



EarthCare Sustainability Plan 2014-2020 Report



2014-2020

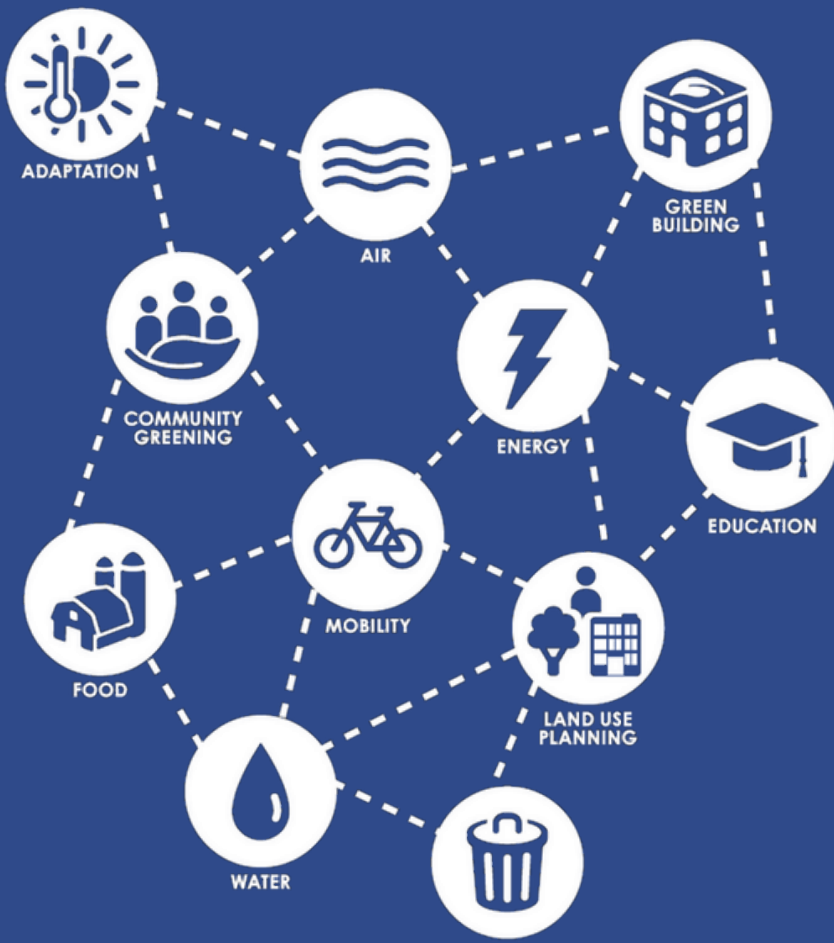
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WHAT IS EARTHCARE?

EarthCare Thunder Bay is a partnership between the City of Thunder Bay and the community to work together on issues of community sustainability, climate adaptation, and greenhouse gas reduction. Our mission is to lead the community in securing the environmental health of our region, and thereby improve the social, cultural, and economic well-being of future generations.



EarthCare's Working Groups (WG), provide a point of entry for the participation and engagement of the public and other stakeholders in the implementation of the EarthCare Sustainability Plan. Working Groups come together to work on areas essential to community sustainability, such as air, climate adaptation, community greening, education, energy, food, green building, land use planning, mobility (active transportation, transit, and walkability), waste, and water.

EarthCare is guided by two strategic documents: The EarthCare Sustainability Plan (2014 – 2020) and the Climate Adaptation Strategy (2015). The implementation of these plans will help Thunder Bay reduce greenhouse gas (GHG) emissions, become more climate-resilient, and create a more sustainable city. The Sustainability Plan and the Climate Adaptation Strategy both provide clear steps for moving forward. EarthCare will continue to represent the community by bridging community needs and wants with long-term planning of municipal investments that are resilient, evidence-based, and achieve multiple co-benefits.

The EarthCare Advisory Committee (EAC) of Council helps to guide EarthCare and the implementation of the Sustainability Plan.



Top l-r: Jacob Porter, Lynn Duffield, Amy Coomes
 Bottom l-r: Margaret Wanlin, Shannon Costigan (Vice-Chair),
 Councillor Andrew Foulds (Chair), Michelle Warywoda,
 Councillor Kristen Oliver, Lynae Grace; Missing: Sandra Stiles,
 Jane Todd

EarthCare would like to thank all of the amazing volunteers, participants of the WGs, and our community partners who give their time and energy to making real change in our community and helping to create a more livable Thunder Bay. These champions are integral in maintaining the momentum of EarthCare.

THIS REPORT OUTLINES THE PROGRESS MADE BY THE CORPORATION OF THE CITY OF THUNDER BAY AS WELL AS THE THUNDER BAY COMMUNITY ON THE IMPLEMENTATION OF THE SUSTAINABILITY PLAN

ENERGY

Goal: To promote the wise use of energy and the transition to a carbon-neutral future.

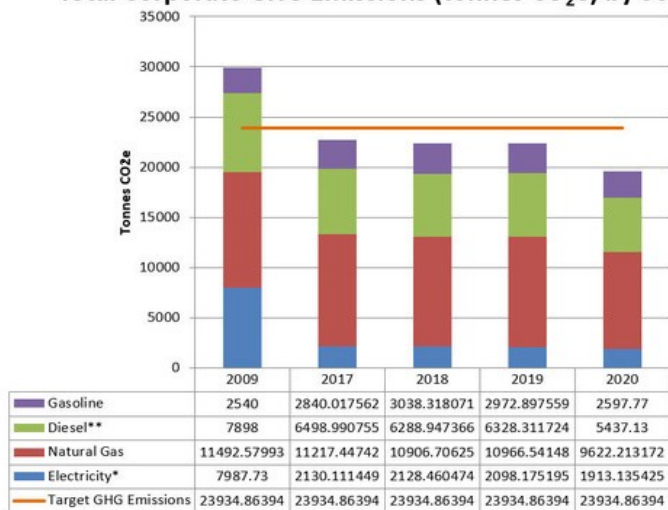
Objective: By 2020, total municipal operations energy consumption (GJ) is 20% below 2009 levels.

- The 2020 analysis of GHG emissions for the Corporation showed an overall decrease of 35% from the baseline year of 2009. Much of this reduction can be attributed to COVID-19, however, this reduction far exceeds the emissions reduction target of 20% below 2009 levels by 2020.
- Some major highlights of corporate energy initiatives include:
 - Utilizing energy and sustainability software system for energy monitoring
 - Ongoing work with transit industry and other partners for the integration of electric transit buses within transit operations.
 - Continued use of biodiesel in corporate fleet vehicles. Completion of the residential LED streetlight project.
 - Continued use of biodiesel in corporate fleet vehicles.
 - Completion of the residential LED streetlight project.



More detailed information on the energy efficiency projects completed to date can be found in the Corporate Energy Management Plan 2019-2024

Total Corporate GHG Emissions (tonnes CO₂e) by Source



* Electricity coefficient decreased from 0.00012 teCO₂/kwh in 2009 to 0.00004teCO₂/kwh in 2014 - 2018
 ** Diesel coefficients changed from 2009 to align with reporting standards of the Global Protocol for Community Scale GHG Emissions Inventories (GPC).

35%

Decrease in Corporate GHG emissions from 2009 baseline.

Objective: By 2020, total community energy consumption (GJ) is 20% below 2009 levels.

- In 2016, community-wide emissions were 22% higher than 2009 levels, highlighting a need for a renewed approach for tackling community-wide emissions. This sparked the creation of the Net- Zero Strategy (NZS).
- Planning for the NZS began in 2019 following the Ontario Ministry of Energy, Northern Development, and Mines guidelines. The resulting NZS is a proactive community-wide plan that addresses energy use, emissions production, and climate change issues and opportunities in Thunder Bay. The strategy aims 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 Federation of Canadian Municipalities and the Ontario Ministry of Energy, Northern Development, and Mines in part funded the development of the Community Energy and Emissions Plan (a.k.a. Net-Zero Strategy).

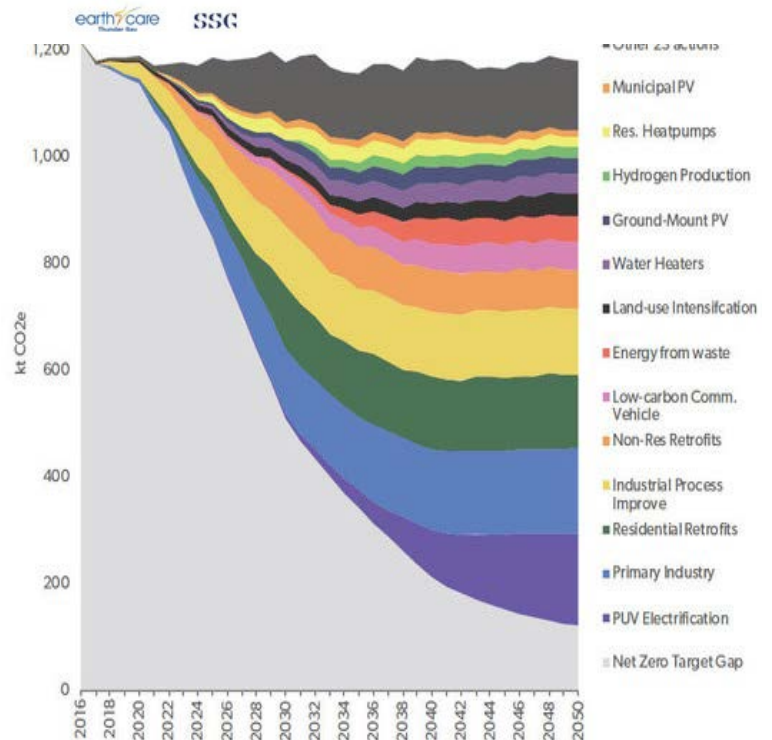
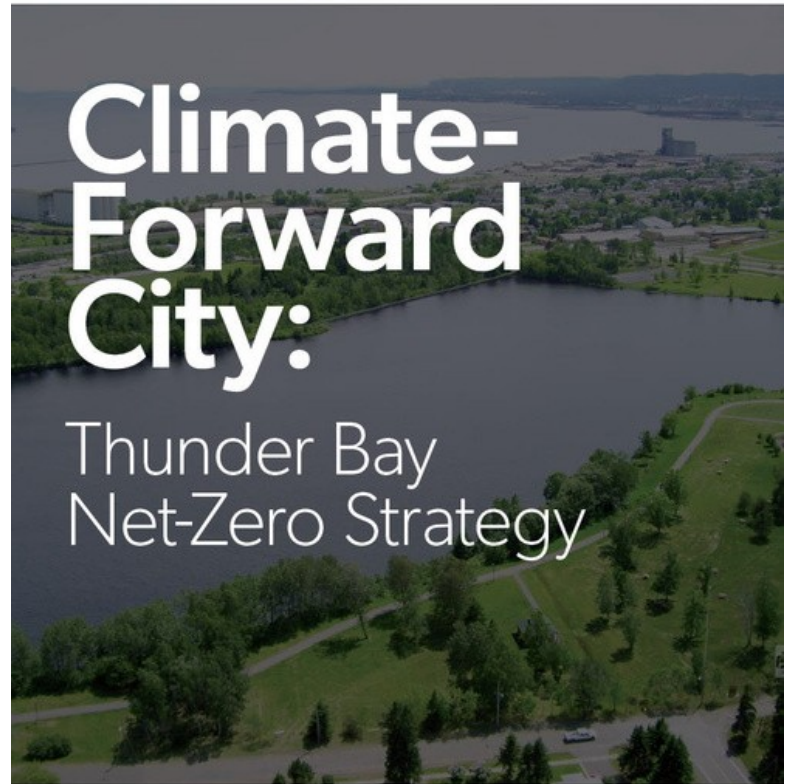


Figure 1: Illustrating the GHG reductions by source within the net-zero pathway.

GREEN BUILDING

Goal: Thunder Bay buildings minimize energy consumption and conserve resources.

Objective: By 2020, new buildings are being constructed that improve resilience, increase energy efficiency, and reduce greenhouse gas emissions by 20% from the 2009 baseline.

- Ongoing preventative maintenance focusing on energy efficiency at all City Facilities.
- Implementation of energy efficient measures as recommended in the Pioneer Ridge energy audit included upgrades to the domestic hot water heater system, HRV, and boiler system, with full commissioning to result in a 13% reduction in electricity consumption and a 30% reduction in natural gas consumption.
- Implementation of energy efficient measures as recommended in the Front Street Operations Yard energy audit included the installation of new air handling units, upgraded boiler system, and building automation system, with full commissioning resulting in a 30% reduction in electricity consumption and a 25% reduction in natural gas consumption.
- Implementation of energy efficiency measures as recommended in the Thunder Bay Community Auditorium energy audit included a boiler system upgrade, air handling unit variable speed conversions, and domestic hot water heater system upgrade, with full commissioning resulting in a 17% reduction in electricity consumption and a 30% reduction in natural gas consumption.
- Installation of a new energy efficient chiller at the Fort William Gardens. And a new energy efficient boiler plant at Delaney Arena.
- Continued optimization of all systems and operations at the Water Pollution Control Plant.
- Installation of an electrical metering system for storm water pumping stations and the Bare Point Water Treatment Plant to ensure systems and processes are operating efficiently and provide alerts should they deviate from optimum performance.
- Installation of new energy efficient condensing boiler plant system and hot water heating system at North Central Fire Station.
- Continued retrofit and replacement to LED lighting throughout all City facilities.

LAND USE

Goal: To include and implement concepts surrounding smart growth and sustainability into the planning and patterns of land use within the community and the Corporation.

Objective: The public, City Administration and Council are engaged on the merits of land use policies that champion smart growth practices.



- The Thunder Bay Official Plan update in 2019 used four overarching approaches to focus the integration of environmental protection, climate adaptation, economic diversification, and healthy community principles throughout the document.
- Planning Services has taken an active role in engaging stakeholders and decision makers on the merits of sustainable land use policies and smart growth. Presentations to Council for each zoning amendment and Official Plan amendment provide an opportunity to discuss the benefits and drawbacks of each project from a planning perspective, deepening the collective knowledge of sustainable development objectives and goals.

Objective: By 2020, development activities that counter urban sprawl are promoted, providing net energy and land savings and conserving or enhancing ecological functions.

- Thunder Bay has continued to see a shift towards development within the urban area. In 2018, 78% of all new residential development occurred in the urban area; as of 2020 that has increased to 90%.



Objective: Development activities that result in greater socio-economic and demographic diversity in new and existing neighbourhoods are promoted.



- The 2019 Official Plan enables intensification in the urban area by facilitating second units and accessory apartments in single-detached, semi-detached, and townhouse dwellings. Modifications to the Zoning By-law that are currently underway will introduce regulations to allow second units. In 2020, 43% of all new residential units within the Urban Settlement Area were created through intensification and 6 multi-unit buildings constructed. These were all constructed in the urban area on full municipal services. Multi-unit construction is encouraged near public transportation, commercial corridors, and neighbourhood amenities.

Objective: Development activities are supported that optimize the use of existing infrastructure and are within developed areas, and any new expansions and developments do not compromise Thunder Bay's fiscal health.

- Planning Services has played a supportive role in intensification - working directly with applicants, developers, and community members to ensure projects contribute to the vitality of the neighbourhoods they inhabit, and support the sustainability of the City in the long term. With proposed changes to the Zoning By-law, it is the intent of the Planning Services Division to facilitate intensification and infill projects.

CLIMATE ADAPTATION

Goal: Build a community that reduces the risk of climate change through available opportunities and initiatives.

Objective: Identify and implement adaptive actions for the Corporation and the Community through the development of a Climate Adaptation Strategy by 2015.

- In December of 2015 City Council adopted in principle The Climate Ready City: City of Thunder Bay Climate Adaptation Strategy.
- In 2016 The City made the Climate Adaptation Coordinator a permanent position to support the implementation of strategy actions throughout the Corporation and community.
- Climate adaptation has been integrated into the City's Strategic Plan, Sustainability Plan, Transportation Master Plan, Asset Management Program, Stormwater Management Plan, and notably, integrated as one of four overarching approaches in the City's Official Plan (along with Environmental Sustainability, Economic, and Health).

Objective: Collect, analyze, monitor and update climate information and projections for the region and identify gaps where adaptation is needed on an ongoing basis.

- In 2015 a set of key indicators were established to track progress on how our City and community are experiencing, preparing for, responding to, and recovering from climate change impacts.
- In 2020 the climate adaptation indicators were updated with support from the Climate Risk Institute, reflecting lessons learned and Thunder Bay's role in responding to regional emergencies.
- Between 2015 and 2020, the LRCA updated the floodplain maps in the McIntyre River, Neebing River, McVicar Creek, Pennock Creek, Kaministiquia River, and Mosquito Creek watersheds.





Objective: Increase awareness, engagement, and confidence of Municipal Leadership, City staff, stakeholders, and community members in climate adaptation measures by 2020.

- The Thunder Bay Climate Change Connection website (climatechangetbay.com) was launched on Earth Day 2018, providing citizens and organizations with a set of locally relevant resources related to Climate Change and Adaptation. This website connects information, ideas, and people to inspire climate engagement in the Thunder Bay region.
- In 2020, City Council, following a deputation by the EarthCare Climate Adaptation Working Group, declared a climate emergency for the City of Thunder Bay, for the purposes of naming, framing, and deepening our commitment to protecting our economy, our ecosystems, and our community from climate change.
- EarthCare has developed communication materials and presented them to the public via booths at public events to increase knowledge of climate change and support citizens' response and recovery from extreme weather events.
- In 2019 The City of Thunder Bay was awarded funding for the Community Flood Mitigation Project from Infrastructure Canada's Disaster Mitigation and Adaptation Fund.

Comprehensive Climate Adaptation updates are reported to City Council annually in November.

**CLIMATE ADAPTATION
WORKING GROUP MEMBERS**

Courtney Strutt, Chair
Summer Stevenson
Amy Coomes
Jacob Porter
Adam Daniele
Alexa Haberer
Aynsley Klassen
Brant Muir
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Heather McLeod
Julia Prinselaar
Marcel Bananish
Ken Deacon
Lindsay Galway
Osezele Ilima
Paul Berger
Rob Sanderson
Robyn Gillespie-Barten
Iya Rozenberg
Kyla Moore



THUNDER BAY AND AREA FOOD STRATEGY

Goal: To build a sustainable local food system in Thunder Bay that promotes social justice and supports local production, storage, processing, sale and distribution of food.

Highlights

- In partnership with the Crime Prevention Council, the Thunder Bay and Area Food Strategy (TBAFS) is leading the development of the Community Emergency Food Response Plan to increase coordination, communication, and collaboration among organizations supporting food access of vulnerable populations to plan for safer, more efficient, and equitable response to food security at a community level during emergencies. The Phase One Report is being released Summer 2021.
- In 2015 the Community Food Security Report Card was released which assessed the Region's Food System across the seven pillars of the Food Strategy. A five-year update to this project is underway and the next edition will be released in 2022.
- The TBAFS launched the local food directory tbayinseason.ca in Winter 2020 which is an initiative highlighting area producers, processors, retailers, and restaurants that support the local food system. The local food marketing and communications initiative is launching July 2021 until July 2022.

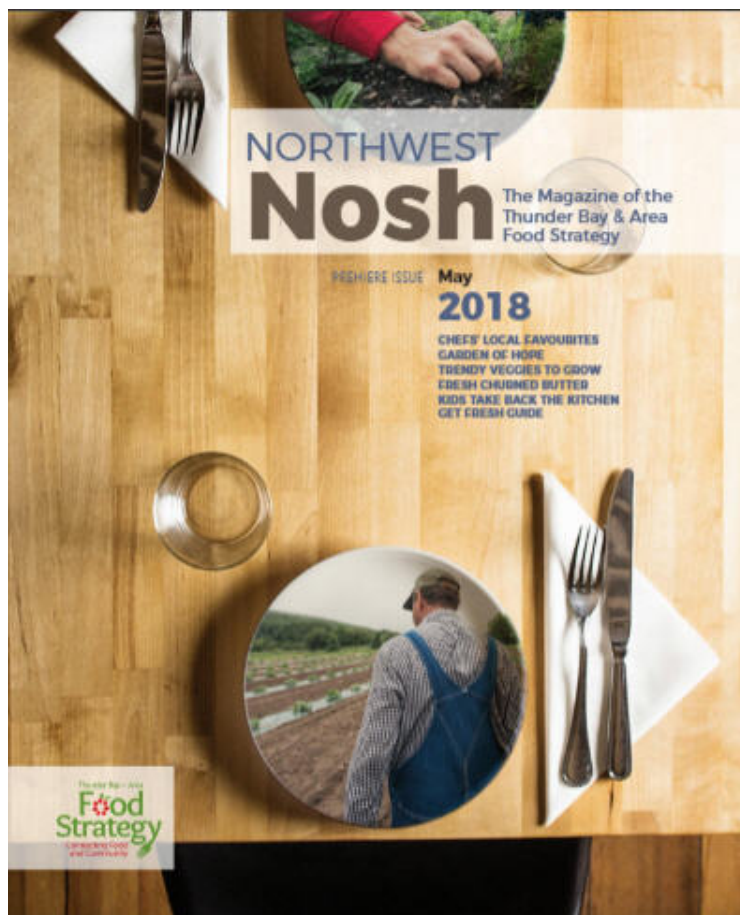
- The TBAFS published and printed the Northwest Nosh Magazine (2018 & 2019) which focused on highlighting stories across the region across all seven pillars of the Food Strategy. To date, 25,000 copies were printed and distributed across the region and into the United States. This project will resume in 2022.

- In 2017 the Indigenous Food Circle (IFC) was created. The aim of the IFC is to reduce Indigenous food insecurity, increase food self-determination, establish meaningful relationships with the settler population through food, to build healthy, equitable and sustainable food systems in Thunder Bay.

- The TBAFS partnered with the Indigenous Food Circle to coordinate the Fall 2019 event, Increasing Urban Access to Wild Game, that focused on understanding wild game regulations. Visit www.understandingourfoodsystems.com to learn more.

- The TBAFS worked with producers, agricultural, and economic development partners to provide educational and networking opportunities (such as 'Meat Your Match') amongst producers, institutional, and wholesale buyers based on the Food & Agriculture Market Study (2017) recommendations.

- The TBAFS continued outreach with local food producers to contribute to the City of Thunder Bay's institutional food procurement needs. With the help of forward buy contracts the City has increased local food procurement to 33-35%. The City started tracking Indigenous Harvesters/Businesses food spend in 2018 (\$1,000) and increased this investment to almost \$10,000 in 2020.





- The TBAFS developed and published School Food Environments in Thunder Bay: An Inventory Project of Food Programs and Initiatives in Elementary Schools and High Schools (2018). The Report details current food programming, funding, barriers, needs, infrastructure, and food philosophies in public schools across the city.
- The TBAFS connected with groups and networks outside of Thunder Bay to influence policy decisions including: the National Coalition for Healthy School Food, Food Secure Canada, Food: Locally Embedded, Globally Engaged (FLEdGE), Sustain Ontario, and the Food Communities Network.

For a more comprehensive list of food indicators please visit: tbfoodstrategy.ca.

FOOD STRATEGY EXECUTIVE COMMITTEE MEMBERS

Dan Munshaw

Ryan Moore

Charles Levkoe

Gwen O'Reilly

Silva Sawula

Councillor Brandon Postuma, Oliver Paipooonge

Councillor Kristen Oliver, Thunder Bay

Jessica McLaughlin

Karen Kerk, Coordinator



MOBILITY

Goal: Inspire and influence the evolution of integrated urban mobility that is efficient, affordable, and accessible.



Objective: Use public and private infrastructure to create seamless, barrier-free options for bicycling, walking, and transit use in order to create a cleaner, greener, more beautiful Thunder Bay.

- Since the installation of the first pedestrian crossover in 2016 at Algoma Street and Cornwall Avenue, the City has now installed 13 crossovers around town.
- Since 2014 there have been many infrastructure improvements including:
 - Improvements to the Arundel and Bay Street active living corridors;
 - Thunder Bay's first green bike lanes painted at the intersections of Vickers Street /Miles Street and Vickers Street and Victoria Avenue.
 - The Balmoral Multi-Use Trail extended to Alloy Drive and now covers most of the street length, with the remaining section from Alloy to Beverly proposed over the next few years.
 - In 2017, the City was awarded \$325,000 from the Ministry of Transportation's Ontario Municipal Cycling Infrastructure Fund (OMCIP) for the McIntyre River Multi-Use Bridge and connecting trail.
 - The Ford St. Trail was completed south to Walsh St., terminating at Alma Adair Park and seamlessly connecting North-South to the McIntyre Trail in Confederation College. This includes a signalized intersection at Arthur and Ford to provide safe crossing for trail users. The signalized intersection includes an Accessible Pedestrian Signal to provide more information for users of all abilities to make their crossing.
- In 2020 there were many improvements to accommodate for physical distancing including:
 - A lane closure on the Cumberland St. Bridge and jersey barriers to widen the pathway helped to accommodate for the physical distancing of trail users during the Boulevard Lake Dam reconstruction.
 - The temporary closure of Red River Road to a 1 lane, 1 way street provided protected and accessible space for people to move around the Waterfront District and enjoy offerings from vendors outside.
 - Weekend closure of Lyon Blvd to provide more leisure space for people enjoying being active around Boulevard Lake.

Objective: Citizens of all ages and abilities are inspired to adopt more active modes of transportation, leading to a higher quality of life.

- Thunder Bay has been recognized as a Silver Bicycle Friendly Community, an upgrade from the previous Bronze designation awarded in 2015.
- The amount of participants in the Safe Cycling Thunder Bay program steadily increased from 278 participants in 2014 rising each year to 2,268 participants in 2019. In 2020 Safe Cycling produced and promoted their cycling skills in an online video format to be accessible to those who were interested in learning more about bicycle skills in terms of riding and safely using a bicycle. They experienced particular success with a weekly online webinar series for Adult Cycling Courses.
- Several events have taken place over the last seven years to encourage people to adopt more active modes of travel including:
 - Walkability Committee hosted Jane's Walk, "A Walkable Block"
 - First WALKstock festival was held in Friendship Gardens
 - Open Streets and Strong Block festivals
 - Bike Summits and Bike Rodeos
 - Traffic calming workshops
 - Idea cafes and the 'Yes We Can' events to prioritize key initiatives that would make Thunder Bay a more bike-friendly community.
- Community Spokes overcame some significant challenges with COVID-19 through 2019 and 2020 restrictions and still helped numerous people gain access to affordable bicycles through Affordable Access to Bikes, partnering with organizations such as Shelter House Thunder Bay, The John Howard Society of Thunder Bay, Evergreen, and EcoSuperior.
- Leveraging the success of the Safe Cycling Thunder Bay program, EcoSuperior received funding from Green Communities Canada in 2018 for a new active school travel project, Walk Or Wheel Thunder Bay, which delivered active school travel initiatives from May 2018 - June 2020. This program has been successful in securing funding again in 2020 to expand the program and engage 14 additional schools.



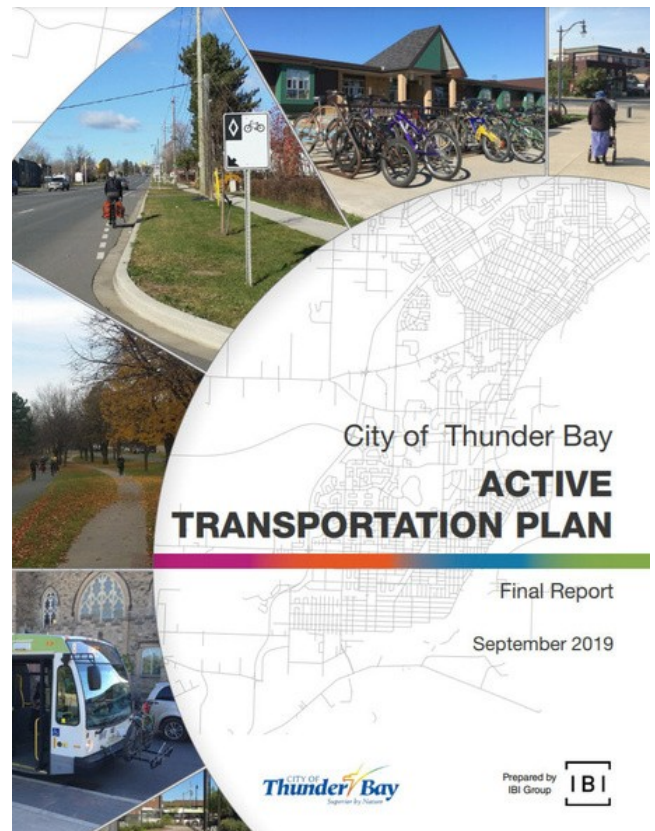


Objective: Introduce policies which support sustainable modes of transportation.

- In 2019 the Transportation Master Plan was adopted and recommends a practical, long-term plan for the City's transportation system to meet the needs of pedestrians, cyclists, transit riders, motorists and goods movement; while enhancing safety and accessibility, promoting sustainability, reducing environmental impacts and supporting economic development.
- The new Active Transportation Plan, also created in 2019, is an action-oriented document intended to chart the network improvements, policies and programs that will encourage and support active transportation over the next 20 years (and beyond).

**WALKABILITY COMMITTEE
MEMBERS**

- Joanna Carastathis, Chair
Amy Coomes
April Hadley
Brian Spare
Caroline Cox
Cathy Farrell
Darrik Smith
David Binch
Ian Dew
Jillian Fazio
Kassandra Fernandes
Keith Nymark
Kim Mowrey
Lindsay Galway
Lindsay Gaw-Martin
Margaret Cousins
Marilyn Grudniski
Melissa Gagne
Mike Vogrig
Nancy Angus
Rachael Shaffer
Rob Sanderson
Shahrzad Borjian
Silva Sawula
Sue Hamel
Susan Forbes
Werner Schwar



WASTE

Goal: To progress towards zero waste through an integrated waste management approach.

Objective: By 2020, the amount of residential solid waste generated annually per capita has decreased by 15% from the 2005 baseline.

- Developed Solid Waste Management Strategy in 2014 to best meet the financial, environmental and sustainability waste needs of Thunder Bay over the next twenty years
- As of 2019, there has been an 18% reduction in residential waste collected at curbside than 2005.
- Total residential waste generated was reduced by 5% from the 2005 baseline.

Objective: By 2020, the amount of commercial solid waste generated annually has decreased by 15% from the 2005 baseline.

- As of 2019, there has been a 30% reduction in ICI waste generated annually from the 2005 baseline.
- A partial user pay system was introduced in 2017, reducing the allowable free items to two, with the option to pay for a third item. Residential waste generated has since decreased and recycling participation has steadily increased.
- Treasure Exchange Days was created for City residents to promote Reuse in the City. The event is promoted twice annually and residents are encouraged to place good items out on their boulevard for free as an alternative to disposal.



13%



Recycling tonnage marketed increased 13% from 2016 to 2020.

8%



Residential Diversion rate increased by 8% from 2013 to 2019.



- The City changed the policy on leaf and yard waste collections in 2015, eliminating the option to use plastic bags. Kraft paper bags became mandatory for participants of the curbside program, which decreased operational costs and increased the quality of the finished compost. Compost given away to residents free of charge met the AA compost standard every year since 2016.
- In 2020, the City of Thunder Bay began participation in the The Great Lakes Plastic Cleanup Seabin project. The Seabin acts as a floating garbage bin, skimming the surface of the water by pumping water into the device.

Objective: By 2020, single use bottled water is phased out of public facilities, schools, and public events in Thunder Bay and a strategy to phase out the use of other plastic containers has been developed.

- In 2015 City Council passed a resolution to ban the sale of bottled water at most city-run events.
- Water bottle fill stations were installed at several public city facilities.
- Funded a water bar for events – available through EcoSuperior.
- Supply management worked with City-run long term care facilities to begin purchasing more eco friendly packaging & take-out containers (such as corn-based straws).
- Many stores participated in the take a bag, leave a bag campaign. Or have started charging for plastic bags.
- Several restaurants have moved largely towards more eco-friendly packaging.



WASTE WORKING GROUP MEMBERS

Lee Amelia Co-chair
 Diane Scocchia Co-chair
 Amy Coomes
 Annette Maurer
 Cindy Wall
 Dan Munshaw
 Glenn Berst
 Jason Sherband
 John Staal
 Joshua Hewitt
 Kristin Maenpaa
 Kim Mowrey
 Kyla Moore
 Lucy Laframboise
 Margaret Cousins
 Molly MacDonald
 Randy Mehagan
 Rebecca Johnson
 Sonja Lyons
 Tiina Ahokas

SPRING UP TO CLEAN UP

Time to **Spring** into action, Thunder Bay!

Each year, thousands of community members volunteer their time to clean up Thunder Bay by picking up litter from local streets, parks, walking trails, and their own neighbourhoods. Register for the Spring Up to Clean Up campaign and do your part to keep Thunder Bay clean, green, and beautiful!

REGISTRANTS RECEIVE:

- Free clean-up gear
- recognition for your efforts
- chances to win great local prizes!

Registration opens April 1 for clean-ups throughout the month of May. Visit ecosuperior.org/springuptbay to register or to find out more!

#springuptbay

Funded by the City of Thunder Bay and delivered by Ecosuperior

City of Thunder Bay
RE-ENVISION
ecosuperior

Objective: By 2020, reduce litter through a preventative approach and a culture of litter prevention prevails.

- Spring Up to Clean Up has been provided to City residents every year since 1996. 2021 marked the 25th anniversary. The month-long event regularly attracts upwards of 10,000 volunteers to help clean litter from public spaces throughout the city.
- The City has funded a total of 213 public space recycling units that are serviced year round.
- The Don't Be Trashy campaign helped spread the anti-litter message to city residents.

Objective: By 2020, an increase in the diversion of hazardous waste and the use of less toxic alternatives has been achieved.

- The City launched a public space battery-recycling program, making it easier for people to recycle their batteries. Drop off points include the public libraries and various other high traffic locations.
- An interactive hazardous waste brochure was developed, providing information about common household hazardous waste items, including proper disposal and alternative green substitutes that are better for the environment.

40%

Residential hazardous waste collected increased by 40% from the 2005 baseline.

PLAY IT SAFE WITH **HAZARDOUS WASTE**

CITY OF Thunder Bay

AIR QUALITY

Goal: To lead communities in Northwestern Ontario and the Lake Superior basin in improving outdoor and indoor air quality by reducing air pollutant and noise emissions.

Objective: By 2016 the City of Thunder Bay has developed and implemented anti-idling programs, reducing emissions from idling vehicles.

- In 2015 Fleet Services created a procedure governing the idling of fleet engines. The idling procedure contains a number of restrictions. Among them are prohibiting idling by City vehicles for longer than 10 seconds, and the designation of several City work sites as “idle-free zones”.



Objective: By 2020, traffic noise control measures are in place.

- The amendment of the existing idling prohibitions in the Noise By-law in 2018, lowering the allowed idling time to two minutes except when the temperature is hotter than 27°C or colder than 0°C.

Objective: By 2020, Thunder Bay citizens have the air quality and noise resources they need to make environmentally responsible decisions.

- In 2018 EcoSuperior ran an 'Idling is Fuelish' campaign outlining the importance of shutting your vehicle off when parked.
- A focal study conducted by the Thunder Bay District Health Unit in 2015 found that on average, 16% of homes in our community have radon levels with a concentration of 200 Bq/m³ or higher. Long-term radon test kits are available at EcoSuperior for \$50.

COMMUNITY GREENING

Goal: To protect, maintain and improve the ecosystems and well-being of the green infrastructure of Thunder Bay.

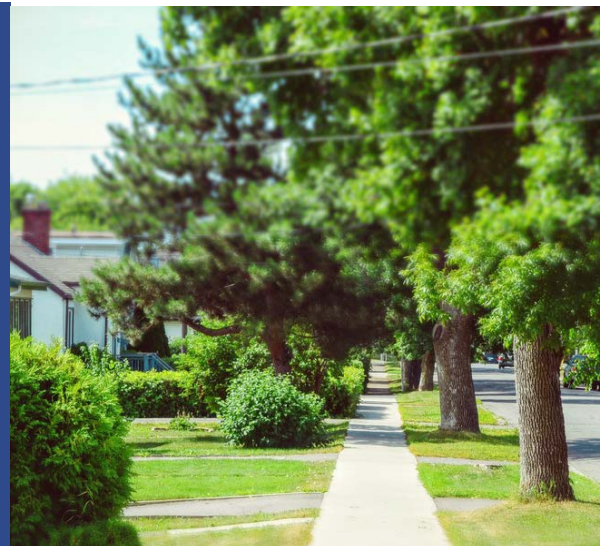
Objective: By 2020 city tree and shrub canopy cover has increased to 30% (from 25% in 2012) within urban limits.

- Forestry & Horticulture planted over 3300 from 2014 to 2020 with half being boulevard large caliper trees and half being parkland small caliper trees. Over 2000 trees have been injected with the TreeAzin bio pesticide to protect them against the Emerald Ash Borer. Over 5000 seedlings have been planted by local schools and Scouts Canada over the last 7 years thanks to donations by KBM.
- A tree risk assessment and inventory has been completed for all street trees.

Objective: By 2020, the City of Thunder Bay has a more integrated approach to community planning (i.e. policies/procedures consistent with Official Plan (OP), UFMP, Urban Design Guidelines (UDG)).

- In 2017 the Ontario Government released new regulation regarding Asset Management which includes green infrastructure as a municipal asset that must be maintained.
- In 2020 the City of Thunder Bay was recognised as a Tree City of the World, for establishing responsibility, setting the rules, knowing what you have, allocating the resources, and celebrating achievements.
- The City in collaboration with stakeholders is developing an invasive species strategy.

Over
3300
Trees planted by Urban
Forestry





Objective: By 2020, Thunder Bay's citizens are actively engaged in Community Greening through new private-public partnerships, educational events, tree programs and social media.

- Arbor Day is held each year in May where numerous small trees and raised pollinator flower beds are planted by volunteers.
- Canada Tree Day is celebrated each September by tree planting activities. The events are well attended by local citizens.
- In 2018 dozens of Urban Greenscapes volunteers came together to help create the Adelaide Monarch Garden located at 420 Adelaide Street.
- In 2019 the City of Thunder Bay signed on to the Monarchs in the Rough program and created milkweed areas in both Strathcona and Chapples golf courses for the monarchs.
- Members of the EarthCare Community Greening group continue to write articles in magazines, newspapers, and newsletters outlining the efforts and importance of creating beautiful green spaces in our city.
- Pollinator beds were created throughout the City's signature parks using interpretive signage mounted on salvaged large tree stumps.

Objective: By 2020, Thunder Bay's natural areas and urban forests are comprised of a healthy and diverse mixture of flora and fauna that are resilient to the effects of climate change.

- Forestry and horticulture has been trialing different tree species and identifying resilient species that will thrive in our changing climate.

Objective: By 2020, plant trees to have adequate soil volume and quality to ensure the living green infrastructure's full lifecycle, and associated ecosystem services, are achieved.

- Water bags have been adopted as a new standard, offering two years of watering for young trees.
- Soil quality standards are now required for all city tree planting and low impact development projects.

COMMUNITY GREENING WORKING GROUP MEMBERS

Kyle Jessiman, Chair

Allan Hall

Amy Coomes

Dan Fulton

Hannah Gelling - Van Den Brand

Jacob Baldassi

Jacob Porter

James Taylor

John Walas

Kyla Moore

Margaret Cousins

Melissa Davidson

Mike Dixon

Ralph Bolough

Robert Scott

Rod Seabrook

Sarah Friesen

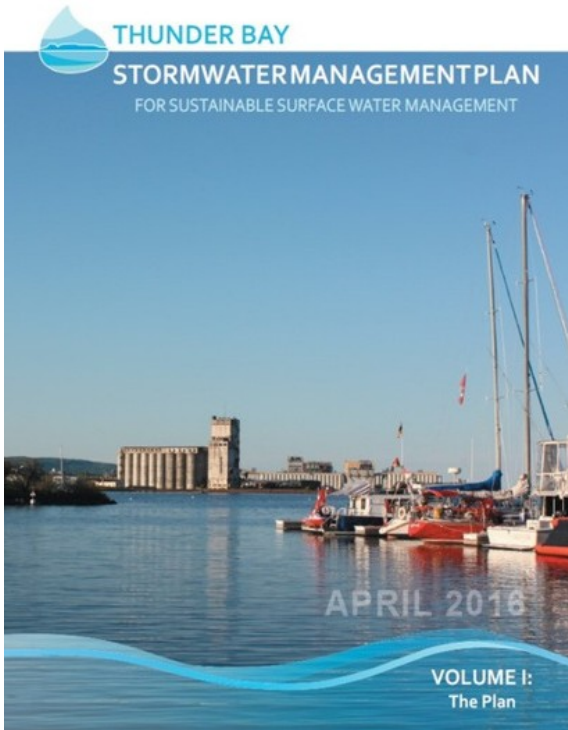
Summer Stevenson

Susan Jaward

Werner Schwar



Wood mulch, a by-product of City Forestry efforts is provided free of charge to the public at the Conservatory for citizens to use in their home gardens.



WATER

Goal: To ensure that water resources in the local watershed are protected and enhanced through the engagement of various stakeholders.

Objective: By 2020, integrated approaches to improve the management of water, wastewater, and stormwater based on best practices are supported.

- By end of 2019, 25 Green Infrastructure (or Low Impact Development) facilities have been constructed in Thunder Bay. These facilities treat an estimated 37,000m³ of annual runoff volume. Stormwater from approximately 22.8 hectares (56 acres) drain through these facilities.
- In 2016 the Stormwater Management Plan was developed, which focuses on the stormwater system, and how changes in the environment, land use, and climate affect it.
- As of 2020, the majority of stormwater sewers have been disconnected from the wastewater system to reduce peak flow to the wastewater treatment plant.
- In October 2020, the Thunder Bay Sediment Management Options Working Group for the North Harbour presented a consultant's report to the Senior Management Committee noting the preferred sediment management option (Option A: Dredging and disposal at a new on-site confined disposal facility with or without the former lagoons).
- Since the last Remedial Action Plan Update (2009-2012), all the necessary actions have been completed to redesignate four of the Beneficial Use Impairments (BUIs) in Thunder Bay from "impaired" to "not impaired" status: fish tumours and other deformities, degradation of zoo- and phytoplankton populations, degradation of aesthetics, and bird and animal deformities or reproductive problems. An additional BUI, beach closings, has also been proposed for redesignation to "not impaired". The BUIs that remain impaired are: loss of fish and wildlife habitat, degradation of fish populations, and degradation of benthos; with one BUI, fish consumption, requiring further assessment.

Objective: By 2020, water conservation, stewardship and water management practices for healthy watersheds are promoted to the community.

- To date 174 new rain gardens have been installed through the Rain Garden Rebate Program. This program is funded by the City of Thunder Bay and delivered by EcoSuperior. Through this program EcoSuperior hosts workshop training, promotes the new rain garden manual, coordinates annual rain garden tour, promotes the benefits of rain gardens, and offers presentations to workplaces, neighbourhoods and community groups.
- In 2019 EcoSuperior and the City of Thunder Bay developed the Adopt-A-Drain Program, encouraging residents to work together to keep water runoff under control by adopting storm drains in their neighbourhood. A clear storm drain helps prevent pollution from entering the storm water system and making its way to Lake Superior.
- The Drainage Assistance Rebate Program has been offered by the City of Thunder Bay through EcoSuperior since 2013. To date 766 applications have received funding through the program.
- Funded by the City of Thunder Bay and delivered by EcoSuperior, 386 fully equipped rain barrels were sold to capture runoff and conserve water in 2020. Since 1997, more than 11,952 rain barrels have been sold. With every rain barrel an information package and stormwater fact sheet are provided.

Objective: Partnerships with various stakeholders have been developed to address existing and emerging water issues.

- Several community partners including the Lakehead Region Conservation Authority, Confederation College, and Lakehead University have begun to utilize low impact developments as innovative approaches to climate adaptation and resiliency.

WATER WORKING GROUP MEMBERS

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GOING FORWARD

The 2014 to 2020 EarthCare Sustainability Plan laid out the general direction that the community of Thunder Bay needed to take in order to reduce GHG emissions and continue transitioning to a more resilient, sustainable community. The Plan identified needs for continued local action, the importance of education, and the challenge of integrating environment, economy, and community. The Plan demonstrated how citizens could make a difference at home, in the workplace, and in the community. It challenged the public to work with EarthCare to make Thunder Bay a more sustainable city.

Now that we have reflected on the encouraging journey that has taken place since its implementation in 2014, it is time for renewal. In 2021 EarthCare will focus on the renewal of this Plan and look to continue to create new and exciting opportunities, and ultimately develop a stronger, more liveable Thunder Bay.





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