoriaville Watermain replacement	586,360.00	612,530.16	-26,170.16	-4.46%	Complete	quantity variations-see report 2001.327
8-2001	Watermain Const-Hwy 61, Mountain,Hazelwood	2,188,659.86	1,861,715.10	326,944.76	14.94%	Complete	Mapleward Rd wm LI did not proceed
9-2001	Dawson Road Reconstruction-Stage II	1,810,475.97	1,872,157.77	-61,681.80	-3.41%	Complete	quantity variations-see report 2003.055
10-2001	Miscellaneous Sewer and water	936,756.11	828,784.32	107,971.79	11.53%	Complete	
11-2001	WPCP-DAF Equipment	45,566.87	45,566.87	N/A		Reassigned	Original contract novated to Contract 1, 2002
12-2001	WPCP-Influent Pumps and Equipment	51,367.90	51,367.90	N/A		Reassigned	Original contract novated to Contract 1, 2002
13-2001	NOT USED						
14-2001	Pioneer Ridge Building Envelope Retrofit	0.00	0.00	0.00		Not T&W's	
15-2001	WPCP-VFD Equipment	147,937.32	289,541.52	-141,604.20	-95.72%	Complete	
16-2001	WPCP-Secondary Sewage Treatment Facilities	80,820.00	99,574.49	-18,754.49	-23.21%	Complete	
17-2001	110th Ave (Island Drive)Bridge	10,137,214.00	9,655,296.20	481,917.80	4.75%	Complete	
18-2001	Rehabilitation of Sanitary Sewers	435,123.53	461,525.21	-26,401.68	-6.07%	Complete	added sewer repairs-see report 2002.080
19-2001	WPCP-Transient Voltage Surge Equipment	87,662.52	90,540.02	-2,877.50	-3.28%	Complete	
1-2002	Pollution Prevention Control Plant	60,831,775.70	59,060,141.75	1,771,633.95	2.91%	Complete	added Nitrification and 5KV-see report 2004.086
							added Contingency see report 2003.226,2005.192 and 2006.148
2-2002	Asphalt Surface Rehabilitation	2,133,769.67	2,202,200.14	-68,430.47	-3.21%	Complete	quantity variations-see report 2003.008
3-2002	Asphalt Hot In Place Recycling Program	494,811.00	447,028.31	47,782.69	9.66%	Complete	
4-2002	Sidewalk Replacements and Traffic Signals	494,050.50	794,526.44	-300,475.94	-60.82%	Complete	Carrick& Harbour intersection added-see report 2002.256
5-2002	Miscellaneous Sewer and Watermain Construction	746,415.10	554,531.56	191,883.54	25.71%	Complete	Mapleward Road LI watermain deleted
6-2002	Simpson Street Bridge	2,189,091.00	2,313,320.46	-124,229.46	-5.67%	Complete	Temporary bridge added-see report 2002.320
7-2002	Water/Storm/Sanitary Separation-Edward St Area-Stage VI	735,985.00	682,028.00	53,957.00	7.33%	Complete	
8-2002	Hazelwood Water Storage Tank	1,994,000.00	1,951,631.00	42,369.00	2.12%	Complete	
9-2002	Neebing Avenue & Eleventh Avenue Road Reconstruction	1,532,955.06	1,602,016.43	-69,061.37	-4.51%	Complete	quantity variations-see report 2004.016
10-2002	Cleaning & Cement Mortar Lining of Cast Iron Watermains	1,023,745.00	942,447.00	81,298.00	7.94%	Complete	
11-2002	Rupert Street Storm Sewer - Stage II	303,191.87	289,301.85	13,890.02	4.58%	Complete	
12-2002	Rehabilitation of Sanitary Sewers	403,810.00	347,987.49	55,822.51	13.82%	Complete	
13-2002	NOT USED						
14-2002	John St Landfill Leachate Collection System Upgrades	320,800.00	353,480.03	-32,680.03	-10.19%	Complete	Secondary drains added-see report 2003.245
1-2003	Cumberland St Bridge over the Current River Rehabilitation	1,443,275.00	1,414,303.30	28,971.70	2.01%	Complete	
2-2003	Asphalt Surface Rehabilitation	2,543,338.25	2,440,543.52	102,794.73	4.04%	Complete	lein payments made to others
3-2003	Cleaning & Cement Mortar Lining of Cast Iron Watermains	1,134,510.00	964,347.87	170,162.13	15.00%	Complete	
4-2003	Sewer and Watermain Construction	1,709,441.00	1,643,031.12	66,409.88	3.88%	Complete	
5-2003	Bascule Bridge Demolition	888,000.00	794,289.79	93,710.21	10.55%	Complete	
6-2003	Sidewalk Replacement, Street Lighting & Local Improvement	1,070,194.96	1,087,520.10	-17,325.14	-1.62%	Complete	quantity variations- see report 2005.002
7-2003	Asphalt Hot In Place Recycling Program	487,602.00	486,954.86	647.14	0.13%	Complete	lein payments made to others, pending deficiency correction
8-2003	Oliver Road Reconstruction	1,268,333.90	1,320,471.41	-52,137.51	-4.11%	Complete	quantity variations-see report 2004.062
9-2003	Sewer and Watermain Construction - McKellar Ward	728,493.50	764,479.24	-35,985.74	-4.94%	Complete	quantity variations-see report 2004.061
10-2003	East End Infrastructure Improvements	732,563.00	718,456.22	14,106.78	1.93%	Complete	
11-2003	Broadway Avenue Booster Pumping Station	1,345,794.39	1,312,443.21	33,351.18	2.48%	Complete	
12-2003	Golf Links Sanitary Sewer Extension	397,590.00	389,881.50	7,708.50	1.94%	Complete	
13-2003	NOT USED						
14-2003	Rehabilitation of Sanitary Sewers	512,314.00	452,975.20	59,338.80	11.58%	Complete	
15-2003	Bare Point Water Treatment Plant Upgrade	46,907,219.98	46,237,749.09	669,470.89	1.43%	Complete	elevator,high lift pump,fencing added-see report 2005.005
							Cont added- Report 2006.147, Mediation Settlement 2007ER.009
16-2003	Cathodic Protection Watermains	238,500.00	274,947.00	-36,447.00	-15.28%	Complete	PO extended by MM authority

17-2004	Arthur Street Reconstruction	1,419,141.77	1,426,734.53	-7,592.76	-0.54%	Complete	various extra contract items-see report 2004.245
1-2004	Asphalt Surface Rehabilitation	1,571,747.90	1,574,555.85	-2,807.95	-0.18%	Complete	
2-2004	Van Norman Street Reconstruction	913,665.00	871,681.10	41,983.90	4.60%	Complete	
3-2004	6th Ave Overpass Reconstruction	1,263,825.20	1,193,316.55	70,508.65	5.58%	Complete	
4-2004	Southward Storm Sewer	970,960.00	1,035,310.38	-64,350.38	-6.63%	Complete	Harold st added (storm, s/w, paving) -see report 2005.058
5-2004	Bay Street area Reconstruction	1,298,318.60	1,310,971.84	-12,653.24	-0.97%	Complete	Trees added,spall s/w repair
6-2004	Sidewalk Replacements and Traffic Signals	712,113.00	604,422.55	107,690.45	15.12%	Complete	
7-2004	Edward/Tarbutt Stage VII Storm Separation	512,135.00	465,766.72	46,368.28	9.05%	Complete	
8-2004	Low Lift Pump	357,119.52	114,901.68	242,217.84	67.83%	Complete	Accessary equipment prepurchased by City-deleted from contract
9-2004	East End Stage IV Storm Separation	398,025.00	378,621.35	19,403.65	4.87%	Complete	
10-2004	Hot in Place Asphalt Surface Rehabilitation	325,825.98	296,861.31	28,964.67	8.89%	Complete	
11-2004	Rockcliff Reservoir	10,364,000.00	10,668,804.84	-304,804.84	-2.94%	Complete	Contingency added-See Reports 2006.050 & 2006.142
12-2004	Oliver Road Reconstruction (Stage II)	1,193,551.90	1,105,949.80	87,602.10	7.34%	Complete	Top paving lift deffered pending Flying J
13-2004	NOT USED						
14-2004	Rehabilitation of Sanitary sewers	475,209.47	385,289.00	89,920.47	18.92%	Complete	
15-2004	Kaministiquia River watermain Crossing @Hwy 61	929,375.25	929,375.25	0.00	0.00%	Complete	Lump Sum contract
16-2004	Hazelwood Drain	189,790.00	184,273.96	5,516.04	2.91%	Complete	
17-2004	CSO Regulator Replacement	126,915.00	118,224.00	8,691.00	6.85%	Complete	Awarded by PO
18-2004	Hwy 61 Rockcliff Reservoir Water Supply	3,069,651.25	2,925,277.70	144,373.55	4.70%	Complete	
1-2005	Asphalt Surface Rehabilitation	1,823,190.80	1,896,551.79	-73,360.99	-4.02%	Complete	quantity variations see Report 2006.014
2-2005	Golf Links Trunk sewer Stage II	769,060.60	767,265.30	1,795.30	0.23%	Complete	
3-2005	Cement Mortar Lining	1,385,446.90	1,383,246.00	2,200.90	0.16%	Complete	
4-2005	Edward/Tarbutt- Storm Sewer Separation- Stage IX	1,482,245.00	1,482,245.00	0.00	0.00%	Complete	
5-2005	Supply and Commiss of Ultra Violet Light Disinfection Equip					Not Tendered	
6-2005	Supply and Commissioning of Cogeneration Equip					Not Tendered	
7-2005	Dawson Street & Camelot Street Reconstruction	1,445,219.60	1,341,119.53	104,100.07	7.20%	Complete	
8-2005	James Street @ Kaministiquia River Watermain Crossing	891,400.00	847,409.49	43,990.51	4.93%	Complete	
9-2005	Sidewalks and Traffic Signals	778,828.50	665,478.41	113,350.09	14.55%	Complete	
10-2005	Watermain Replacement	1,569,627.00	1,564,606.97	5,020.03	0.32%	Complete	
11-2005	Syndicate Avenue Reconstruction	2,903,538.70	2,817,598.05	85,940.65	2.96%	Complete	Additional block added- see Report 2006.078
12-2005	Storm Sewer Construction	570,297.50	543,689.94	26,607.56	4.67%	Complete	
13-2005	NOT USED						
14-2005	Fire Protection Upgrades- Various Buildings	268,260.20	261,613.00	6,647.20	2.48%	Complete	
1-2006	Asphalt Surface Rehabilitation	1,793,402.06	1,674,882.11	118,519.95	6.61%	Complete	
2-2006	Sidewalks and Traffic Signals	1,034,654.00	1,043,923.23	-9,269.23	-0.90%	Complete	quantity variations- see report 2007.045
3-2006	Westfort storm Sewers	1,121,379.50	1,119,994.70	1,384.80	0.12%	Complete	
4-2006	Sewer and Water Replacement	2,559,402.00	2,531,447.98	27,954.02	1.09%	Complete	
5-2006	CSO Outfall Gate Replacement	243,400.00	226,599.94	16,800.06	6.90%	Complete	
6-2006	Storm sewer Construction	1,346,560.50	1,297,382.85	49,177.65	3.65%	Complete	
7-2006	John St Landfill- Waste Transfer Equipment	292,385.78	0.00	N/A		Assigned	Contract assigned to Cont 9, 2007 as per novation agreement
8-2006	John St Landfill- Weigh Scales	218,977.57	0.00	N/A		Assigned	Contract assigned to Cont 9, 2007 as per novation agreement
9-2006	Watermain Replacement	1,143,165.00	1,027,317.50	115,847.50	10.13%	Complete	
10-2006	John St Landfill -Vehicle Wash Equipment	172,332.56	17,273.49	155,059.07	89.98%	Cancelled	Contract cancelled-settlement costs posted
11-2006	Vickers street Bridge Rehabilitation	1,113,213.00	1,136,188.03	-22,975.03	-2.06%	Complete	Quantity variations-see Report 2007.152
12-2006	Asphalt Surface Rehabilitation-Extended program	4,041,073.05	4,094,303.83	-53,230.78	-1.32%	Complete	Albany wm 2007.042,Clavet st added 2007.127,quant var 2008.005
13-2006	NOT USED						
14-2006	Rehabilitation of Sanitary Sewers	570,000.00	433,737.92	136,262.08	23.91%	Complete	
15-2006	Broadway Avenue Realignment	1,418,085.75	1,453,768.69	-35,682.94	-2.52%	Complete	Quantity Variations-see Report 2008.164
16-2006	Oliver Road Reconstruction	2,422,455.79	2,723,179.20	-300,723.41	-12.41%	Complete	Quantity Variations-see Report 2007.007
17-2006	Intercity Drainage Phase I	2,455,723.20	2,428,269.93	27,453.27	1.12%	Complete	
18-2006	Atlantic Ave WPCP-Supply of UV Disinfection Equip	62,523.36	62,523.26	0.10	0.00%	Reassigned	Original amount revised through novation to Contact 7, 2007
19-2006	Atlantic Ave WPCP-Supply of Biogas Cogeneration Equip	679,972.85	679,972.85	0.00	0.00%	Reassigned	Original amount revised through novation to Contact 7, 2007
1-2007	Asphalt Surface Rehabilitation	3,872,862.43	3,829,538.36	43,324.07	1.12%	Complete	
2-2007	Sidewalks and Street Lighting	601,345.30	566,838.18	34,507.12	5.74%	Complete	
3-2007	Watermain Relining	1,329,680.00	1,323,599.00	6,081.00	0.46%	Complete	
4-2007	May Street Reconstruction	2,344,901.90	2,392,311.40	-47,409.50	-2.02%	Complete	Quantity Variations-see Report 2008.036

5-2007	Ontario Street and Van Norman Street Reconstruction	2,239,514.45	2,240,932.00	-1,417.55	-0.06%	Complete	
6-2007	Sewer and Watermain Replacement	845,541.00	793,490.00	52,051.00	6.16%	Complete	
7-2007	Atlantic Ave WPCP-UV & Cogen Construction	9,134,620.43	9,113,307.44	21,312.99	0.23%	Complete	Original Contract Price adjusted by novation payments
8-2007	Red River Road Reconstruction	1,512,970.00	1,536,582.10	-23,612.10	-1.56%	Complete	Quantity variations-see Report 2008.032
9-2007	John Street Landfill Site-New Entrance Facilities,Site Prep	4,456,436.93	4,760,579.81	-304,142.88	-6.82%	Complete	Contract Extension Report 2008.044,Quantity variation Report 2009.047
10-2007	John Street Construction	1,966,487.00	2,328,496.26	-362,009.26	-18.41%	Complete	Quantity variations-see report 2009.026
11-2007	Intercity Drainage Phase II	2,087,382.20	2,047,000.00	40,382.20	1.93%	Complete	
12-2007	John Street Landfill-East Cell Expansion	637,350.00	726,707.15	-89,357.15	-14.02%	Complete	Quantity Variations- see Report 2009.072
1-2008	Asphalt Surface Rehabilitation	3,222,178.50	3,096,507.00	125,671.50	3.90%	Complete	
2-2008	Sidewalks and Street lighting	784,773.80	782,963.05	1,810.75	0.23%	Complete	
3-2008	Rockwood Ave, Pearl St, Brown/Moodie	1,787,750.00	1,720,899.43	66,850.57	3.74%	Complete	
4-2008	Sewer and Water Replacement	1,655,094.00	1,624,776.10	30,317.90	1.83%	Complete	
5-2008	Sewer and Water Replacement 2	2,008,000.00	1,904,565.81	103,434.19	5.15%	Complete	
6-2008	Asphalt Surface Rehabilitation 2	3,021,068.69	3,246,933.02	-225,864.33	-7.48%	Complete	Quantity Variations-see Report 2009.028
7-2008	Cathodic Protection Watermains	216,940.00	179,220.00	37,720.00	17.39%	Complete	
8-2008	Belrose Bridge Replacement	915,590.00	899,921.09	15,668.91	1.71%	Complete	
9-2008	Rehabilitation of Sanitary Sewers	336,801.00	227,848.00	108,953.00	32.35%	Complete	
10-2008	Mapleward Road Culvert Installation	306,566.50	292,611.92	13,954.58	4.55%	Complete	
11-2008	Harbour Expressway Bridge Rehabilitation	1,192,651.00	1,191,149.92	1,501.08	0.13%	Complete	
12-2008	Main street Bridge-Pin Cap Repairs	29,034.00	29,034.00	0.00	0.00%	Complete	Lump Sum Contract
1-2009	Asphalt Surface Rehabilitation	3,076,153.75	2,945,644.69	130,509.06	4.24%	Complete	
2-2009	Sidewalks and Streetlighting	923,556.75	923,549.45	7.30	0.00%	Complete	PO extended with GM approval
3-2009	Sewer and Watermain Replacement	1,874,657.00	1,919,891.29	-45,234.29	-2.41%	Complete	Contract Variation Report 2010.167
4-2009	Road and Storm Sewer	2,742,633.20	2,615,573.81	127,059.39	4.63%	Complete	Contract Extension Report 2010.041- Arthur st asphalt
5-2009	Sewer and Watermain Replacement II	1,824,886.20	1,824,861.61	24.59	0.00%	Complete	
6-2009	Asphalt Surface Rehabilitation II	3,029,611.50	2,870,002.61	159,608.89	5.27%	Complete	
7-2009	Lisgar Street Reconstruction	786,965.15	760,000.00	26,965.15	3.43%	Complete	Contract Extension Report 2010.040-extra landscaping
8-2009	John Street Landfill- Landfill Gas Collection and Abstr Plant	3,451,560.36	3,547,398.70	-95,838.34	-2.78%	Complete	Contract Variation Report 2010.050
9-2009	Intercity Drainage- Phase III	1,029,983.48	1,029,983.48	0.00	0.00%	Complete	
10-2009	Darrel Ave- Watermain Replacement					Tender Postponed	
11-2009	Balmoral Street Bridge Rehabilitation	1,404,767.80	1,384,606.95	20,160.85	1.44%	Complete	
1-2010	Asphalt Surface Rehabilitation	3,412,326.05	3,294,078.65	118,247.40	3.47%	Complete	
2-2010	Sidewalks and Street Lighting	902,304.90	895,147.43	7,157.47	0.79%	Complete	
3-2010	Sewer and Watermain Replacement-North	1,661,440.00	1,509,720.81	151,719.19	9.13%	Complete	
4-2010	Sewer and Water Replacement-1	1,639,460.00	1,596,005.83	43,454.17	2.65%	Complete	
5-2010	Sewer and Water Replacement -II	1,867,555.00	1,865,779.30	1,775.70	0.10%	Complete	
6-2010	Rosslyn Road and Mountdale Avenue Reconstruction	2,236,755.50	2,200,865.84	35,889.66	1.60%	Compete	Contract extension report 2011.038-reinstate original tender limits
7-2010	Marks Street Siphon	238,250.00	237,470.00	780.00	0.33%	Complete	
8-2010	Duke Street Pumping Station	632,319.05	581,941.48	50,377.57	7.97%	Complete	
9-2010	Innovation Drive and Premier Way Extensions	1,345,844.10	1,560,502.95	-214,658.85	-15.95%	Complete	Contract variation report 2011.103
10-2010	Darrel Avenue- Watermain Replacement	567,800.00	531,184.87	36,615.13	6.45%	Complete	
11-2010	May Street Bridge Rehabilitation	939,091.00	872,018.33	67,072.67	7.14%	Complete	
12-2010	Ada Ave/Hazelwood Drive Culvert Replacements	109,818.00	97,276.00	12,542.00	11.42%	Complete	
14-2010	Sanitary Sewer Rehabilitation	419,390.00	361,952.30	57,437.70	13.70%	Complete	
15-2010	Island Drive Watermain Looping	1,272,600.00	1,272,600.00	0.00	0.00%	Complete	
1-2011	Asphalt Surface Rehabilitation	3,713,996.56	3,719,036.90	-5,040.34	-0.14%	Complete	
2-2011	Sidewalks and Streetlighting	1,179,980.25	1,194,000.00	-14,019.75	-1.19%	Complete	GM approval obtained
3-2011	Sewer and Water Replacement-North	2,131,077.50	2,093,046.30	38,031.20	1.78%	Complete	
4-2011	S & W Replacement- North II & Pressure Zone Boundary	1,781,150.00	1,781,040.71	109.29	0.01%	Complete	
5-2011	Walsh Street Area Reconstruction	1,926,418.00	2,013,353.45	-86,935.45	-4.51%	Complete	Contract variation report 2012.001
6-2011	Algoma Street and Brodie Street Reconstruction	2,123,830.00	2,027,882.67	95,947.33	4.52%	Complete	
7-2011	Kam Tunnel Crossings					Tender Postponed	
8-2011	Cleaning and Cement Mortar Lining	1,458,300.00	1,456,115.00	2,185.00	0.15%	Complete	
9-2011	James Street Bridge	1,413,470.53	1,415,342.17	-1,871.64	-0.13%	Complete	Final contractor claim denied
10-2011	Landfill Capping of East Cell	2,312,400.00	2,342,800.52	-30,400.52	-1.31%	Complete	Contract variation report 2012.141
11-2011	Intersection Improvements Valley/Pioneer and Rosslyn Road	1,138,566.00	1,179,746.72	-41,180.72	-3.62%	Complete	Contract variation report 2012.002

1-2012	Asphalt Surface Rehabilitation	2,417,136.30	2,407,784.78	9,351.52	0.39%	Complete	
2-2012	Sidewalks, Streetlighting and Traffic Signal Installation	919,243.00	990,770.99	-71,527.99	-7.78%	Complete	Contract variation report 2012.178
3-2012	Sewer and Watermain Replacement- South 1	2,809,089.00	2,723,903.34	85,185.66	3.03%	Complete	
4-2012	Sewer and Watermain Replacemenr-South 2	1,356,586.50	1,356,514.05	72.45	0.01%	Complete	
5-2012	Asphalt Surface Rehabilitation-2	2,944,852.21	2,799,091.59	145,760.62	4.95%	Complete	Contract rpt 2012.126 &2013.102-Neebing ave watermain/LI san sewer
6-2012	Algoma Street Reconstruction	2,085,725.00	2,035,269.50	50,455.50	2.42%	Complete	
7-2012	South Core Courthouse Area- Street Reconstruction	1,887,994.18	1,860,233.57	27,760.61	1.47%	Complete	
8-2012	Cleaning and Cement Mortar Lining of Watermains	1,572,370.00	1,565,400.00	6,970.00	0.44%	Complete	
9-2012	Golf Links Reconstruction- Phase I					Tender Postponed	
10-2012	Victor Street watermain- River crossing	664,000.00	664,000.00	0.00	0.00%	Complete	
11-2012	Kam Tunnel watermain tie ins	262,584.00	218,263.50	44,320.50	16.88%	Complete	
12-2012	Erosion Protection of landfill East cell	189,219.50	189,219.50	0.00	0.00%	Complete	
14-2012	Rural Bridge Replacement	178,019.00	163,173.30	14,845.70	8.34%	Complete	
15-2012	Landfill Capping- Phase II	1,850,065.00	1,859,256.81	-9,191.81	-0.50%	Complete	GM approval obtained
16-2012	Paquette Road Bridge Replacement	395,664.93	317,495.07	78,169.86	19.76%	Complete	
17-2012	St Paul Street Reconstruction	487,526.73	442,412.28	45,114.45	9.25%	Complete	
1-2013	Asphalt Surface Rehabilitation	4,077,814.50	4,009,034.95	68,779.55	1.69%	Complete	
2-2013	Sidewalks, Street Lighting & Traffic Signal Installation	1,014,542.59	968,189.80	46,352.79	4.57%	Complete	
3-2013	Frederica Street and Waterloo Street Reconstruction	2,209,223.06	2,261,776.35	-52,553.29	-2.38%	Complete	Contract variation report 2014.001
4-2013	Sewer and Watermain Replacement I	1,589,143.50	1,585,496.18	3,647.32	0.23%	Complete	
5-2013	Asphalt Surface Rehabilitation -2	2,497,596.75	2,453,572.00	44,024.75	1.76%	Complete	
6-2013	Sewer and Watermain Replacement-2	1,464,409.00	1,464,263.95	145.05	0.01%	Complete	
7-2013	Golf Links Road/Junot Avenue Improvements-Stage I	6,096,856.38	6,953,918.35	-857,061.97	-14.06%	Complete	Contract variation report 2014.032
8-2013	Watermain Replacement- Beverly street	1,406,801.50	1,379,667.43	27,134.07	1.93%	Complete	
9-2013	Cement Mortar lining	1,199,670.00	1,186,444.00	13,226.00	1.10%	Complete	
10-2013	Bare Point Watermain-Phase I	1,071,180.00	1,071,154.69	25.31	0.00%	Complete	
11-2013	Northwood Storm Sewer & Watermain	1,083,310.70	952,437.60	130,873.10	12.08%	Complete	
12-2013	McKellar Island -Watermain river crossing	433,500.00	433,500.00	-	0.00%	Complete	
14-2013	Marina Park Pedestrian Overpass-Architechural Upgrade	358,431.14	359,763.52	-1,332.38	-0.37%	Complete	
15-2013	Cameron Street Bridge Reconstruction	1,184,871.00	1,200,954.00	-16,083.00	-1.36%	Complete	Contract variation report 2013.178
16-2013	Boulevard Lake Dam Rehabilitation			-		Tendered but not awarded	
17-2013	Cathodic Protection of Watermains	136,420.00	127,820.00	8,600.00	6.30%	Complete	
18-2013	Atlantic Ave WPCP-Headworks Bypass Channel	1,788,617.36	1,712,282.22	76,335.14	4.27%	Complete	
	Atlantic Ave WPCP-Diesel Fuel System Upgrade	501,358.83	501,358.83	-	0.00%	Complete	Contract extension awarded by Legal services
19-2013	Atlantic Ave WPCP- Turbo Blower Installation	1,498,915.23	1,506,836.73	-7,921.50	-0.53%	Complete	GM approval obtained
1-2014	Asphalt Surface Rehabilitation	3,324,305.55	2,998,981.65	325,323.90	9.79%	Complete	
2-2014	Sidewalks, Street Lighting & Traffic Signal Installation	1,224,333.07	1,110,258.81	114,074.26	9.32%	Complete	
3-2014	Arthur Street Area Reconstruction	2,152,495.51	2,078,327.15	74,168.36	3.45%	Complete	
4-2014	May Street Reconstruction-(Stage I)	1,966,498.00	1,919,425.14	47,072.86	2.39%	Complete	
5-2014	Asphalt Surface Rehabilitation 2	2,210,478.40	2,210,478.28	0.12	0.00%	Complete	
6-2014	Sewer & watermain Replacement 1	1,598,448.00	1,598,281.85	166.15	0.01%	Complete	
7-2014	Golf Links Road Reconstruction-Stage 2A	5,237,532.00	5,000,355.28	237,176.72	4.53%	Complete	
8-2014	Cement Mortar lining	1,370,900.00	1,370,900.00	0.00	0.00%	Complete	
9-2014	Sewer & Watermain II	1,944,878.00	1,884,571.34	60,306.66	3.10%	Complete	
10-2014	Northwood Relief Storm Sewer	1,268,115.00	1,238,759.78	29,355.22	2.31%	Complete	
11-2014	Sanitary Sewer Replacement					Tendered but not awarded	
12-2014	Valley Street Reconstruction	2,199,543.33	2,256,147.05	-56,603.72	-2.57%	Complete	Contract variation report 160/2015
14-2014	Golf Links Road- Pedestrian Bridges					Tendered but not awarded	
15-2014	Boulevard Lake Dam Rehabilitation					Tendered but not awarded	
16-2014	Extension to Existing East cell Landfill Gas Collection	346,975.00	325,475.00	21,500.00	6.20%	Complete	
17-2014	Rehabilitation of Court Steet Bridge	1,627,055.50	1,728,169.79	-101,114.29	-6.21%	Complete	Contract variation report R4/2015
1-2015	Asphalt Surface Rehabilitation	4,297,144.27	4,185,136.62	112,007.65	2.61%	Complete	
2-2015	Sidewalks & Traffic Signal Rehabilitation	1,345,223.38	1,308,077.55	37,145.83	2.76%	Complete	
3-2015	Mary street & Westfort Storm sewer Laterals	1,711,495.60	1,681,753.77	29,741.83	1.74%	Complete	
4-2015	May street Reconstruction-(Stage II)	2,358,696.50	2,329,993.00	28,703.50	1.22%	Complete	
5-2015	Asphalt Surface Rehabilitation 2	2,601,326.78	2,472,626.76	128,700.02	4.95%	Complete	

6-2015	Sewer & Water I	1,863,119.80	1,863,080.61	39.19	0.00%	Complete	
7-2015	Golf Links Road Reconstruction- Stage 2B	3,438,380.00	3,437,345.00	1,035.00	0.03%	Complete	
8-2015	Cleaning & Cement Mortar Lining of Cast Watermains	1,297,450.00	1,297,450.00	0.00	0.00%	Complete	
9-2015	Northwood- Watermain & Storm Sewer	1,853,274.00	1,708,109.83	145,164.17	7.83%	Complete	
10-2015	Cumberland Street Reconstruction					Tendered but not Awarded	
11-2015	Trunk Watermain Replacement- Parking lot to MacDougall	1,613,772.00	1,611,281.76	2,490.24	0.15%	Complete	
12-2015	Sanitary and Storm Sewer	1,873,400.50	1,712,796.00	160,604.50	8.57%	Complete	
14-2015	Boulevard Lake Dam Rehabilitation					Tendered but not Awarded	
15-2015	Watermain Connections-Victor st and Riverdale rd	163,785.00	161,892.00	1,893.00	1.16%	Complete	
16-2015	Chamberlain Pumping Station Upgrades	1,858,643.90	1,865,593.00	-6,949.10	-0.37%	Complete	Environment Director approved
17-2015	Cathodic Protection of Watermains	157,400.00	136,310.00	21,090.00	13.40%	Complete	
1-2016	Asphalt Surface Rehabilitation 1	3,036,142.00	2,920,138.57	116,003.43	3.82%	Complete	Report 50/2016 added streets for paving
2-2016	Sidewalks, Street Lighting and Traffic Signal Rehabilitation	859,523.15	815,407.12	44,116.03	5.13%	Complete	
3-2016	Cumberland Street Reconstruction	2,847,285.10	2,842,791.42	4,493.68	0.16%	Complete	
4-2016	Sewer and Water 1	2,578,482.00	2,576,752.14	1,729.86	0.07%	Complete	
5-2016	Asphalt Surface Rehabilitation II	2,696,761.57	2,695,577.19	1,184.38	0.04%	Complete	
6-2016	Sewer and Watermain- Westfort Ward Area	3,077,369.50	3,074,331.54	3,037.96	0.10%	Complete	
8-2016	Cement Mortar Lining	1,324,025.00	1,323,300.00	725.00	0.05%	Complete	
9-2016	Sewer and Water II	1,817,773.00	1,601,949.93	215,823.07	11.87%	Complete	
10-2016	Northwood Area Storm Sewer	1,371,233.00	1,371,789.64	-556.64	-0.04%	Complete	
11-2016	Balmoral Street Reconstruction-Phase 1	3,563,741.70	3,561,199.17	2,542.53	0.07%	Complete	
12-2016	Pressure Zone Conversion-Sewer and Water III	377,955.00	377,955.00	0.00	0.00%	Complete	
14-2016	Thunder Bay Waterfront- South of Pearl st Parking Lot	1,439,470.80	1,526,364.42	-86,893.62	-6.04%	Complete	Report 45/2018-quantity variations & extra work
15-2016	Landfill Gas Extension	321,659.00	371,304.87	-49,645.87	-15.43%	Complete	Emergency valve repair added cost
1-2017	Asphalt Surface Rehabilitation I	4,323,505.25	3,843,972.02	479,533.23	11.09%	Complete	
2-2017	Sidewalks and Trails	1,106,467.25	1,006,422.00	100,045.25	9.04%	Complete	
3-2017	Court and Banning street Reconstruction	2,438,247.50	2,229,367.15	208,880.35	8.57%	Complete	
4-2017	Sewer and Water Replacement I	1,196,648.55	1,118,896.42	77,752.13	6.50%	Complete	
5-2017	Asphalt Surface Rehabilitation II	3,360,383.25	3,276,330.12	84,053.13	2.50%	Complete	
6-2017	Crescent Ave Reconstruction and Empress Ave Storm Relief	1,943,634.00	2,441,182.47	-497,548.47	-25.60%	Complete	Storm sewer extended limits & quantity varations- see report 106/2018
7-2017	High Street Retaining Wall	2,144,740.00	2,263,228.19	-118,488.19	-5.52%	Complete	GM Finace approved-lame duck Council
8-2017	Cleaning and Cement Mortar Lining of Cast Iron Watermains	1,319,700.00	1,319,185.00	515.00	0.04%	Complete	
9-2017	Central Ave and First ave Watermain Replacement	1,149,283.00	1,098,926.09	50,356.91	4.38%	Complete	
10-2017	McKellar Ward Road Construction and Storm Separation	3,864,705.00	3,700,453.31	164,251.69	4.25%	Complete	
11-2017	Cathodic Protection	134,700.00	159,050.00	-24,350.00	-18.08%	Complete	Surplus water rate funds transfered from previous year (2015) contract
12-2017	Northwood Area Storm Sewer	2,095,391.00	2,110,410.01	-15,019.01	-0.72%	Complete	Final price amended by Rate Stabilization account resolution
14-2017	Wardrop Ave Reconstruction	1,157,955.20	1,157,955.20	0.00	0.00%	Complete	
15-2017	Green Infrastructure- Low Impact Development Facilities					Tender Postponed	
16-2017	Black Bay Road- Trunk Watermain	877,140.00	864,370.24	12,769.76	1.46%	Complete	
17-2017	Waterfront Habitat Pond-Storm Water Treatment					Tendered but not Awarded	
18-2017	Briarwood Drive Culvert Replacement	470,792.00	487,187.50	-16,395.50	-3.48%	Complete	GM approved-no report submitted
1-2018	Asphalt Surface Rehabilitation 1	3,643,231.70	3,332,602.94	310,628.76	8.53%	Complete	
2-2018	Sidewalks and Traffic Control	720,500.01	687,656.66	32,843.35	4.56%	Complete	Oliver rd sidewalk did not proceed
3-2018	Edward Street and Court Street Reconstruction	1,855,926.25	1,695,937.72	159,988.53	8.62%	Complete	
4-2018	Storm Sewer Separation	1,533,333.70	1,493,796.99	39,536.71	2.58%	Complete	
5-2018	Asphalt Surface Rehabilitaion II	2,425,470.00	2,344,079.57	81,390.43	3.36%	Complete	
6-2018	Empress Avenue Reconstruction- Phase II					Tendered but not Awarded	
7-2018	Main Street Bridge Rehabilitation	4,925,103.00	4,848,688.25	76,414.75	1.55%	Complete	
8-2018	Cleaning and Cement Mortar Lining of Cast Iron watermains	1,413,050.00	1,412,928.15	121.85	0.01%	Complete	
9-2018	Sewer and Water	1,919,980.50	1,918,223.83	1,756.67	0.09%	Complete	
10-2018	Cathodic Protection					Tender postponed	
11-2018	Marion Street Trunk Watermain Replacement					Tender postponed	
12-2018	Green Infastructure Stormwater Faciliites					Tender postponed	
14-2018	Intercity Priority Storm Sewer					Tender postponed	
15-2018	Thunder Bay Waterfront Site Development	1,413,186.00	1,274,732.33	138,453.67	9.80%	Complete	
16-2018	Marina Market Square Parking area & Drainage Improvements					Tender postponed	

18-2018	Bare Point Road Reconstruction	153,712.70	131,650.85	22,061.85	14.35%	Complete	
1-2019	Asphalt Surface Rehabilitation I	3,761,783.83	3,678,477.46	83,306.37	2.21%	Complete	
2-2019	Sidewalks and Traffic Control	785,299.23	791,906.01	-6,606.78	-0.84%	Complete	GM approved-no report submitted
3-2019	Watermain Replacement Reconstruction	2,222,899.50	2,106,219.29	116,680.21	5.25%	Complete	
4-2019	Syndicate Avenue Storm Sewer and Watermain	1,685,356.00	1,669,365.10	15,990.90	0.95%	Complete	
5-2019	Asphalt Rehabilitation II	2,633,875.00	2,527,059.61	106,815.39	4.06%	Complete	
6-2019	Empress Avenue Reconstruction- Phase II	2,346,028.50	2,141,000.00	205,028.50	8.74%	Complete	
7-2019	Golf Links/Junot Avenue Improvements-Stage III	3,579,398.90	3,300,011.76	279,387.14	7.81%	Complete	
8-2019	Cleaning and Cement mortar lining of Cast iron watermains	1,787,550.00	1,786,185.00	1,365.00	0.08%	Complete	
9-2019	Storm Sewer Separation	1,522,939.75	1,521,215.30	1,724.45	0.11%	Complete	
10-2019	Green Infrastructure/Stormwater Facilites					Tender Postponed	
11-2019	Boulevard Lake Dam Rehabilitation					Tender Postponed- carry forward to 2020	
12-2019	Landfill Leachate Collection-East Cell Extension- Phase I	885,188.50	788,373.76	96,814.74	10.94%	Complete	
1-2020	Asphalt Surface Rehabilitation I	4,201,573.75	4,201,573.75	0.00	0.00%	In Progress	
2-2020	Sidewalks and Traffic Control	1,263,288.50	1,219,807.50	43,481.00	3.44%	Complete	County Blvd s/w removed from contract and deferred to 2021
3-2020	Sewer and Water II	3,107,213.00	3,107,213.00	0.00	0.00%	In Progress	
4-2020	Syndicate Avenue and Brodie Street Sewer & Watermain	3,927,776.55	3,929,114.88	-1,338.33	-0.03%	Complete	GM approval obtained
5-2020	Asphalt Rehabilitation II	2,258,642.05	2,258,642.05	0.00	0.00%	In Progress	
6-2020	Tupper/Amelia Street Reconstruction	3,244,424.88	3,244,424.88	0.00	0.00%	In Progress	
7-2020	Balmoral street Reconstruction-Stage 2	4,864,866.90	4,864,866.90	0.00	0.00%	In Progress	
8-2020	Cleaning and Cement Mortar Lining of Cast Iron Watermains	2,435,495.00	2,435,495.00	0.00	0.00%	Complete	revised orig price 2021-3year outline agreement- K Dixon memo June 7,2021
9-2020	Sewer & Water	2,540,130.75	2,540,130.75	0.00	0.00%	In Progress	
10-2020	Green Infrastructure-Storm Water Facilities					Tender Postponed- COVID cost saving	
11-2020	Boulevard Lake Dam Rehabilitation	6,404,675.90	6,404,675.90	0.00	0.00%	In Progress	
12-2020	NOT USED						
14-2020	Multi-Use Trails & Electrical Work	1,184,637.50	1,184,637.50			In Progress	
15-2020	Marina Park Pedestrian Overpass Rehabilitation	1,169,144.30	1,169,144.30	0.00	0.00%	In Progress	
		\$555,113,760.88	\$546,531,662.22	\$8,582,098.66			

MEETING DATE 06/07/2021 (mm/dd/yyyy)

SUBJECT Petition – Request to Re-Surface Jewell Street

SUMMARY

Memorandum from Ms. K. Power, City Clerk, dated May 13, 2021 attaching a petition containing twenty-one signatures relative a request to re-surface Jewell Street, for information.

Memorandum from Ms. K. Dixon, Director - Engineering & Operations, dated May 21, 2021, relative to the above noted, for information.

ATTACHMENTS

- 1 K Power memo dated May 13 2021
- 2 K Dixon memo dated May 21 2021

Memorandum

Office of the City Clerk
Fax: 623-5468
Telephone: 625-2230

TO: Mayor & Council

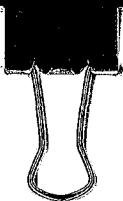
FROM: Krista Power, City Clerk

DATE: May 13, 2021

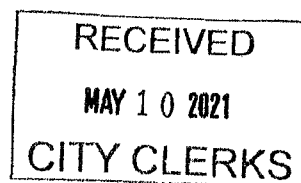
SUBJECT: Petition – Request to Re-Surface Jewell Street
Committee of the Whole – June 7, 2021

The attached petition was received by the Office of the City Clerk relative to condition of Jewell Street and request from residents to re-surface the road. The petition meets the requirements of the Petition Policy 03-03-13 and includes 21 signatures.

An acknowledgement letter has been sent to the head petitioner advising that the petition will be included in the Committee of the Whole agenda for June 7, 2021. The petition has also been forwarded to Engineering & Operations for their review.



Office of the City Clerk
City Hall
500 Donald Street East
Thunder Bay, ON
P7C 5K4



May 5th, 2021

Good day,

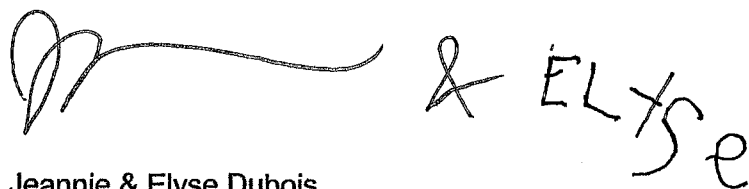
Please find attached a package of signed letters from the residents of Jewell Street requesting a new road be put in during road work season this year.

It is our sincerest hope that you will follow through on this request. As many of the letters from the residents' state, this has been an ongoing issue for several years which has had promises of resolution with no follow through.

I will contact your office by the end of the month to see if you are able to rectify the situation.

Thank you for your thoughtful consideration of this matter.

Obliged,



Jeannie & Elyse Dubois
39 Jewell Street



Engineering Division

Tel: (807) 625-3022

Fax: (807) 625-3588

MEMORANDUM

TO: Krista Power, City Clerk
FROM: Kayla Dixon, Director Engineering and Operations
DATE: May 21, 2021
RE: Response to Petition to Repave Jewell Street
Committee of the Whole – June 7, 2021

Jewell Street is not in the short term forecast for renewal, but Engineering is aware of the deteriorated condition. This street, as well as many other residential streets, requires full reconstruction. As part of the City's Asset Management Plan, the pavement management system prioritizes less expensive rehabilitation projects on arterials and collectors with high traffic volumes which provide benefit to many more citizens over expensive residential street reconstruction projects. When the network wide pavement conditions and pavement asset management plan were last reviewed, Engineering recommended to Council that annual pavement funding levels be set at \$12M plus an additional one million dollars a year to be able to address residential reconstruction requirements. Pavement rehabilitation funding levels have not met the amount recommended in the asset management plan since the plan has been in place and in 2021 are approximately \$9M.

Administration will be bringing an Asset Management Plan Update report to Council this summer that will identify the infrastructure funding gap for the Corporation's core assets and next steps in developing the Plan.

KD

Copy to: Norm Gale, City Manager
Kerri Marshall, GM Infrastructure & Operations

Corporate Report

DEPARTMENT/ DIVISION	Community Services - Facilities, Fleet & Energy Management	REPORT NO.	R 63/2021
DATE PREPARED	05/06/2021	FILE NO.	
MEETING DATE	06/07/2021 (mm/dd/yyyy)		
SUBJECT	Expansion of Police/Fire Public Safety Radio System to include Transit		

RECOMMENDATION

WITH RESPECT to Report R 63/2021 (Community Services - Facilities, Fleet & Energy Management), we recommend the purchase of Radio equipment in 2021 from Harris Canada System Inc. of Mississauga Ontario in the amount of \$ 497,500.00 (inclusive of HST and Contingency);

AND THAT City Council approve the use of the negotiated method of procurement as outlined in Sections 4.08 and 4.09 of the Supply Management By-law No. 113-2011 to procure the radio equipment;

AND THAT the General Manager – Community Services report any circumstances to City Council should significant variations in contract values occur as the work proceeds;

AND THAT the Manager – Supply Management be authorized to issue any purchase orders related to this tender;

AND THAT the Mayor and Clerk be authorized to sign all documentation related to these matters;

AND THAT any necessary by-laws be presented to City Council for ratification.

EXECUTIVE SUMMARY

The report recommends Harris Canada Inc. be selected as a single source provider of radio equipment for the expansion of the existing Police/Fire Public Safety Radio System (PSRS) to include Thunder Bay Transit.

In 2016 Council approved the procurement and installation of a new Public Safety Radio System provided by Harris Canada Inc. for Thunder Bay Police and Thunder Bay Fire and Rescue. The system was purchased with the intent of integrating radio systems from other sections of the Corporation.

The 2019 Capital budget includes funding for the purchase and installation of new radio equipment for Thunder Bay Transit and Lift +. The budget for the new radio equipment was based on integrating Transit into the PSRS.

The supply and installation of the new radio equipment is estimated to be \$497,500.00. The Supply Management Division is supportive of using the negotiated method to supply and install the new radio equipment.

As this is a proposed single source contract, Council approval is required under the Supply Management By-Law No. 113-2011 to award a contract using the negotiated method of procurement.

DISCUSSION

The 2019 approved Facilities, Fleet and Energy Management Capital Budget includes funding to replace the current Transit and Lift + Radio systems and integrate it into the PSRS.

The new PSRS was procured and designed with the intent of integrating additional municipal radio systems into it. Transit will be the first to be added to the PSRS. With additional sections being planned and added in the coming years.

In 2014, Lift + was brought in-house and became part of Transit Services. In order to facilitate communications with Lift + Operators, a second radio system was pieced into the then 20 plus year old Transit Radio system. As a result, in order to communicate with staff, Transit is operating two separate radio systems.

The two systems have a combined total of 77 mobile radios and 14 portable radios. The two radio systems operate through two separate dispatch consoles and repeater towers located on Mt. McKay. Clear, concise and uninterrupted radio communications are paramount to Transit Operations and Transit Operator safety. Transit operations experience frequent downtime and lost communications with the existing radio system. The inconsistent communications puts both the public and Transit Operators at risk in the event of an emergency.

The work includes consolidating two separate transit radio systems into a singular system integrated into the PSRS. When expanding the existing PSRS it is vitally important that the integrity of the system be protected. Sensitive information that is communicated through the system and housed by Thunder Bay Police on the system must not be breached. The previously chosen vendor of the Police/Fire Public Safety System, Harris Canada is fully vetted, approved and under contract to access, expand, and maintain the PSRS.

Administration is recommending the negotiated method of procurement for this project for the following reasons:

- the confidential nature of the PSRS
- original vendor is being recommended to complete the integration
- current maintenance contract is in place
- original system was designed for expansion
- builds on an existing proven system resulting in a lower cost than installing a secondary independent system.

The Supply Management Division is supportive of using the negotiated method to procure the new radio equipment.

In accordance with Sections 4.08 and 4.09 of the Supply Management By-law No. 113-2011, Council approval is required when the value of goods procured through the negotiation method exceeds \$60,000.00.

FINANCIAL IMPLICATION

Facilities, Fleet and Energy Management approved Capital Budget includes sufficient funding to replace the current Transit and Lift + Radio systems and integrate it into the PSRS.

Cost identified below is inclusive of HST:

Estimated Cost to Supply radio equipment	\$ 452,300.00
Project Contingency	<u>\$ 45,200.00</u>
Total Cost	\$ 497,500.00
HST Rebate	<u>\$ (49,486.10)</u>
Net Cost	<u>\$ 448,013.90</u>

Administration is recommending that a project contingency of \$45,200.00 inclusive of HST be included; the contingency shall not be expended without proper authorization by City Administration as set out in the terms of the procurement documents.

CONCLUSION

It is concluded that the purchase of Radio equipment in 2021 from Harris Canada System Inc. of Mississauga Ontario in the amount of \$ 497,500.00 (Inclusive of HST and Contingency) be approved.

It is also concluded that City Council approve the use of the negotiated method of procurement as outlined in Sections 4.08 and 4.09 of the Supply Management By-law No. 113-2011 to procure the radios and installation.

BACKGROUND

None

REFERENCE MATERIAL ATTACHED:

NONE

PREPARED BY: DOUG GLENA, MANAGER – FLEET SERVICES

THIS REPORT SIGNED AND VERIFIED BY: (NAME OF GENERAL MANAGER)	DATE:
Kelly Robertson, General Manager, Community Services	May 26, 2021

Corporate Report

DEPARTMENT/ DIVISION	Community Services	REPORT NO.	R 82/2021
DATE PREPARED	05/21/2021	FILE NO.	
MEETING DATE	06/07/2021 (mm/dd/yyyy)		
SUBJECT	Green & Inclusive Community Buildings (GICB) Program		

RECOMMENDATION

WITH RESPECT to Report R 82/2021 (Community Services and Infrastructure and Operations), we recommend that the submission of applications to the Green and Inclusive Community Buildings (GICB) Program be approved as outlined in this Report;

AND THAT any necessary by-laws be presented to City Council for ratification.

EXECUTIVE SUMMARY

The purpose of this report is to provide information and recommendations regarding the Green and Inclusive Community Buildings (GICB) Program announced by Infrastructure Canada in April 2021. The report includes a summary of information gathered to date on this new funding program and is seeking Council approval on the proposed candidate projects and their prioritization to be submitted through the Small/Medium Retrofit Stream and the submission of one candidate application under the Large Retrofit/New Build Stream. Administration will update Council as to the outcome of all applications.

DISCUSSION

On April 14, 2021, the Federal Government (Infrastructure Canada) announced a new funding program – the ‘Green and Inclusive Community Buildings Program’ to support green and inclusive community buildings through retrofits, repairs, upgrades, and new builds. As part of the Strengthened Climate Plan, the program will deliver \$1.5 billion in funding over the next five years to projects that improve the places where Canadians gather, access services, and connect with others in the community, while saving energy, cutting pollution, and offering thousands of good jobs.

The program will invest in projects that meet a minimum threshold for energy efficiency improvements and that increase social inclusion in under-served and high-needs communities across Canada.

The GICB Program has two key funding streams:

- i. Retrofit (\$860M available nationwide) – Repairs, Upgrades to Existing Community Buildings (ie. community culture/recreation facilities, mobile community structures, community health/wellness facilities – ie. mental health/addiction, green retrofit):
 - a. Small/Medium Retrofit – Small projects having eligible project costs (\$100K - \$250K); Medium projects having eligible project costs (\$250K - \$3M). Funding applications will be accepted through continuous intake on a first come, first served basis until funding is exhausted. Projects must meet eligibility requirements and a minimum merit threshold. There are no limits to the number of applications that an applicant can submit, however, the applicant is asked to prioritize projects.
 - b. Large Retrofit – Eligible project costs (\$3M - \$25M) – competitive evaluation process, scheduled deadline for submission of applications July 6, 2021.
- ii. New Build (\$430M available nationwide) – up to \$3M - \$25M funding available for eligible project costs – competitive evaluation process, scheduled deadline for submission of applications July 6, 2021.

The upset limit of the GICB contribution will range from 50% - 80% of eligible project costs depending on the total project cost and funding stream.

Merit/evaluation criteria for retrofit projects include:

- Project start date – the earlier the project start date, the better; projects must be completed by March 2026
- Need – project's capacity to meet the needs for under-served communities
- Accessibility – project must exceed highest standards for accessibility
- Greenhouse Gas (GHG) Reduction – the greater the reduction in GHGs, the better
- Energy Efficiency – is information on baseline consumption available? Will the project achieve minimum 25% improvement over baseline?
- Confidence in delivery/risk.

Evaluation criteria for large retrofit/new build projects include the following additional expectations:

- Need – for new builds, must fill distinct gap, fill critical community infrastructure need
- Energy Efficiency – for new builds, project must be net zero carbon OR near net zero OR exempt from net zero and meet next highest standard
- Climate Resiliency/Best Practice Adoption - does project demonstrate strong climate resiliency OR provide a good explanation of why this criteria non-applicable.

Administration is recommending the following candidate projects and the proposed prioritization of projects under the Small/Medium Retrofit Stream as per the merit/evaluation criteria.

i. Green and Inclusive Community Buildings – Small/Medium Retrofit Projects:

Building/Info	Fort William Gardens (Priority 1)	Conservatory (Priority 2)	Canada Games Complex (Priority 3)
Project Description	<ul style="list-style-type: none"> energy audit recommendations, including heat recovery system envelope improvements new doors, windows, roof and insulation (lower roof) accessibility improvements to entrance/ticket/concession/office (as per AAC recommendations) 	<ul style="list-style-type: none"> energy efficient upgrades: high-efficiency heating, switching to LED's exterior insulation, windows, hot water system, exhaust fans water collection system to outside LID new accessible walkway and doorways 	<ul style="list-style-type: none"> new boilers, additional HVAC improvements new building automation system retro commissioning change room accessibility improvements (as per AAC recommendations)
Project Cost	\$2.93M	\$3.04 - \$4M ¹	\$2.88M
Contributory Financial Sources	2022 Capital Forecast	NOHFC/Community Cultural Grant	2022 Capital Forecast
Project Timelines	2022-24	2023	2023
Strategic Alignment	<ul style="list-style-type: none"> Recreation and Facilities Master Plan Corporate Energy Management Plan 	<ul style="list-style-type: none"> Corporate Energy Management Plan Earth Care Sustainability Plan 	<ul style="list-style-type: none"> Recreation and Facilities Master Plan Corporate Energy Management Plan
Other:	<ul style="list-style-type: none"> Energy audit completed RET Screen Analysis¹ currently underway Anticipated GHG Reductions =>25% 	<ul style="list-style-type: none"> Energy audit completed RET Screen Analysis currently underway Anticipated GHG Reductions >25% Water collection/recycling system directed to a LID outside, reducing drainage on sewer 	<ul style="list-style-type: none"> Energy audit completed RET Screen Analysis currently underway Anticipated GHG Reductions >15% - <25%

Notes:

1. RET Screen[®] Analysis is Infrastructure Canada's preferred expert software to inform a building's energy consumption/greenhouse gas emission profile.

ii. Green and Inclusive Community Buildings – Large Retrofit/New Build Projects:

Building/Info	Multi-use Indoor Sports Facility
Project Description	Pre-engineered, metal framed building to include synthetic turf, walking track, concession, multi-purpose room, spectator capacity, storage, administration space, mechanical/electrical, change rooms, generator, landscaping, parking to be located at Chapples Park
Project Cost	Net Zero: Gross \$42.55M; Net \$27.55 (an additional 15% to pre-Net Zero project estimate of gross \$37M; net \$22M after consideration of \$15 Indoor Turf Reserve Fund) AND/OR potential of increased ongoing operation costs (the annual purchase of green power at a premium price as an offset to attain net zero)
Project Timeline	2022 – 2023
Strategic Alignment	<ul style="list-style-type: none"> • Council Strategic Plan 2019 – 2022 • Recreation and Facilities Master Plan • Chapples Park Master Plan

FINANCIAL IMPLICATION

Below is a table illustrating the total project cost, the potential approximate contributions from GICB, the City and other funding sources.

GCIB Funding Stream	Small/Medium Retrofit			Large Retrofit/ New Build
Project/Timeline	Fort William Gardens 2022-2024	Conservatory 2023	Canada Games Complex 2023	Multi-use Indoor Sports Facility 2022-2023
Total Estimated Project Cost	\$2.93M	\$4M	\$2.88M	\$42.55M
Max. GCIB Contribution (%)	80%	80%	80%	50%
Max. GCIB Contribution (\$)	\$2.34M	\$2M	\$2.30M	\$21.28M
Net Balance	\$0.59M	\$2M	\$0.58M	\$21.27M
Other Potential Contributions	-	\$2M (NOHFC)	-	\$2M (NOHFC)
Municipal Contribution	\$0.59M (2022 Capital)	\$1.4M (Proposed - Renew Thunder Bay)	\$0.58M (2022 Capital)	\$15.4M (Indoor Turf Reserve Fund) \$3.87M (Other – ie. debenture)

CONCLUSION

It is concluded that the projects noted above are anticipated to be eligible for the funding program, that they are reflected in asset management planning, and/or represent priorities identified and endorsed by Council through various plans, and therefore that City Council should approve the submission of applications to the Green and Inclusive Community Buildings Program as outlined in this Report.

BACKGROUND

At the March 02, 2020 and October 5, 2020 Committee of the Whole meetings, Council directed Administration to proceed with the Production Greenhouse replacements in 2021, and to report back in June of 2021 with renewal options for the Conservatory.

At the June 3rd, 2019 Committee of the Whole meeting, First Report No 86/2019 was presented to Council, in response Council adopted an Alternate Resolution which directed Administration that they approved in principle the development of a Multi Use Indoor Sports Facility in Chapples Park including site investigation and development of construction documents. The resolution further directed Administration to proceed with the Stage Two application to NOHFC and identify the project as a priority for the Investing in Canada Infrastructure Fund.

At the June 25, 2018 Committee of the Whole meeting (Report R88/2018 – Indoor Turf Facility Update), City Council affirmed a priority need for an indoor turf facility based on the results of a study commissioned by Administration validating community demand for access to indoor turf, community support for the proposed design and location of the proposed Chapples Park Indoor Turf facility, and the estimated economic/tourism benefits associated with the project. City Council and Administration were directed to continue to advocate for funding from other levels of government to support the development of a permanent, year round, indoor turf facility (estimated cost \$28- \$30 million). Administration was directed to proceed with an Expression of Interest process that invited interested non-profit and private sector parties to submit proposals to address the community's interim need for indoor turf.

In Spring 2017, Council approved the Chapples Park Master Plan (Report R 48/2017 Chapples Park Master Plan) which supported the development of a multi-use indoor sports hub at this site as a phase 2/medium term priority (6 to 10 years).

Following extensive community consultation, the City of Thunder Bay approved the Recreation and Culture Facilities Master Plan “Fit Together” (Report R152/2016 – Recreation and Facilities Master Plan) in January 2017.

REFERENCE MATERIAL ATTACHED:

NONE

PREPARED BY: KELLY ROBERTSON, GENERAL MANAGER – COMMUNITY SERVICES

THIS REPORT SIGNED AND VERIFIED BY: (NAME OF GENERAL MANAGER) Kelly Robertson, General Manager, Community Services	DATE: May 28, 2021
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Corporate Report

DEPARTMENT/ DIVISION	Corporate Services & Long Term Care - Financial Services	REPORT NO.	R 55/2021
DATE PREPARED	04/26/2021	FILE NO.	
MEETING DATE	06/07/2021		
SUBJECT	Non-Consolidated Financial Statements and Reserve Fund Update		

RECOMMENDATION

WITH RESPECT to Report R 55/2021 (Corporate Services & Long Term Care - Financial Services), we recommend that the Non-Consolidated Financial Statements (Attachment A) for the Corporation of the City of Thunder Bay be received by City Council for information purposes;

AND THAT the 2020 budgeted reserve fund transfers of \$250,000 to the Renew Thunder Bay Reserve Fund and \$100,000 to the Clean, Green, and Beautiful Reserve Fund, previously eliminated as a cost containment measure related to the COVID-19 Pandemic (R 72/2020) be restored;

AND THAT the 2020 tax-supported surplus of \$4.1 million be transferred to reserve funds as follows: \$0.5 million to the Insurance Reserve Fund, \$0.8 million to the Legal Fees Reserve Fund, and \$2.8 million to the Stabilization Reserve Fund;

AND THAT a new Reserve Fund be established effective January 1, 2021 to be known as the "Event Hosting Reserve Fund" for the purpose of accumulating funds to bid for, host and support major sporting events, multi-sport games and other significant events;

AND THAT \$75,000 be transferred to the new Event Hosting Reserve Fund in 2021 from the Stabilization Reserve Fund as an initial contribution;

AND THAT the Mayor and Clerk be authorized to sign all documentation related to these matters;

AND THAT any necessary by-laws be presented to City Council for ratification.

EXECUTIVE SUMMARY

For the year ended December 31, 2020, there was an overall favourable variance from tax-supported operations of \$4.1 million. The surplus represents 1.6% of the total net tax supported

operating budget of \$261.5 million and 1.2% of the total gross tax supported operating budget of \$331.1 million.

Rate-supported operations resulted in a favourable variance of \$4.2 million (which was transferred to rate supported reserve funds), representing 6.8% of the total gross rate-supported budget of \$62.0 million.

Reserves and reserve funds are a critical component of the City of Thunder Bay's long-term financial plan. This Report also includes an annual reserve fund update.

Cost containment measures were put in place as a result of the COVID-19 Pandemic. Accordingly, R 72/2020 (Corporate Services & Long Term Care – Financial Services) recommended that the 2020 budgeted transfer of \$250,000 to the Renew Thunder Bay Reserve Fund be eliminated and the 2020 budgeted transfer to the Clean, Green, and Beautiful Reserve Fund be reduced by \$100,000. Based on year-end results, Administration is recommending restoring these reserve fund contributions and have incorporated them in Schedule 2 of the non-consolidated financial statements.

In accordance with the strategy outlined in Corporate Report 2004.235 (Finance – Accounting), the annual surplus of \$4.1 million would be transferred to the Stabilization Reserve Fund, however, Administration is recommending that the favourable variance in insurance claims of \$0.5 million be transferred to the Insurance Reserve Fund and the favourable variance of \$0.8 million in Legal Fees be transferred to the Legal Fees Reserve fund. Both of these reserve funds were created to offset future unfavourable variances. Transferring the favourable variance would result in an estimated uncommitted balance at December 31, 2020 of \$2.5 million in the Insurance Reserve Fund and \$2.9 million in the Legal Fees Reserve Fund.

Administration is recommending that the remaining \$2.8 million surplus be transferred to the Stabilization Reserve Fund. Transferring the favourable variance would result in an estimated uncommitted balance at December 31, 2020 of \$16.3 million in the Stabilization Reserve Fund.

The COVID-19 pandemic had a significant impact on 2020 operations. Lost revenues and additional costs total \$20.6 million and were fully offset by \$12.2 million in avoided costs and \$8.4 million in pandemic funding. Of the \$6.2 million in Federal-Provincial Safe Restart Municipal Operating funding received in 2020, \$4.3 million was transferred to the Stabilization Reserve Fund to be used to support COVID-19 financial pressures in 2021. Similarly, \$1.3 million of the \$3.2 million received of Federal-Provincial Safe Restart Municipal Transit Funding was transferred to the Transit Reserve Fund to be used to support the impact of COVID-19 on Transit operations from January to March of 2021.

The unaudited non-consolidated financial statements were presented to the Audit Committee on May 20, 2021. The Audit Committee recommends the presentation of the unaudited non-consolidated financial statements of The Corporation of the City of Thunder Bay as at and for the year ended December 31, 2020 to Committee of the Whole on June 7, 2021.

DISCUSSION

Non-Consolidated Financial Statements

The non-consolidated financial statements were prepared by Administration for internal purposes only and are not audited. The information contained in these statements is included as part of the audited consolidated financial statements.

The Non-Consolidated Statements (Attachment A) being presented includes:

- Statement of Financial Position
- Schedule 1 - Statement of Capital Operations
- Schedule 2 - Statement of Continuity of Reserves and Reserve Funds
- Schedule 3 - Statement of Financial Activities and Accumulated Net Revenue
- Schedule 3.1 - Schedule of Other Revenue

FINANCIAL IMPLICATION

Non-Consolidated Statement of Financial Position

This statement shows the financial position of The Corporation of the City of Thunder Bay as at December 31, 2020, with comparatives for 2019.

Assets

The total assets as at December 31, 2020 are \$434.8 million, an increase of \$23.2 million over 2019.

Cash and investments of \$131.6 million have increased by \$11.7 million from the prior year, primarily resulting from an increase in reserve funds of \$21.8 million and a decrease in unfinanced capital of \$1.7 million. This is offset by increases in accounts receivable of \$9.0 million and taxes receivable of \$2.5 million.

The increase in accounts receivable of \$9.0 million includes increases of \$5.7 million in grants receivable from senior levels of government, \$2.6 million tbaytel performance dividend and \$0.6 million in user charges receivable.

Long-term receivables include \$47.6 million due to the City from tbaytel for long-term borrowing incurred by the City on behalf of tbaytel, \$1.2 million from local improvement charges and \$0.5 million from Lake Superior Centre for Regenerative Medicine Inc. The increase of \$8.7 million from the prior year primarily relates to the addition of a long term receivable from tbaytel of \$12.0 million offset by repayments of \$3.3 million.

The capital outlay balance is equal to the municipal long-term liabilities as disclosed in the Liabilities and Equity section of this statement. When the City acquires debentures for capital works that have been completed or are yet to be completed, an asset (capital outlay) is recorded

in the same amount as the liability. As the debenture principal is repaid, both the asset and the liability are reduced by the same amount.

Liabilities and Equity

The assets are financed by liabilities of \$270.0 million, and equity of \$164.8 million.

Accounts payable and accrued liabilities have decreased by \$1.2 million from 2019, reflecting the timing of payments year over year.

Amounts included in deferred revenue are revenues that have been received in the year which relate to projects or activities to be completed in the subsequent year. Deferred revenue increased by \$0.9 million in 2020 mainly due to Scotties Tournament of Hearts revenue and U-pass transit revenue from Lakehead University Student Union.

As at December 31, 2020, outstanding debt related to tax-supported operations comprised \$69.5 million (33%) of the total municipal long-term liabilities. The remaining \$94.8 million in municipal long-term liabilities represents borrowing for rate-supported operations (water, wastewater, and solid waste) and long-term borrowing by the municipality on behalf of Tbaytel of \$47.9 million.

The following table shows the comparative balances for 2020 and 2019:

	2020 (millions)	2019 (millions)	Change (millions)
Tax-supported	\$69.5	\$76.4	\$(6.9)
Rate-supported	94.8	96.8	(2.0)
Subtotal - City	164.3	173.2	(8.9)
Tbaytel	47.9	38.9	9.0
Total	212.2	212.1	0.1

The decrease in the municipal long-term liabilities of \$8.9 million from 2019 reflects the increase in construction advances for capital projects in progress: tax supported (\$4.5 million), waterworks (\$4.4 million), and wastewater (\$1.8 million); as well as completed capital projects for tax supported projects (\$0.5 million), waterworks (\$0.7 million), and wastewater (\$0.2 million); offset by repayments of the principal portion of previously acquired debt (\$21.0 million).

Schedule 1 – Statement of Capital Operations

This statement shows the activity related to capital projects for the year. The balance at the beginning and end of the year reflects the expenditures on capital projects that have not yet been financed, net of the unexpended debentures proceeds, and includes the balance in the Land Development account. The Land Development account reflects the net proceeds from the sale and lease of City-owned property and expenditures related to such property.

Capital Expenditures

The capital expenditures of \$63.8 million in 2020 include:

- General government - \$2.2 million primarily for renovation and repairs to corporate facilities (\$0.7 million), computer hardware replacement and software upgrades (\$0.6 million), Community Energy and Green House Gas Reduction Plan (\$0.2 million) and a contribution to the Cardiovascular Campaign (\$0.2 million).
- Protection to persons and property - \$2.4 million primarily related to fire vehicle and equipment including urban search and rescue program (\$0.4 million), and police vehicles, equipment, computer hardware and software upgrades (\$1.7 million).
- Transportation services - \$27.1 million primarily relating to roads (\$13.0 million), bridges (\$1.2 million), sidewalks (\$1.9 million), traffic and street lighting (\$2.4 million), Boulevard Lake Dam (\$5.7 million), vehicles and equipment (\$0.9 million), and transit (\$1.0 million).
- Environmental services - \$21.9 million primarily for water main replacement (\$6.2 million), storm sewer upgrades, inspections, repairs and drainage improvements (\$4.9 million), wastewater treatment plant maintenance (\$1.0 million), water treatment plant rehabilitation (\$1.4 million), sanitary sewer mains and inspections (\$3.4 million), and landfill (\$1.2 million). \$1.1 million was also spent to reduce lead levels at the tap including lead service replacement.
- Health services - \$1.1 million for SNEMS vehicles and computer and equipment upgrades.
- Social and family services - \$0.9 million primarily for contribution to Salvation Army new facility (\$0.5 million), Pioneer Ridge facility repairs and equipment replacement (\$0.2 million) and 55+ Centre parking lot improvements (\$0.1 million).
- Recreation and culture services - \$8.1 million primarily relating to various facility upgrades (\$1.4 million), various parks renewal, maintenance, and sport field upgrades (\$0.8 million), recreational trails (\$0.9 million), parks vehicles (\$0.8 million), multi-use indoor sports facility (\$0.8 million), annual contribution to library capital works (\$0.7 million), urban forest management and response to the emerald ash borer (\$0.7 million), Waterfront development projects (\$0.7 million), Chippewa Carousel restoration (\$0.3 million) and contribution to Lakehead University (\$0.2 million).
- Planning and Development - \$0.2 million primarily for Whalen Building upgrades.

Capital Financing

During 2020, capital financing was obtained from a number of sources.

The net capital contribution from the revenue fund decreased to \$6.5 million from \$8.4 million in 2019 relating to the reclassification of the Lakehead Regional Conservation Authority levy to operating (\$1.3 million) and the timing of spend.

Contributions from reserves and reserve funds increased by \$6.7 million to \$44.7 million. Rate-supported capital projects funded from reserve funds for solid waste, wastewater and water

projects was \$18.0 million. Other contributions include \$7.0 million from the Federal Gas Tax Reserve Fund, and \$8.6 million from the Ontario Community Infrastructure Reserve Fund for various road, bridge, and storm sewer projects, \$6.3 million from the Capital Expenditure Reserve for various tax supported capital budgeted in prior years but not yet completed and \$1.1 million from Renew Thunder Bay.

Contributions to reserve funds of \$6.2 million are consistent with 2019 (\$5.9 million) and represents debenture proceeds received for prior years' water and wastewater capital projects.

Debenture borrowing decreased \$4.3 million to \$12.0 million in 2020. The decrease in borrowing relates to a radio renewal capital project for police and fire in 2019. Rate-supported debenture borrowing follows approved long-term financial plans.

The level of Ontario and Canada grants increased \$1.4 million primarily relating to an increase in Disaster Mitigation and Response Funding of \$1.6 million and the Investing in Canada Infrastructure Program of \$0.7 million, offset by a decrease in Clean Water and Wastewater Fund of \$0.9 million

Other capital financing is mainly comprised of internal debentures for capital projects in golf, parking, LED street lighting, landfill and other miscellaneous revenues.

Schedule 2 – Statement of Continuity of Reserves and Reserve Funds

This Statement provides details of the activities in Reserves and Reserve Funds for the year.

The overall increase of \$21.8 million reflects investment earnings of \$2.9 million, contributions from operations of \$59.9 million, contributions from capital of \$6.2 million, and contributions from developers of \$0.1 million offset by \$44.7 million in net funding for capital projects, and \$2.6 million in funding for operations.

Rate-supported reserve fund balances at December 31, 2020 are \$26.0 million (2019-\$19.6 million) and tax-supported reserve fund balances are \$145.7 million (2019-\$130.3 million).

Update of Reserve and Reserve Fund Balances

Reserves and reserve funds are a critical component of a long-term financial plan. Adequate levels of reserves and reserve funds demonstrate financial flexibility and an ability to adapt to fiscal challenges.

Rate-Supported

Long-range financial plans are in place for the City's rate-supported operations (waterworks, wastewater, and solid waste). User fees are based on future cash flow requirements for operating (including borrowing costs), capital, and reserve fund contributions. The long-term strategy for

rate-supported operations is expected to provide for a gradual increase to reserve fund balances for future capital asset replacement.

The long-term strategy for Waterworks is based on the City of Thunder Bay Environment Division – Water Authority Financial Plan which was approved by City Council in July, 2018 (Report No. 101/2018 (Environment)). This was the third update of the plan and included borrowing for capital projects and small annual increases in reserve funds over the 20-year term of the plan. The Financial Plan projects a Waterworks Reserve Fund balance of \$24.6 million in 2037 with a debt to reserve ratio of 0.73.

The long-term strategy for Wastewater is based on the City of Thunder Bay Environment Division – Wastewater Long Term Financial Plan, which was approved by City Council on March 2, 2015 as part of the 2015 Budget review and approval process. This plan included borrowing for capital projects and annual increases in reserve funds over the 20-year term of the plan. The Financial Plan projects a Wastewater Reserve Fund balance of \$25.0 million in 2034 with a debt to reserve ratio of 0.80.

The long-term strategy for Solid Waste is based on The City of Thunder Bay Environment Division – Solid Waste (Landfill) Financial Plan (R 130/2019 (Environment)) and was approved by City Council in September 2019. This was the first update of the plan and included borrowing for capital projects, and annual increases in reserve funds over the 20-year term of the plan. The Financial Plan projects a Solid Waste Reserve Fund balance of \$2.6 million in 2038 with a debt to reserve ratio of 3.15.

Tax-Supported

The 2020 tax-supported reserve and reserve fund balance is \$145.7 million representing an increase of \$15.4 million.

The 2020 increase mainly relates to net contributions to the Stabilization Reserve Fund (\$7.1 million), Renew Thunder Bay Reserve Fund (\$2.8 million), Capital Transit Reserve Fund (\$2.6 million), Dedicated Gas Tax Reserve Fund (\$1.2 million), Capital Expenditure Reserve (\$1.2 million), offset with a net decrease in Ontario Community Infrastructure Fund (\$2.7 million).

Reserve Fund Update

Reserve Fund Changes

Administration is recommending the creation of a new Reserve Fund, effective January 1, 2021, to be named the “Event Hosting Reserve Fund” for the purposes of accumulating funds to bid for, host and support major sporting events, multi-sport games and other significant events. The increased flexibility would help to reduce potential budget impacts and variances that would otherwise occur as a result of future bid submissions.

The City's Event Development and Street Event Grant programs were both undersubscribed in 2020 due to impacts of COVID-19. This resulted in a favourable variance of approximately \$75,000. Administration recommends this variance be transferred from the Stabilization Reserve Fund to the new Event Hosting Reserve Fund in 2021. Annual contributions to this reserve fund will be proposed within the annual budget process. Organizations receiving financial support from the City to host events may also contribute a portion of their net revenues to this reserve fund as per the City's new Event Legacy Policy.

Federal Gas Tax funding was renamed as outlined in the 2021 Federal Budget. Administration recommends revising the name of the Federal Gas Tax Reserve Fund to Canada-Community Building Reserve Fund effective 2021.

Schedule 3 – Statement of Financial Activities and Accumulated Net Revenue

Gross Revenue Variance

Total revenues were \$403.3 million, a favourable variance of \$10.1 million from the budgeted amount of \$393.1 million. The main components of this variance are:

- Unfavourable variance in Taxation of \$0.4 million mainly related to lower than expected supplementary taxes due to COVID-19.
- Favourable variance in Federal and Ontario grants of \$19.2 million, including \$6.2 million in Federal-Provincial Safe Restart Municipal Operating funding, \$3.2 million in Federal-Provincial Safe Restart Transit funding, \$1.3 million in pandemic pay and Personal Support Worker (PSW) wage enhancement funding, \$1.9 million in provincial funding for EMS, Long Term Care and Supportive Housing and \$6.4 million from the Federal government for emergency fire and contaminated water evacuations (includes \$0.4 million administration revenue).
- Unfavourable variance in user fees of \$9.9 million, primarily relating to the impact of COVID-19 in Transit (\$3.1 million), recreation facilities (\$2.3 million), casino revenues (\$1.8 million), landfill site fees (\$1.2 million), parking revenues (\$0.8 million), and child care (\$0.7 million).
- Favourable variance in other revenue of \$1.2 million primarily relate to performance dividends from tbaytel of \$3.2 million (2019-\$0.6 million, 2020-\$2.6 million) and penalties and interest on taxes \$0.4 million, partially offset by unfavourable variances in fines \$1.3 million, municipal accommodation tax revenue \$0.7 million, and non payment of one time dividend from Thunder Bay Hydro Corporation of \$0.5 million due to anticipated financial impact of the pandemic.

Gross Expenditure Variance

Total expenditures were \$339.5 million, an unfavourable variance of \$8.6 million, representing 2.5% of the budgeted amount of \$348.0 million.

The following provides an overview of the specific expenditure categories:

General government – Includes expenditures related to general administration, corporate overhead, members of council, and general financial expenditures. The unfavourable variance of \$3.6 million relates primarily to unfavourable variances in unbudgeted emergency fire and water evacuation expenses (\$6.0 million), and provision for tax write offs (\$1.4 million). These variances were partially offset by favourable variances including legal fees (\$0.8 million), insurance claims (\$0.5 million), and corporate wages mainly related to vacancies (\$2.0 million).

Protection to persons and property – Expenditures for fire and police constitute the majority of this category (88%) with emergency measures (pandemic costs), provincial offences, licensing and enforcement, animal services and the contribution to the Lakehead Region Conservation Authority accounting for the balance. The unfavourable variance of \$3.7 million primarily relates to pandemic costs (\$6.1 million) partially offset by favourable variances in provincial offenses (\$0.6 million) due to pandemic related closures and changes to service delivery and favourable variances in Fire (\$1.0 million), Police (\$0.4 million), Licensing and Enforcement (\$0.2 million), and Building (\$0.2 million) primarily related to wage savings. The 2020 pandemic costs have been fully offset by either cost avoidance or pandemic funding.

Transportation services – Roads and transit account for 88% of the expenditures in this category with the balance relating to parking, and street lighting. The \$4.8 million favourable variance relates to Transit (\$2.7 million) due to reduced service delivery and vacancy savings, a favourable variance in Roads (\$1.8 million) mainly related to savings in winter control, fleet and vacancy savings and a favourable variance in Parking (\$0.3 million) related to reduced wages and contracted services during the pandemic. The favourable variance of \$0.6 million related to winter control has been transferred to the Winter Roads Reserve Fund as per By-law 108-1996. The non-pandemic portion of the transit favourable variance (\$1.3 million) has been transferred to the Capital Transit Reserve Fund as per Corporate Report 2007.008 (Finance – Accounting & Budgets), the transit pandemic related savings have been used to partially offset lost revenues.

Environmental services – Expenditures related to waterworks and sanitary sewers make up 75% of the total, with storm sewers, and garbage collection and disposal and waste recycling and diversion forming the remainder. The favourable variance of \$3.6 million mainly relates to:

1. Sanitary Sewers (\$1.7 million) - primarily due to vacancy savings (\$1.3 million), lower than budgeted financing costs (\$0.5 million), fleet, energy and material savings (\$0.6 million), offset by an unfavourable variance in contracted services due to increased cleaning and inspection needs (\$1.1 million).
2. Waterworks (\$0.9 million) – mainly due to savings in wages, overtime and travel (\$1.1 million), lower than budgeted financing costs (\$0.3 million), partially offset by an unfavourable variance in contracted services due to increased cleaning and inspection needs (\$0.4 million).
3. Garbage Disposal & Waste Diversion (\$0.7 million) – due to recovery from sanitary sewer operations for sludge and grit disposal (\$0.8 million) partially offset by an unfavourable variance in recycling contracted services (\$0.1 million).

Health services – Included in this category are expenditures related to Superior North EMS (91%) with the contribution to the Thunder Bay District Health Unit and cemeteries forming the remainder. The unfavourable variance of \$0.4 million mainly relates to higher WSIB and overtime costs in Superior North EMS partially offset by vacancy savings.

Social and family services – General assistance to persons and assistance to aged persons accounts for 94% of the expenditures included here with child care forming the balance. The favourable variance of \$1.6 million primarily from savings from pandemic related closures and reduced services in child care.

Recreation and culture – This category includes parks, recreation programs, recreation facilities, golf, marina, contributions to the Thunder Bay Public Library and recipients of the Community, Youth, and Cultural funding program. The favourable variance of \$5.5 million primarily relates to the closure and reduced operations in recreation facilities, recreation programs and parks due to the pandemic.

Planning and development – This category includes planning and zoning activities, economic development, and tourism. The favourable variance of \$0.7 million is largely due to reduced transfers of Municipal Accommodation Tax to the Community Economic Development Corporation and vacancy savings in planning.

Net Variance

The preceding analysis of year-end variances is in accordance with the presentation of gross revenues and gross expenditures as required to produce audited financial statements for Ministry of Municipal Affairs and Housing reporting purposes. For internal quarterly variance reporting during the year, the variances are identified on a net basis by departments. The total net favourable variance for tax-supported operations is \$4.1 million or 1.6% of the total net operating budget of \$261.5 million and 1.2% of the total gross tax supported operating budget of \$331.1 million.

Rate-supported operations resulted in a favourable variance of \$4.2 million (which was transferred to rate supported reserve funds), representing 6.8% of the total gross rate-supported budget of \$62.0 million.

Generally the annual surplus of \$4.1 million would be transferred to the Stabilization Reserve Fund in accordance with the strategy outlined in Corporate Report 2004.235 (Finance – Accounting); however Administration is recommending that the favourable variance in insurance claims of \$0.5 million be transferred to the Insurance Reserve Fund and the favourable variance of \$0.8 million in Legal Fees be transferred to the Legal Fees Reserve fund. Both of these reserve funds were created to offset future unfavourable variances. Transferring the favourable variance would result in an estimated uncommitted balance at December 31, 2020 of \$2.5 million in the Insurance Reserve Fund and \$2.9 million in the Legal Fees Reserve Fund.

Administration is recommending that the remaining \$2.8 million surplus be transferred to the Stabilization Reserve Fund. Transferring the favourable variance would result in an estimated uncommitted balance at December 31, 2020 of \$16.3 million in the Stabilization Reserve Fund.

The following chart highlights the net variance in both tax-supported and rate-supported operations with explanations for the key drivers. The tax-supported section excludes variances related to COVID-19. Within rate-supported operations, the impacts of COVID-19 on waterworks and wastewater were minimal and have been absorbed by their overall favourable variance. The impact of COVID-19 on Solid Waste has been excluded from the chart below and is noted in the COVID-19 Pandemic Impact Summary, funded by Federal-Provincial Safe Restart Municipal Operating funds.

Section	+(-) Variance (\$ millions)	Comments
TAX SUPPORTED		
City Manager's Office	0.4	Corporate Strategic Services 0.1; City Clerks 0.3;
Community Services	0.6	Recreation & Culture – primarily utility savings
Corporate Services & Long Term Care	0.3	Financial Services 0.1; Revenue 0.2
	0.3	Long Term Care – primarily increased revenues
Development & Emergency Services	0.9	Fire – primarily relating to increased revenues, and wage & material savings
	(0.4)	Superior North EMS – primarily relating to overtime & WSIB costs; offset by reduced vacancy & training savings
Infrastructure & Operations	0.5	Parks – primarily relating to increased revenues 0.2 and vacancy savings 0.3
	(0.2)	Solid Waste – primarily relating to increased WSIB & rehab costs (0.2) and diversion contracts (0.2), offset by increased diversion revenues 0.2
	0.5	Roads – primarily relating to savings in fleet costs and materials
Police Services	0.3	Primarily relating to savings in wages 0.9 and higher revenues 0.2; offset by increased materials expenses (0.4) and shortfall in 911 recoveries (0.4)
Corporate Legal & Insurance	1.3	Legal 0.8; Insurance 0.5
Taxation related	(0.8)	Penalties & Interest 0.6; tax write-offs (1.4)
Miscellaneous corporate revenues	0.3	Increased Ontario Community Infrastructure Fund Revenues
Miscellaneous corporate expenditures	0.1	Debenture costs 0.3; Arbitration expenses (0.1)
Total Tax Supported	4.1	

Section	+(-) Variance (\$ millions)	Comments
RATE SUPPORTED		
Waterworks	2.6	Primarily relating to higher user fee revenues 1.1, vacancy savings 1.1, reduced debt costs 0.3 and discretionary expenses 0.3, lower than expected internal charges 0.2; offset by increased contracted services (0.4).
Wastewater	1.4	Primarily relating to savings in wages due to vacancies 1.3, interest expenses 0.5, utility costs 0.4, materials 0.2; offset by increased contracted service expenses (1.1)
Solid waste	0.2	Savings in expenses 0.2
Total Rate Supported	4.2	

The following chart shows the impact of the COVID-19 pandemic in 2020. The lost revenue and additional costs totaling \$20.6 million were offset by \$12.2 million in avoided costs and \$8.4 million in additional funding. \$1.3 million of the \$3.2 million Federal-Provincial Safe Restart Municipal Transit Funding is available to support the impact of COVID-19 on Transit operations from January to March of 2021.

Similarly, of the \$6.2 million in Federal-Provincial Safe Restart Municipal Operating funding, \$4.3 million was transferred to the Stabilization Reserve Fund to be used to offset COVID-19 financial pressures in 2021. This is \$1.0 million more than the latest estimate included in R 49/2021 "2021 Budget Variance Report #1" (Corporate Services & Long term Care - Financial Services) due to additional COVID-19 funding for Long Term Care (\$1.2 million), Superior North EMS (\$0.2 million) and Child Care (\$0.6 million), additional revenues at the Landfill (\$0.1 million) offset by increased costs (\$0.4 million) and lost revenues (\$0.8 million).

2020 COVID-19 Pandemic Impact Summary (\$000's)				
	Foregone Revenue	Additional Costs	Avoided Costs	Net Impact
Tax Supported				
Mayor & Council	-	(19.1)	98.7	79.6
City Manager's Office	(27.0)	(27.0)	348.1	294.1
Community Services (excluding Transit)	(4,230.7)	(6.0)	4,243.8	7.1
Transit Services	(3,137.0)	(187.9)	1,392.3	(1,932.6)
Corporate Services & Long Term Care	(1,336.7)	(2,466.9)	1,340.8	(2,462.8)
Development & Emergency Services	(321.2)	(2,087.5)	180.7	(2,228.0)
Infrastructure & Operations	(510.9)	(463.1)	846.3	(127.7)
Corporate Expenditures / Revenues	(2,932.3)	(20.0)	1,699.9	(1,252.4)

2020 COVID-19 Pandemic Impact Summary (\$000's)				
	Foregone Revenue	Additional Costs	Avoided Costs	Net Impact
Capital	-	-	1,081.7	1,081.7
Thunder Bay Police Service	(74.0)	(277.5)	266.0	(85.5)
Thunder Bay Public Library	-	-	250.0	250.0
Community Economic Development Commission	(43.2)	(104.4)	70.5	(77.1)
Parking Authority	(1,076.1)	(21.4)	245.5	(852.0)
Victoriaville Centre	(23.1)	-	152.3	129.2
Total Tax Supported	(13,712.2)	(5,680.8)	12,216.6	(7,176.4)
Landfill Operations (Rate Supported)	(1,234.0)	(5.0)	21.6	(1,217.4)
Total COVID-19 Pandemic Impact	(14,946.2)	(5,685.8)	12,238.2	(8,393.8)
Federal-Provincial Safe Restart Municipal Operating Funding				1,898.3
Federal-Provincial Safe Restart Municipal Transit Funding				1,932.6
COVID-19 Funding for Municipal Child Care				1,012.8
COVID-19 Funding for Superior North EMS				1,846.0
COVID-19 Funding for Long Term Care				1,704.1
Total COVID-19 Funding				8,393.8

Given the external funding received to support the impact of COVID-19, Administration is recommending that the 2020 budgeted reserve fund transfers of \$0.2 million to the Renew Thunder Bay Reserve Fund and \$0.1 million to the Clean, Green, and Beautiful Reserve Fund previously eliminated as a cost containment measure, be restored.

CONCLUSION

It is concluded that the Non-Consolidated Financial Statements and Reserve Fund Update for the Corporation of the City of Thunder Bay (Attachment A) should be received by City Council for information purposes.

It is also concluded that City Council should authorize the creation and 2021 transfer for the Event Hosting Reserve Fund and approve the year end reserve fund transfers as detailed in this Report and in Schedule 2 to the non-consolidated financial statements.

REFERENCE MATERIAL ATTACHED:

Attachment A - Non-Consolidated Financial Statements

PREPARED BY: CARLY JAREMEY, ACCOUNTANT AND LAUREN PARADIS, MANAGER - ACCOUNTING

THIS REPORT SIGNED AND VERIFIED BY:	DATE:
Linda Evans, GM Corporate Services & Long Term Care, City Treasurer	May 18, 2021

THE CORPORATION OF THE CITY OF THUNDER BAY
NON-CONSOLIDATED STATEMENT OF FINANCIAL POSITION
As at December 31, 2020
(Unaudited - Prepared by Management)

	<u>2020</u>	<u>2019</u>
	\$	\$
Assets		
Cash and investments	131,624,855	119,928,858
Accounts receivable	71,485,120	62,451,328
Taxes receivable	12,843,706	10,380,574
Other current assets	5,048,710	4,725,447
Long term receivables	49,497,944	40,837,943
Capital outlay	164,257,817	173,235,658
	<u>434,758,152</u>	<u>411,559,808</u>
Liabilities and Equity		
Accounts payable and accrued liabilities	46,674,449	47,902,550
Deferred revenue	11,126,637	10,273,116
Long term liabilities - municipal	164,257,817	173,235,658
Long term liabilities - on behalf of Tbaytel	47,925,000	38,875,000
Capital fund (Schedule 1)	(6,886,615)	(8,597,085)
Reserves and reserve funds (Schedule 2)	171,660,864	149,870,569
Operating fund (Schedule 3)	-	-
	<u>434,758,152</u>	<u>411,559,808</u>

THE CORPORATION OF THE CITY OF THUNDER BAY**NON-CONSOLIDATED STATEMENT OF CAPITAL OPERATIONS****Schedule 1****Year ended December 31, 2020****with comparative figures for 2019****(Unaudited - Prepared by Management)**

	<u>2020</u>	<u>2019</u>
	\$	\$
Unfinanced capital outlay, beginning of year	<u>8,597,085</u>	<u>13,395,516</u>
Capital expenditure		
General government	2,169,166	2,719,826
Protection to persons and property	2,425,385	5,153,621
Transportation services	27,115,425	22,074,774
Environmental services	21,857,959	17,616,076
Health services	1,058,484	945,860
Social and family services	878,289	1,313,694
Recreation and cultural services	8,068,259	7,392,679
Planning and development	219,745	1,811,957
	<u>63,792,712</u>	<u>59,028,487</u>
Capital financing		
Net contributions from revenue fund	6,484,082	8,392,868
Contributions from reserves and reserve funds	44,663,187	37,947,170
Contributions to reserves and reserve funds	(6,225,645)	(5,869,689)
Contributions from trust funds	-	17,363
Long-term liabilities incurred	12,040,778	16,377,526
Canada grants	3,928,148	2,522,859
Ontario grants	1,204,345	1,244,338
Interest earned on debenture proceeds	2,482	8,907
Net proceeds from land development account activity	960,564	969,159
Insurance proceeds	-	59,866
Other	2,445,241	2,156,551
	<u>65,503,182</u>	<u>63,826,918</u>
Unfinanced capital outlay, end of year	<u><u>6,886,615</u></u>	<u><u>8,597,085</u></u>
Represented by		
Capital projects to be financed by debenture	4,319,950	4,477,002
Capital projects funded by internal loans	9,653,717	10,652,554
Unexpended debenture proceeds	(82,579)	(332,892)
Land development account	(7,004,473)	(6,199,579)
	<u><u>6,886,615</u></u>	<u><u>8,597,085</u></u>

THE CORPORATION OF THE CITY OF THUNDER BAY
NON-CONSOLIDATED STATEMENT OF CONTINUITY OF RESERVES AND RESERVE FUNDS
Schedule 2
For the Year ended December 31, 2020

(Unaudited - Prepared by Management)

	<u>Reserves & Reserve Funds Total</u>	<u>Animal Control Donations</u>	<u>Arthur Street</u>	<u>Building Permit</u>	<u>CEDC</u>	<u>Capital General</u>	<u>Capital Landfill</u>	<u>Capital Sewage (Wastewater)</u>	<u>Capital Transit</u>	<u>Capital Waterworks</u>
Balance at beginning of year	\$ 149,870,569	188,698	93,522	1,376,692	329,583	788,930	1,086,918	6,864,903	3,285,116	11,575,329
Revenue										
Interest earned	2,852,762	3,989	1,964	28,911	8,979	19,193	34,160	163,883	95,158	273,978
Contribution from revenue fund	59,885,017	2,511	-	-	200,000	250,000	1,454,455	7,069,319	3,605,905	9,110,981
Transfer from reserves and reserve funds	798,281	-	-	-	-	-	-	-	-	-
Contribution from capital fund	6,225,645	-	-	-	-	-	13,744	1,815,115	-	4,396,786
Contribution from developers	68,296	-	-	-	-	-	-	-	-	-
Total revenue	69,830,001	6,500	1,964	28,911	208,979	269,193	1,502,359	9,048,317	3,701,063	13,781,745
Expenditures										
Contribution to capital fund	44,663,187	-	-	-	-	-	388,753	7,006,344	50,000	10,565,258
Transfer to capital fund	-	-	-	-	-	-	-	-	-	-
Transfer to reserves and reserve funds	798,281	-	-	-	-	-	-	-	-	-
Contribution to revenue fund	2,578,238	-	-	-	4,000	-	-	-	1,063,506	-
Total expenditures	48,039,706	-	-	-	4,000	-	388,753	7,006,344	1,113,506	10,565,258
Balance at end of year	\$ 171,660,864	195,198	95,486	1,405,603	534,562	1,058,123	2,200,524	8,906,876	5,872,673	14,791,816

THE CORPORATION OF THE CITY OF THUNDER BAY
NON-CONSOLIDATED STATEMENT OF CONTINUITY OF RESERVES AND RESERVE FUNDS
Schedule 2
For the Year ended December 31, 2020

(Unaudited - Prepared by Management)

	<u>CIT</u>	<u>Clean Green & Beautiful</u>	<u>Community Centres</u>	<u>Community Partnership</u>	<u>Corporate Energy Innovation</u>	<u>Dedicated Gas Tax</u>	<u>Digital Parcel Mapping</u>	<u>Election Expense</u>	<u>EMS Facility</u>	<u>EMS Vehicle & Equipment</u>
Balance at beginning of year	3,009,345	583,557	36,604	445,090	549,528	1,682,910	10,567	191,835	284,850	2,059,299
<u>Revenue</u>										
Interest earned	62,874	13,064	769	9,177	11,625	25,852	222	5,396	5,927	42,730
Contribution from revenue fund	585,384	204,000	-	100,000	8,571	1,536,807	-	135,000	-	756,000
Transfer from reserves and reserve funds	-	-	-	-	-	-	-	-	-	-
Contribution from capital fund	-	-	-	-	-	-	-	-	-	-
Contribution from developers	-	-	-	-	-	-	-	-	-	-
Total revenue	648,258	217,064	769	109,177	20,196	1,562,659	222	140,396	5,927	798,730
<u>Expenditures</u>										
Contribution to capital fund	616,095	126,898	-	116,228	509	396,684	-	-	5,208	805,042
Transfer to capital fund	-	-	-	-	-	-	-	-	-	-
Transfer to reserves and reserve funds	-	-	-	-	-	-	-	-	-	-
Contribution to revenue fund	-	-	-	-	-	-	-	4,800	-	-
Total expenditures	616,095	126,898	-	116,228	509	396,684	-	4,800	5,208	805,042
Balance at end of year	3,041,508	673,723	37,373	438,039	569,215	2,848,885	10,789	327,431	285,569	2,052,987

THE CORPORATION OF THE CITY OF THUNDER BAY
NON-CONSOLIDATED STATEMENT OF CONTINUITY OF RESERVES AND RESERVE FUNDS
Schedule 2
For the Year ended December 31, 2020

(Unaudited - Prepared by Management)

	<u>Federal Gas Tax</u>	<u>55+ Food Program</u>	<u>55+ Ctre Endowmt</u>	<u>55+ Ctre Southside</u>	<u>Fire Equipment</u>	<u>Fire Training Centre</u>	<u>Ft William Stadium</u>	<u>Fuel Farm</u>	<u>Hillcourt Estates</u>	<u>Indoor Turf</u>
Balance at beginning of year	2,404,106	47,894	1,656,080	139,285	185,383	45,202	90,994	67,413	699,596	14,819,876
Revenue										
Interest earned	45,586	1,006	33,248	2,832	4,273	1,019	1,911	1,558	14,691	313,987
Contribution from revenue fund	6,547,105	-	-	-	38,551	6,653	-	17,489	-	-
Transfer from reserves and reserve funds	-	-	-	-	-	-	-	-	-	798,281
Contribution from capital fund	-	-	-	-	-	-	-	-	-	-
Contribution from developers	-	-	-	-	-	-	-	-	-	-
Total revenue	6,592,691	1,006	33,248	2,832	42,824	7,672	1,911	19,047	14,691	1,112,268
Expenditures										
Contribution to capital fund	7,013,812	-	140,956	-	2,394	-	-	3,892	-	534,504
Transfer to capital fund	-	-	-	-	-	-	-	-	-	-
Transfer to reserves and reserve funds	-	-	-	-	-	-	-	-	-	-
Contribution to revenue fund	-	-	4,704	8,834	-	-	-	-	-	-
Total expenditures	7,013,812	-	145,660	8,834	2,394	-	-	3,892	-	534,504
Balance at end of year	1,982,985	48,900	1,543,668	133,283	225,813	52,874	92,905	82,568	714,287	15,397,640

THE CORPORATION OF THE CITY OF THUNDER BAY
NON-CONSOLIDATED STATEMENT OF CONTINUITY OF RESERVES AND RESERVE FUNDS
Schedule 2
For the Year ended December 31, 2020

(Unaudited - Prepared by Management)

	<u>Insurance</u>	<u>Legal Fees</u>	<u>Marina Capital</u>	<u>McKellar Mall Capital</u>	<u>MTO Transit Capital</u>	<u>Municipal Accommodation Tax</u>	<u>Ontario Community Infrastructure Fund</u>	<u>Ontario Municipal Cycling</u>	<u>Parking Revenue</u>
Balance at beginning of year	2,024,204	1,954,507	46,529	112,336	148,190	281,156	4,038,919	768,803	376,691
Revenue									
Interest earned	47,208	49,932	1,401	2,937	3,112	5,853	55,573	9,115	8,509
Contribution from revenue fund	447,547	846,367	76,897	55,000	-	798,281	5,816,059	-	57,000
Transfer from reserves and reserve funds	-	-	-	-	-	-	-	-	-
Contribution from capital fund	-	-	-	-	-	-	-	-	-
Contribution from developers	-	-	-	-	-	-	-	-	-
Total revenue	494,755	896,299	78,298	57,937	3,112	804,134	5,871,632	9,115	65,509
Expenditures									
Contribution to capital fund	-	-	36,509	-	-	4,854	8,601,208	669,508	-
Transfer to capital fund	-	-	-	-	-	-	-	-	-
Transfer to reserves and reserve funds	-	-	-	-	-	798,281	-	-	-
Contribution to revenue fund	-	-	-	-	-	-	-	-	-
Total expenditures	-	-	36,509	-	-	803,135	8,601,208	669,508	-
Balance at end of year	2,518,959	2,850,806	88,318	170,273	151,302	282,155	1,309,343	108,410	442,200

THE CORPORATION OF THE CITY OF THUNDER BAY
NON-CONSOLIDATED STATEMENT OF CONTINUITY OF RESERVES AND RESERVE FUNDS
Schedule 2
For the Year ended December 31, 2020

(Unaudited - Prepared by Management)

	<u>Police Capital Projects</u>	<u>Pioneer Ridge Structural</u>	<u>Post Employment Benefits</u>	<u>PRO Kids</u>	<u>Recreation Trails</u>	<u>Renew Thunder Bay</u>	<u>Sandy Beach</u>	<u>Sick Pay Liability</u>	<u>Simpson Street BIA</u>
Balance at beginning of year	12,886	1,545,404	5,201,305	720,280	65,724	21,379,431	-	2,165,867	18,410
<u>Revenue</u>									
Interest earned	271	35,080	108,177	15,138	1,679	446,484	-	43,128	387
Contribution from revenue fund	-	250,170	450,000	65,277	39,500	3,458,505	-	-	-
Transfer from reserves and reserve funds	-	-	-	-	-	-	-	-	-
Contribution from capital fund	-	-	-	-	-	-	-	-	-
Contribution from developers	-	-	-	-	-	-	-	-	-
Total revenue	271	285,250	558,177	80,415	41,179	3,904,989	-	43,128	387
<u>Expenditures</u>									
Contribution to capital fund	-	-	-	-	10,995	1,055,064	-	-	-
Transfer to capital fund	-	-	-	-	-	-	-	-	-
Transfer to reserves and reserve funds	-	-	-	-	-	-	-	-	-
Contribution to revenue fund	-	-	550,000	64,160	-	-	-	224,300	-
Total expenditures	-	-	550,000	64,160	10,995	1,055,064	-	224,300	-
Balance at end of year	13,157	1,830,654	5,209,482	736,535	95,908	24,229,356	-	1,984,695	18,797

THE CORPORATION OF THE CITY OF THUNDER BAY
NON-CONSOLIDATED STATEMENT OF CONTINUITY OF RESERVES AND RESERVE FUNDS
Schedule 2
For the Year ended December 31, 2020

(Unaudited - Prepared by Management)

	<u>Stabilization</u>	<u>Subdivision Deposits</u>	<u>Tax Assessment Appeals</u>	<u>Tournament Centre</u>	<u>Vested Property</u>	<u>Victoriaville Capital</u>	<u>Waterfront Capital</u>	<u>Whalen Building</u>	<u>Winter Roads</u>
Balance at beginning of year	15,311,654	330,354	8,648,567	285,206	5,711,017	45,423	104,442	1,036,531	1,135,645
<u>Revenue</u>									
Interest earned	363,161	7,655	181,620	6,252	119,931	1,006	2,456	22,958	30,255
Contribution from revenue fund	7,082,842	-	-	25,000	-	5,000	25,000	304,111	610,156
Transfer from reserves and reserve funds	-	-	-	-	-	-	-	-	-
Contribution from capital fund	-	-	-	-	-	-	-	-	-
Contribution from developers	-	68,296	-	-	-	-	-	-	-
Total revenue	7,446,003	75,951	181,620	31,252	119,931	6,006	27,456	327,069	640,411
<u>Expenditures</u>									
Contribution to capital fund	65,455	-	-	-	-	-	-	190,728	-
Transfer to capital fund	-	-	-	-	-	-	-	-	-
Transfer to reserves and reserve funds	-	-	-	-	-	-	-	-	-
Contribution to revenue fund	264,034	-	-	-	-	-	-	-	-
Total expenditures	329,489	-	-	-	-	-	-	190,728	-
Balance at end of year	22,428,168	406,305	8,830,187	316,458	5,830,948	51,429	131,898	1,172,872	1,776,056

THE CORPORATION OF THE CITY OF THUNDER BAY
NON-CONSOLIDATED STATEMENT OF CONTINUITY OF RESERVES AND RESERVE FUNDS
Schedule 2
For the Year ended December 31, 2020

(Unaudited - Prepared by Management)

	<u>WSIB</u>	<u>Reserve Funds Total</u>	<u>Equipment Replacement</u>	<u>Capital Expenditure</u>	<u>Working Capital</u>	<u>Reserves Total</u>
Balance at beginning of year	2,713,847	130,782,433	362,423	14,425,713	4,300,000	19,088,136
<u>Revenue</u>						
Interest earned	55,522	2,852,762	-	-	-	-
Contribution from revenue fund	250,000	52,291,443	138,219	7,455,355	-	7,593,574
Transfer from reserves and reserve funds	-	798,281	-	-	-	-
Contribution from capital fund	-	6,225,645	-	-	-	-
Contribution from developers	-	68,296	-	-	-	-
Total revenue	305,522	62,236,427	138,219	7,455,355	-	7,593,574
<u>Expenditures</u>						
Contribution to capital fund	-	38,406,898	-	6,256,289	-	6,256,289
Transfer to capital fund	-	-	-	-	-	-
Transfer to reserves and reserve funds	-	798,281	-	-	-	-
Contribution to revenue fund	389,900	2,578,238	-	-	-	-
Total expenditures	389,900	41,783,417	-	6,256,289	-	6,256,289
Balance at end of year	2,629,469	151,235,443	500,642	15,624,779	4,300,000	20,425,421

THE CORPORATION OF THE CITY OF THUNDER BAY
NON-CONSOLIDATED STATEMENT OF FINANCIAL ACTIVITIES
AND ACCUMULATED NET REVENUE
Schedule 3

Year ended December 31, 2020

(Unaudited - Prepared by Management)

	Budget 2020	Actual 2020	Actual 2019
	\$	\$	\$
Revenue			
Taxation	192,570,500	192,142,460	187,875,439
Payments in lieu of taxes	8,867,000	8,934,444	8,994,932
Federal and Ontario grants	65,442,900	84,599,899	76,362,583
Fees and service charges	93,022,300	83,113,157	91,684,504
Other (Schedule 3.1)	33,234,200	34,484,095	33,143,939
	393,136,900	403,274,055	398,061,397
Expenditure			
General government	24,255,935	27,828,894	26,454,615
Protection to persons and property	94,395,311	98,138,899	88,109,854
Transportation services	50,389,493	45,568,548	50,078,220
Environmental services	54,663,984	51,085,821	51,708,394
Health services	31,306,181	31,751,427	30,630,034
Social and family services	43,578,531	41,986,294	43,057,977
Recreational and cultural	41,124,889	35,585,872	39,830,290
Planning and development	8,324,676	7,537,439	7,986,248
	348,039,000	339,483,194	337,855,632
Excess of revenue over expenditure for the year before the undernoted	45,097,900	63,790,861	60,205,765
Net transfers to capital	(15,090,300)	(6,484,082)	(8,392,868)
Net transfers to reserves	-	(7,593,574)	(7,538,468)
Net transfers to reserve funds	(30,007,600)	(45,629,379)	(40,889,336)
Year end Surplus	-	4,083,826	3,385,093
Yearend surplus transfer to Reserve Funds	-	(4,083,826)	(3,385,093)
Excess of revenue over expenditure after reserve fund transfer	-	-	-
Accumulated net revenue, beginning of year	-	-	296,839
Recognition of accumulated net revenue	-	-	(296,839)
Accumulated net revenue, end of year	-	-	-

THE CORPORATION OF THE CITY OF THUNDER BAY
NON-CONSOLIDATED SCHEDULE OF OTHER REVENUE
Schedule 3.1

Year ended December 31, 2020

(Unaudited - Prepared by Management)

	Budget <u>2020</u>	Actual <u>2020</u>	Actual <u>2019</u>
	\$	\$	\$
Licences and permits	1,659,400	1,485,443	1,635,252
Fines	3,305,600	1,987,827	3,072,288
Penalties and interest on taxes	2,525,000	2,892,627	2,721,121
Tbaytel contribution	18,000,000	21,208,505	18,000,000
Recoveries from district municipalities	3,613,400	3,813,591	3,607,107
Miscellaneous	4,130,800	3,096,102	4,108,171
	33,234,200	34,484,095	33,143,939

TO: Krista Power, City Clerk

FROM: Linda Evans, General Manager-Corporate Services & Long Term Care and City Treasurer

DATE: June 1, 2021

RE: Update: Estimated use of Stabilization Reserve Fund for 2021 COVID-19 Financial Impact

The purpose of this memo is to provide Council with an update on the estimated use of the Stabilization Reserve Fund required to offset COVID-19 financial pressures in 2021 now that the 2020 year-end results have been finalized.

The 2020 Federal-Provincial Safe Restart Municipal Operating funding available to carry forward was estimated at \$3.3 million. The actual amount has improved by \$1.0 million to \$4.3 million primarily due to additional COVID-19 funding for Long Term Care (\$1.2 million), Superior North EMS (\$0.2 million) and Child Care (\$0.6 million), additional revenues at the Landfill (\$0.1 million) offset by increased costs (\$0.4 million) and lost revenues (\$0.8 million).

The following chart summarizes the updated projected COVID-19 2021 impact and estimated transfer from the Stabilization Reserve Fund.

Projected COVID-19 2021 Impact	\$ (in millions)
2021 COVID-19 impact (Per Approved Budget)	\$ 7.2
Less: Q1 2021 Projected COVID-19 favourable variance	(\$1.8)
2021 COVID-19 Impact (Updated)	\$ 5.4
Less: 2020 Operating Safe Restart funding carried forward to 2021	(\$4.3)
Estimated Stabilization Reserve Fund required to cover 2021 COVID-19 impact	\$ 1.1

The next update to Council will be provided in the Budget Variance Report #2 in late July 2021.

cc: Norm Gale City Manager
Executive Management Team
Krista Power, City Clerk

Memorandum

Office of the City Clerk
Fax: 623-5468
Telephone: 625-2230

TO: Krista Power, City Clerk
FROM: Councillor Cody Fraser
DATE: May 21, 2021
SUBJECT: 2020 Year End Surplus Allocation
Committee of the Whole – June 7, 2021

The City of Thunder Bay's Non-Consolidated Financial Statements, also being presented on June 7, indicate that the City has a surplus for 2020 exceeding \$4 million. Administration is recommending that, per standard practice, a portion of this surplus be added to the Stabilization Reserve Fund.

I would like Council to consider transferring that amount, \$2.8 million, from the Stabilization Reserve Fund to the General Capital Reserve Fund in 2021 and that the 2022 Capital Budget reflect a \$2.8 million one-time increase. This will allow all City departments to identify capital projects for 2022 that require additional funding in the 2022 Capital budget.

I would like Council to consider the following motion,

WITH RESPECT to the Memorandum from Councillor C. Fraser dated May 21, 2021, we recommend that, in 2021, Administration transfer \$2.8 million from the Stabilization Reserve Fund to the General Capital Reserve Fund;

AND THAT Administration be directed to present the 2022 Capital Budget with a one-time increase of \$2.8 million with the General Capital Reserve Fund as the one-time source of financing;

AND THAT any necessary by-laws be presented to City Council for ratification.

MEETING DATE 06/07/2021 (mm/dd/yyyy)

SUBJECT June is Recreation & Parks Month

SUMMARY

Memorandum from Ms. L. Prentice, Director - Recreation & Culture and Mr. C. Halvorsen, Manager – Parks & Open Spaces, dated May 27, 2021 relative to recent and upcoming Recreation and Parks events and activities in celebration of the annual Recreation & Parks Month in June, for information.

ATTACHMENTS

1 L Prentice and C Halvorsen memo dated May 27 2021

Memorandum

TO: Krista Power, City Clerk

FROM: Leah Prentice, Director - Recreation & Culture Division
Cory Halvorsen, Manager – Parks & Open Spaces

DATE: May 27, 2021 - For June 7 COW

SUBJECT: June is Recreation & Parks Month

This memo is to provide Council with information on recent and upcoming Recreation and Parks events and activities in celebration of the annual Recreation & Parks Month in June.

Summary

‘June is Recreation and Parks Month’ is a movement that promotes the benefits of Recreation and Parks for physical, social and environmental health. Communities across Ontario embrace June as Recreation and Parks Month as a way to promote local programs and events, parks and facilities that are available for all citizens to enjoy.

Parks and Recreation Ontario (PRO) states that access to parks and recreation is a fundamental human need that helps foster personal health, strong communities, and social inclusion. Recreation & Parks Month celebrates Ontario’s spectacular parks and recreation services and raises awareness for the role they play as a pathway to individual, community, and environmental well-being.

Recreation & Parks during COVID-19

“The benefits of recreation cannot be overstated; it can enhance mental, physical and social wellbeing, help build strong families and communities, help connect people to nature, and provides economic benefits such as jobs and tourism.” Canadian Parks and Recreation Association (CPRA).

Despite COVID-19 impacts, including temporary closures of facilities and amenities, the City continues to provide many opportunities for citizens to be active and enjoy Parks and Recreation programs and spaces. Recent recreation and parks initiatives include:

Virtual Programs & Events

- **Thunder Bay 55 Plus Centre Support Services Programs** have pivoted to virtual and phone programs due to the COVID-19 pandemic. Several virtual health and wellness workshops are being offered each month.

- **Youth Week** – This annual event for ages 12-24 was hosted virtually on May 1 -7. This year's theme was 'Creating Connections'. Over 30 free daily virtual events included baking, beading, City-wide challenges, and more. Approximately 200 youth participated in registered activities, and over 3,000 people watched the virtual events and programs.
- **Quest: Tech & Gaming Event** - Took place virtually April 30 – May 2. The event's e-sports competition featured three games that promote connectivity amongst players. Tech-based educational programming was also offered. Registration for the three day event was 294 participants, with close to 1,800 people viewing the competition.

Support & Outreach Services

- The **55 Plus Telephone Assurance Program (TAP)** service volume has quadrupled due to community need during this time. The program has over 50 new volunteers and 75 new clients who connect with each other for weekly telephone calls that provide socialization, friendship and help with the sense of loneliness that isolated older adults are currently experiencing.
- Thunder Bay 55 Plus Centre staff and volunteers provided **Income Tax Services** to 745 low income seniors in 2021 through a COVID-safe drop off program.
- Since January 2021, the Thunder Bay 55 Plus Centre **River St Café** has pivoted to offer nutritious and affordable meals to all those 55 Plus through a curbside pick up service. As of May, 2021, they have provided 341 frozen meals, 2050 fresh meals, and more, supporting food security for many seniors in our city.

Launch of Online Registration

- On May 19, the Recreation & Culture and Central Support Divisions launched **new online registration software**, PerfectMind. Clients will now be able to register online for City recreation programs and purchase memberships to City facilities.

Celebrating Recreation & Parks Month

During June, and looking ahead to summer, the following programs, events and activities will be provided by the Recreation & Culture Division and Parks & Open Spaces Section:

Virtual Programs & Events

- **Neighbour Day** - The second annual Neighbour Day will take place on Saturday, June 19. Proudly presented by Tbaytel, this initiative will allow neighbours to connect and create positive relationships. The Neighbour Day committee has partnered with a number of community groups to provide the public with ideas for socially distanced activities. More information can be found at www.thunderbay.ca/neighbourday or on the Neighbour Day Facebook Page.
- **Canada Day** - Canada Day 2021 will feature self-guided and virtual programming from organizations throughout the community to comply with current COVID-19 restrictions.

Support & Outreach Services

- **Elder Abuse Awareness Day** - June 15 is national Elder Abuse Awareness day. The Thunder Bay 55 Plus Centre will host an outdoor curbside pick-up BBQ for seniors
- **Activ8 Activity Kits** - With COVID-19 causing program cancellations, PRO Kids has shifted focus. In partnership with Youth Move, PRO Kids is offering customized activity kits for children and youth ages 3 to 18. The kits give kids the materials they need to keep active while at home. Families who are in financial need can go to the PRO Kids website, www.prokidsthunderbay.ca, to apply and select their preferences from a number of items including arts & craft supplies, toys and sporting equipment. This program began in April and has been very well received.

Development & Improvement Projects

- The following Recreation facility improvement projects are taking place in 2021:
 - Churchill Pool
 - Family Change Rooms
 - Upgrade Pool lighting to LED
 - Refurbish Pool Filter
 - Canada Games Complex
 - Refurbish diving platforms and install new swim starting blocks
 - Refurbish/replace various weight and fitness equipment
 - Reconfigure front entrance driveway and walkway to improve accessibility
 - Replace elevator
 - Satellite Arenas
 - General maintenance and repairs to Rink Systems and Facilities
 - Accessibility improvements (Accessible viewing area at Delaney Arena)
 - Facility Capital Infrastructure renewal
 - Fort William Gardens (in preparation for 2022 Scotties Tournament of Hearts)
 - Refurbish curling rock
 - Refinish terrazzo flooring
 - Upgrade lighting to energy efficient LEDs
 - Replace & upgrade score board to digital screen
 - Upgrade electrical service to support events
 - Facility Capital Infrastructure renewal
 - Accessibility improvements for spectators (New handholds on aisles to seating)
- Parks & Open Spaces Section is undertaking several existing larger construction projects in 2021:
 - Centennial Park Playground - Woodland Adventure theme
 - Northwood Splash Pad - Water is Life theme
 - Implementing 3 segments of the Waterfront Trail
 - Rehabilitating 4 segments of the multi-use trail network
 - Dease Park improvements
 - Fisherman's Park West habitat restoration improvements in partnership with Lakehead Region Conservation Authority (LRCA) and Thunder Bay District Stewardship Council (TBDSC).

- Boulevard Lake Tennis Court Reconstruction and new Pickleball Court construction
- Trowbridge Forest Trail expansion
- Trowbridge Falls Bike Skills Park

Return to in-person Recreation

- Parks & Open Spaces and Recreation & Culture have maintained and operated indoor and outdoor recreation opportunities for residents throughout the pandemic, as allowed under the Provincial Framework.
- Chapples and Strathcona golf courses have provided a significant source of outdoor recreation opportunities for the community and commenced operations for the 2021 season on May 22.
- Our staff look forward to welcoming everyone back to our facilities, programs & services as the Provincial Framework allows. A summer services update regarding anticipated openings of programs and services will be provided within the next month.

Recreation and parks provide opportunities for our residents to improve their health, wellness and quality of life, particularly during current times. Everyone is invited to participate and enjoy Thunder Bay's recreation and parks this June and always.

Sincerely,

Leah Prentice
Director – Recreation & Culture

Cory Halvorsen
Manager – Parks & Open Spaces

cc Norm Gale – City Manager
Krista Power – City Clerk
Kelly Robertson - General Manager, Community Services
Kerri Marshall – General Manager, Infrastructure & Operations

MEETING DATE 06/07/2021 (mm/dd/yyyy)

SUBJECT Conservation Authorities Act – Regulation Consultation

SUMMARY

Memorandum from Councillor A. Foulds, dated May 27, 2021 relative to the above noted.
(Distributed separately)

MEETING DATE 06/07/2021 (mm/dd/yyyy)

SUBJECT Evacuations from Remote Northern Communities

SUMMARY

Memorandum from Mayor B. Mauro, dated May 18, 2021 containing correspondence from Hon. S. Jones, Solicitor General relative to the province's efforts to ensure that there are enough accommodations to support evacuations from remote northern communities, for information.

ATTACHMENTS

1 B Mauro memo dated May 18 2021

Memorandum

Office of the City Clerk
Fax: 623-5468
Telephone: 625-2230

TO: Krista Power, City Clerk

FROM: Mayor Bill Mauro

DATE: May 18, 2021

SUBJECT: Evacuations from Remote Northern Communities
Committee of the Whole – June 7, 2021

Attached is correspondence from The Honourable Sylvia Jones, Solicitor General in response to my letter regarding the province's efforts to ensure that there are enough accommodations to support evacuations from remote northern communities.

Solicitor General

Office of the Solicitor General

25 Grosvenor Street, 18th Floor
Toronto ON M7A 1Y6
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Toll Free: 1-866-517-0571
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132-2021-1543
By email

May 10, 2021

His Worship Bill Mauro
Mayor
City of Thunder Bay
500 Donald Street East
Thunder Bay ON P7E 5V3
bmauro@thunderbay.ca

Dear Mayor Mauro:

Thank you for your letter of April 9, 2021, regarding the province's efforts to ensure that there are enough accommodations to support evacuees from remote northern communities. I would like to share some of the efforts that we have undertaken over the past year in this regard.

First, I would like to thank you and the City of Thunder Bay for continuing to be willing to act as a host community to support and ensure the safety of evacuees from remote northern communities. In 2020, despite the ongoing challenges of managing the impact of the COVID-19 pandemic, Thunder Bay hosted evacuees from Eabametoong First Nation, Neskantaga First Nation, and from the Municipality of Red Lake. Not only did you and your teams provide the typical necessary human services to evacuees during 2020, but you also implemented very strict and effective protocols to ensure that they were all safe from exposure to COVID-19. On behalf of the people of Ontario, please accept my sincere gratitude.

Regarding the matters raised in your correspondence, I understand the need to continue to work with our municipal, provincial, federal, and indigenous partners to ensure that there are more communities in Ontario who are willing and able to host evacuees from remote northern First Nations communities. To this end, my ministry, through Emergency Management Ontario (EMO), continues to encourage municipalities to consider hosting in 2021 and beyond. Some examples in this regard over the last couple of months include:

- With the assistance of the Ministry of Municipal Affairs and Housing (MMAH), EMO has participated recently in some municipal CAO/Clerks forums to present to members about hosting evacuees and the benefits they can accrue.

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I understand that in at least one of these forums, the CAO of the City of Thunder Bay participated and echoed EMO's encouragement for other municipalities to consider hosting. EMO will continue working with MMAH to identify further opportunities to participate in municipal forums in the coming months.

- Senior engagement with Indigenous Services Canada to seek pre-approval funding of some non-conventional hosting strategies, including the use of soft-walled shelters to house evacuees which could expand possible evacuation options with reduced reliance on municipalities. We have also requested that they remove the requirement for municipalities to indemnify the federal government in all new and existing funding agreements and to confirm provision of health human resources off-reserve.
- Hosting our annual Flooding and Wildfire Symposium with over 200 participants including municipal, provincial, federal, and indigenous partners with some agenda items focused on hosting and encouraging additional municipalities to consider hosting.
- Early and continued contingency planning efforts with First Nations and other partners to plan for evacuations, and to develop and improve the guidance and protocols for hosting in a COVID-19 environment.
- Exploring the development of a future program where experienced host community representatives provide mentorship and guidance to potential additional hosts who may be unsure or less experienced to allow them the opportunity to learn during an actual hosted evacuation. I understand that your team in Thunder Bay would be willing to provide mentorship which can only help to make this future initiative a success.

Additionally, you may be interested in the following efforts that EMO has been undertaking to reduce the impact on municipalities that may be requested to host evacuees in the coming months:

- Supporting Ornge and Operation Remote Immunity to ensure vaccinations for remote fly-in First Nation communities were completed by the start of the annual spring flooding season to reduce impact to both the First Nation and hosting communities if evacuations were required.
- Working with provincial and federal partners to identify any opportunities for surge capacity, supplementing health and human resources and securing non-governmental organizations which could support municipalities that are requested to host evacuees.

I would like to thank you again for your continued support of Ontarians, particularly those who need our help during some of the most challenging times. I look forward to continuing our important partnership to ensure that all Ontarians are safe and secure.

If you have any further questions, I would encourage you to contact Teepu Khawja, Chief, Emergency Management Ontario, at Teepu.Khawja@ontario.ca.

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Thank you again for taking the time to write about this important matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'S. Jones', written in a cursive style.

Sylvia Jones
Solicitor General

c: Teepu Khawja
Chief, Emergency Management Ontario