The Corporation of the City of Sault Ste. Marie

Regular Meeting of City Council ;

Revised Agenda

Monday, July 14, 2025

5:00 pm

Council Chambers and Video Conference

As a courtesy, meetings are available for viewing on the City's YouTube channel
https://www.youtube.com/user/SaultSteMarieOntario

Pages

1. **Land Acknowledgement**

I acknowledge, with respect, that we are in Robinson-Huron Treaty territory, that the land on which we are gathered is the traditional territory of the Anishinaabe and known as Bawating. Bawating is the home of Garden River First Nation, Batchewana First Nation, the Historic Sault Ste. Marie Metis Council.

2. **Adoption of Minutes** 15 - 33

Mover Councillor L. Dufour

Seconder Councillor M. Bruni
Resolved that the Minutes of the Regular Council Meeting of June 23, 2025 be approved.

3. **Questions and Information Arising Out of the Minutes and not Otherwise on the Agenda**

4. **Declaration of Pecuniary Interest**

5. **Approve Agenda as Presented**

Mover Councillor L. Vezeau-Allen

Seconder Councillor M. Bruni
Resolved that the Agenda for July 14, 2025 City Council Meeting as presented be approved.

6. Presentations

6.1 PUC Group of Companies

34 - 42

Andy McPhee, Chair and Robert Brewer, President and CEO

6.2 Transit Roadmap to Electrification Study

43 - 63

HDR Inc.

6.3 Proposed Wind Farm Project

64 - 89

Will Colucci, Project Developer and Toby Shepherd, Community Engagement Manager, EDF Power Solutions Development Inc.

6.4 Active Transportation Master Plan

90 - 104

Adam Rosenfield, Senior Transportation Engineer, WSP

7. Communications and Routine Reports of City Departments, Boards and Committees – Consent Agenda

Mover Councillor L. Dufour

Seconder Councillor S. Kinach
Resolved that all the items listed under date July 14, 2025 – Agenda item 7 – Consent Agenda be approved as recommended.

7.1 O.P.P. Costing Request

105 - 109

A report of the Chief Administrative Officer is attached for the information of Council.

Mover Councillor L. Dufour

Seconder Councillor S. Kinach
Resolved that the report of the CAO dated July 14, 2025 concerning O.P.P. costing be received as information.

7.2 Design Study – Home Energy Improvement Loan Program

110 - 111

A report of the Manager of Purchasing is attached for the consideration of Council.

Mover Councillor L. Vezeau-Allen

Seconder Councillor M. Bruni
Resolved that the report of the Manager of Purchasing dated July 14, 2025 concerning services to provide a Design Study for Home Energy Improvement Loan Program as required by Community Development and Enterprise Services be received and that the proposal submitted by Dunsky Energy be awarded in the amount of $129,888.00 plus HST.

7.3 Factory Repair Snow Removal Equipment

112 - 113

A report of the Manager of Purchasing is attached for the consideration of Council.

Mover Councillor L. Vezeau-Allen

Seconder Councillor M. Bruni
Resolved that the report of the Manager of Purchasing dated July 14, 2025 concerning the factory repair of two loader mounted snow blowers as required by Public Works and Engineering be received and that the work be awarded to J.A. Larue Inc. as sole source in the amount of $149,277.06 plus HST.

7.4 Independent Electricity System Operator Long-Term 2 – Procurement and Role of the Municipality

114 - 123

A report of the Deputy CAO, Community Development and Enterprise Services is attached for the information of Council.

Mover Councillor L. Dufour

Seconder Councillor S. Kinach
Resolved that the report of the Deputy CAO, Community Development and Enterprise Services dated July 14, 2025 concerning the Independent Electricity System Operator Long-Term 2 Procurement Process and Role of the Municipality be received as information.

7.5 Pedal Pub Pilot

124 - 127

A report of the Deputy CAO, Community Development and Enterprise Services is attached for the consideration of Council.

Mover Councillor L. Vezeau-Allen

Seconder Councillor M. Bruni
Resolved that the report of the Deputy CAO, Community Development and Enterprise Services dated July 14, 2025 concerning a two-year pilot permitting a Pedal Pub pilot in the downtown core with the option to extend upon mutual agreement be approved and that a by-law be returned at a subsequent Council meeting.

7.6 Lease Amendment – Jayteq Pro Shop Vending Machine

128 - 129

A report of the Director of Community Services is attached for the consideration of Council.

The relevant By-Law 2025-112 is listed under item 12 of the Agenda and will be read with all by-laws under that item.

7.7 Lease Amendment and Extension – Icebreakers Sport Bar and Grill

130 - 131

A report of the Director of Community Services is attached for the consideration of Council.

The relevant By-law 2025-111 is listed under item 12 of the Agenda and will be read with all by-laws under that item.

7.8 Public Art Funding – Soo Market Mural 132 - 133

A report of the Manager of Recreation and Culture is attached for the consideration of Council.

Mover Councillor L. Vezeau-Allen

Seconder Councillor S. Kinach
Resolved that the report of the Manager of Recreation and Culture dated July 14, 2025 concerning Public Art Project – Soo Market Mural in the amount of $6,000 to support the mural be approved.

7.8.1 Mayor's Youth Advisory Council Comments *134 - 134*

7.9 2025 Connecting Link Funding Agreement 135 - 136

A report of the Director of Engineering is attached for the consideration of Council.

The relevant By-law 2025-113 is listed under item 12 of the Agenda and will be read with all by-laws under that item.

7.10 Five-Year Capital Transportation Program (2026-2030) 137 - 142

A report of the Director of Engineering is attached for the consideration of Council.

Mover Councillor L. Dufour

Seconder Councillor S. Kinach
Resolved that the report of the Director of Engineering dated July 14, 2025 concerning 2026–2030 Five-Year Capital Transportation Program be received and that:

- Council approve the 2026–2030 programs in principle;
- That staff procure consulting engineering services for the Elgin Street Reconstruction/Rehabilitation; and
- That the resurfacing of Great Northern Road between 500m north of Wigle Street to the north city limit be the designated project for the City’s application to the 2026 Connecting Link Program.

7.11 Peoples Road Reconstruction – Railway Warning Protection System 143 - 144

A report of the Manager of Design and Transportation Engineering is attached for the consideration of Council.

Mover Councillor L. Vezeau-Allen

Seconder Councillor S. Kinach

Resolved that the report of the Manager of Design and Transportation Engineering dated July 14, 2025, concerning the railway warning protection systems for Peoples Road Reconstruction be approved and that CDL Electric Canada be authorized as sole source to proceed with final design and installation of the warning protection systems.

7.12 Asset Management Plan – Lifecycle Management and Financial Strategy 145 - 727

A report of the Manager of Development and Environmental Engineering is attached for the consideration of Council.

Mover Councillor L. Vezeau-Allen

Seconder Councillor M. Bruni
Resolved that the report of the Manager of Development and Environmental Engineering dated July 14, 2025 be received and that the asset management plan reports be approved.

7.13 Senior Citizens Drop-In Centre – Extension Agreement 728 - 729

A report of the Assistant City Solicitor/Senior Litigation Counsel is attached for the consideration of Council.

The relevant By-law 2025-116 is listed under item 12 of the Agenda and will be read with all by-laws under that item.

8. Reports of City Departments, Boards and Committees

8.1 Administration

8.2 Corporate Services

8.3 Community Development and Enterprise Services

8.3.1 Sault Ste. Marie Transit – Roadmap to Electrification Study 730 - 838

A report of the Director of Community Services is attached for the consideration of Council.

Mover Councillor L. Dufour

Seconder Councillor S. Kinach
Resolved that the report from the Director of Community Services dated July 14, 2025, concerning the Zero Emission Electrification Study be received as information, and that staff:

1. Be directed to submit modification requests to ICIP for a change of scope on applicable electrification projects to allow for the purchase of rolling fleet assets to include either hybrid or diesel/gasoline;
2. Be directed to engage with Metrolinx on the purchase of one hybrid bus, pending approval of the modification request;

3. Report back to Council on the outcome of the HYGN pilot project and put forward a budget request for 2026 that further outlines financial requirements; and

4. Be directed to revisit transit electrification technology options and cost estimates every two years, to ensure the City remains aligned with its net-zero emissions goals and is prepared to act as technologies mature and become more cost-effective.

8.3.2 Proposed Wind Farm Project

839 - 842

A report of the Manager of Business Attraction, Economic Development is attached for the consideration of Council.

Mover Councillor L. Vezeau-Allen

Seconder Councillor M. Bruni

Resolved that the report of the Manager of Business Attraction, Economic Development dated July 14, 2025 concerning the proposed wind farm project be received and that Council approve the municipal support resolution as outlined below:

Whereas the Independent Electricity System Operator (IESO) expects to issue the Long-Term 2 Request for Proposal (LT2 RFP) to competitively procure 1,500 MW of non-emitting energy-producing resources; and

Whereas the LT2 RFP requires proponents to show evidence of having obtained support in the form of a municipal support resolution from each local municipality in whose jurisdiction the Long-Term energy-producing project is proposed to be located; and

Whereas one or more of these energy-producing systems may be constructed and operated within City of Sault Ste Marie municipal boundaries by EDF Power Solutions Development Inc. or any of its affiliates or subsidiaries formed for the purposes of this LT2 RFP, as applicable (the “Proponent”); and

Whereas new non-emitting supply is expected to be cost competitive, clean and renewable such as wind and solar generation.

Now Therefore Be It Resolved that:

1. The Council of the City of Sault Ste. Marie supports the EDF submission of a Proposal for the Long-Term Energy Project located on the Municipal Project Lands;

2. This resolution’s sole purpose is to satisfy the mandatory requirements of Section 4.2(b)(iii) of the LT2(e-1) RFP and may not be used for the purpose of any other form of approval in relation to the Proposal or Long-Term Energy Project or for any other purpose;

3. That this municipal support resolution does not supersede any applicable permits or approvals under applicable laws and regulations that may be required for a Project;

4. That the Proponent must engage with relevant City of Sault Ste.

Marie staff to meet all *Planning Act* approvals, permits, and requirements; and

5. Relevant City of Sault Ste. Marie staff be directed to work with the Proponent to complete and execute any additional resolution(s) required by the IESO under the LT2 RFP to evidence support from the City of Sault Ste. Marie for the Project and necessary work/forms required by the IESO or Hydro One for the submission of the Project.

The relevant By-Law 2025-115 is listed under Agenda item 12 and will be read with all by-laws under that item.

8.3.2.1 Postponement

Mover Councillor L. Vezeau-Allen

Seconder Councillor M. Bruni
Resolved that the report of the Manager of Business Attraction, Economic Development dated July 14, 2025 concerning the proposed wind farm project be received and that the matter be postponed at the request of the proponent.

8.4 Public Works and Engineering Services

8.5 Fire Services

8.6 Legal

8.7 Planning

8.7.1 A-6-25-Z 99 Melville Road

843 - 873

A report of the Junior Planner is attached for the consideration of Council.

Mover Councillor L. Dufour

Seconder Councillor M. Bruni
Resolved that the report of the Junior Planner dated June 2, 2025, concerning Application A-6-25-Z be received and that Council approve the application in the following manner:

Rezone the subject property from Gentle Density Residential (R2) Zone to Gentle Density Residential (R2.S) Zone with a special exception subject to the following provisions:

1. Permit a Rooming House with a maximum of 12 units, in addition to those uses already permitted in an R2 Zone;
2. Require a minimum of 12 parking spaces in association with the Rooming House;
3. That a continuous hedgerow consisting of evergreen trees, bushes, or shrubs be planted along both side lot lines, but not required within the first 7.5 metres from the front lot line. The hedgerow shall reach a

minimum height of 1.8 metres above established grade at maturity;

Further, that Council deem the properties subject to Site Plan Control.

And that the Legal Department be requested to prepare the necessary by-law(s) to effect the same.

8.7.1.1 Additional Information *874 - 887*

8.7.2 Active Transportation Master Plan 888 - 1067

A report of the Intermediate Planner is attached for the consideration of Council.

Mover Councillor L. Vezeau-Allen

Seconder Councillor M. Bruni
Resolved that the report of the Intermediate Planner dated July 14, 2025 concerning Active Transportation Master Plan be received and that Council adopt the Plan as a strategic, guiding policy document to inform active transportation investment decisions.

8.8 Boards and Committees

8.8.1 PUC Shareholders Resolutions

Mover Councillor L. Dufour

Seconder Councillor S. Kinach
Resolved that City Council is now authorized to meet in open session as the sole shareholder of PUC Inc. and PUC Services Inc.; and

Further Be It Resolved that City Council appoints Mayor Matthew Shoemaker as Council's proxy to vote on the resolutions of the shareholder of PUC Inc. and PUC Services Inc.

8.8.1.1 PowerShare Inc.

Whereas the City of Sault Ste. Marie, as the Shareholder of PUC Inc., has established a Shareholder Declaration that requires PUC Inc. to seek and receive shareholder approval for equity investments and capital expenditures in excess of established thresholds; and

Whereas the Independent Electricity System Operator (IESO) has forecasted that Ontario will require up to 75% more electricity by 2050 to meet growing demand driven by electrification and economic development, creating significant opportunities in the sector; and

Whereas PUC Distribution Inc. is a founding member of PowerShare Inc., a strategic alliance of leading Ontario local distribution companies (LDCs) formed to advance Distribution System Operator (DSO) capabilities, enable local energy markets, and integrate distributed energy resources (DERs) such as battery storage and small-scale generation into the electricity grid; and

Whereas the creation of PowerShare Inc. aligns with PUC's leadership in smart grid innovation and supports the broader transformation of Ontario's energy system to be more decentralized, digital, and customer-focused; and

Whereas an initial equity investment of $50,000 is required to formalize PUC Distribution's participation in PowerShare Inc. and secure access to intellectual property and shared tools developed by the alliance

Now Therefore Be It Resolved that the shareholder of PUC Inc. hereby:

- Authorize and approve PUC Inc. to support its subsidiary, PUC Distribution Inc., in joining the PowerShare Inc. alliance and participating as a founding member;
- Approve an equity investment of $50,000 by PUC Distribution Inc. into PowerShare Inc. to secure participation rights and access to shared intellectual property; and
- Authorize PUC Inc. to execute and deliver any and all necessary agreements, instruments, or documents required to formalize PUC Distribution Inc.'s membership in PowerShare Inc. and to support the continued advancement of DSO capabilities.

8.8.1.2 Axium Infrastructure Inc./PUC Inc. Partnership

Whereas the Shareholder Declaration requires PUC Inc. to seek and receive shareholder approval for the creation of new corporate structures or partnerships and any capital investment in excess of $5,000,000 individually or $10,000,000 in aggregate; and

Whereas the Independent Electricity System Operator (IESO) has forecasted that Ontario will require up to 75% more electricity by 2050 to meet growing demand driven by electrification and economic development, creating significant opportunities in the sector; and

Whereas PUC Inc. is proposing the formation of a new joint development entity, PAX, in partnership with Axium Infrastructure Inc., to manage development-related costs and deliver long-term investment opportunities; and

Whereas Axium Infrastructure Inc. is a Canadian-owned, independent portfolio management firm that specializes in long-term investments in core infrastructure assets across the energy, transportation, and social sectors, and has been a strategic partner to PUC in advancing infrastructure initiatives

Now Therefore Be It Resolved that the shareholder of PUC Inc. hereby:

- Approve the formation of the PAX partnership entity with Axium Infrastructure Inc., including the negotiation, execution, and delivery of any partnership, operating, and ancillary agreements necessary to establish and operate the entity; and
- Authorize PUC Inc. to invest development capital into PAX and its associated projects in alignment with the Shareholder Declaration.

8.8.1.3 PUC Distribution Inc.

Whereas PUC Inc. is a wholly owned municipal corporation of the City of Sault Ste. Marie; and

Whereas The Corporation of the City of Sault Ste. Marie as the shareholder of PUC Inc. has established a shareholder declaration that requires PUC Inc. seek and receive shareholder approval with respect to the borrowing of any money, the issuance of any debt, the giving of any security or the making or incurring of any single capital expenditure or acquisition in excess of $5,000,000 or any capital expenditures which, in aggregate, are in excess of $10,000,000 in any financial year of PUC Inc. and the Subsidiary Corporations on a consolidated basis; and

Whereas PUC Distribution Inc. is proposing to refinance its internal $26.5 million Note Payable to PUC Inc. through new third-party financing, and establish a credit facility for critical capital infrastructure investments; and

Whereas the financing strategy includes entering into new credit facilities with RBC, consisting of a $26.5 million term loan, a $25 million revolving credit facility, and

Now Therefore Be It Resolved that the shareholder of PUC Inc. hereby, on the recommendation of the PUC Inc. Board of Directors and the PUC Distribution Inc. Board of Directors, approve the refinancing of PUC Distribution Inc. as presented.

8.8.2 Public Utilities Commission – Water – Terms of Reference

1068 - 1071

A report of the City Clerk is attached for the consideration of Council.

Mover Councillor L. Vezeau-Allen

Seconder Councillor M. Bruni
Resolved that the report of the City Clerk dated July 14, 2025 concerning Public Utilities Commission – Water – Terms of Reference be received and that the terms of reference be approved.

8.8.3 Sault Ste. Marie Police Service 2024 Annual Report

1072 - 1121

The Sault Ste. Marie Police Service 2024 Annual Report is attached for the information of Council.

Mover Councillor L. Dufour

Seconder Councillor S. Kinach
Resolved that the Sault Ste. Marie Police Service Annual Report 2024 be received as information.

9. Unfinished Business, Notice of Motions and Resolutions Placed on Agenda by Members of Council

9.1 Roadside Attraction

Mover Councillor S. Kinach

Seconder Councillor M. Bruni

Whereas Sault Ste. Marie is a community deeply rooted in winter culture and proud of its industrial heritage, particularly its longstanding contributions to the steel industry; and

Whereas the City of Sault Ste. Marie embraces its “Naturally Gifted” identity and is continually seeking creative ways to enhance tourism, promote civic pride, and celebrate its unique local character; and

Whereas roadside attractions are known to generate increased visitor traffic, create photo-worthy landmarks, and contribute to a sense of place and identity; and

Whereas a giant snowflake sculpture, crafted from locally produced steel, would serve as a meaningful and visually striking symbol of both our natural climate and our local industry, reinforcing the city’s connection to winter and its manufacturing heritage; and

Whereas such a sculpture would not only contribute to beautification and placemaking but could also support local artists, fabricators, and businesses through its design, construction, and installation;

Now Therefore Be It Resolved that City staff be requested to consult with local community and industry partners and report back to Council regarding potential project scope, design, location, and community engagement opportunities;

Further Be It Resolved that the report identify costs and funding sources, including Municipal Accommodation Tax revenue, City public art funding (Cultural Vitality Committee), donations, sponsorship, grants, and funding from other levels of government.

10. Committee of the Whole for the Purpose of Such Matters as are Referred to it by the Council by Resolution

11. Adoption of Report of the Committee of the Whole

12. Consideration and Passing of By-laws

Mover Councillor L. Dufour

Seconder Councillor M. Bruni

Resolved that all By-laws under item 12 of the Agenda under date July 14, 2025 be approved.

12.1 By-laws before Council to be passed which do not require more than a simple majority

12.1.1 **By-law 2025-110 (Traffic) Amend Definitions and Interpretation, Schedule "A" and Schedule "VV" to By-law 77-200** 1122 - 1123

Council report was passed by Council resolution on June 23, 2025.

Mover Councillor L. Dufour

Seconder Councillor M. Bruni
Resolved that By-law 2025-110 being a by-law to amend "Definitions and Interpretation", Schedule "A" and add Schedule "VV" to Traffic By-law 77-200 be passed in open Council this 14th day of July, 2025.

12.1.2 **By-law 2025-111 (Agreement) Ice Breakers Sports Bar John Rhodes Community Centre (Jody Wilson) Operate a Restaurant/Lounge** 1124 - 1128

A report from the Director of Community Services is on the Agenda.

Mover Councillor L. Dufour

Seconder Councillor M. Bruni
Resolved that By-Law 2025-111 being a by-law to authorize the execution of the Amending Agreement between the City and 1848626 Ontario Inc. operating as Icebreakers Sports Bar and Grill for the lease of space at the John Rhodes Community Centre to operate a restaurant/lounge be passed in open Council this 14th day of July, 2025.

12.1.3 **By-law 2025-112 (Agreement) Jayteq Pro Shop John Rhodes Community Centre (Jay Thomas) Amendment Vending Machine John Rhodes** 1129 - 1134

A report from the Director of Community Services is on the Agenda.

Mover Councillor L. Dufour

Seconder Councillor M. Bruni
Resolved that By-law 2025-12 being a by-law to authorize the execution of the Amending Agreement between the City and Jayteq Pro Shop (Jay Thomas), to add the operation of a hockey accessories vending machine within the John Rhodes Community Centre to the original lease, be passed in open Council this 14th day of July, 2025.

12.1.4 **By-law 2025-113 (Engineering) Connecting Links Program Funding Great Northern Road Resurfacing** 1135 - 1206

A report from the Director of Engineering is on the Agenda.

Mover Councillor L. Dufour

Seconder Councillor M. Bruni
Resolved that By-law 2025-113 being a by-law to authorize the execution of the Agreement between the City and His Majesty the King in Right of Ontario as represented by the Minister of Transportation for the Connecting Links Program to provide funding for the resurfacing of Great Northern Road from Third Line East to Wigle Street be passed in open Council this 14th day of

July, 2025.

12.1.5 **By-law 2025-115 (Agreement) EDF Power Solutions Development Inc. (Cory Basil) Proposed Wind Farm Project** 1207 - 1211

A report from the Manager Business Attraction, Economic Development is on the Agenda.

Mover Councillor L. Dufour

Seconder Councillor M. Bruni
Resolved that By-law 2025-115 being a by-law to authorize the execution of the Agreement between the City and EDF Power Solutions Development Inc. (Cory Basil) for a proposed wind farm in the form of an executed Municipal Support Resolution (MSR) be passed in open Council this 14th day of July, 2025.

12.1.6 **By-law 2025-116 (Agreement) Sault Ste. Marie Housing Corporation Senior's Drop In Centre Extension 619 and 615 Bay Street** 1212 - 1254

A report from the Assistant City Solicitor/Senior Litigation Counsel is on the Agenda.

Mover Councillor L. Dufour

Seconder Councillor M. Bruni
Resolved that By-Law 2025-116 being a by-law to authorize the execution of the Extension Agreement between the City and Sault Ste. Marie Housing Corporation for a lease of space for Seniors Drop In Centre located at 619 and 615 Bay Street be passed in open Council this 14th day of July, 2025.

12.2 **By-laws before Council for FIRST and SECOND reading which do not require more than a simple majority**

12.3 **By-laws before Council for THIRD reading which do not require more than a simple majority**

13. **Questions By, New Business From, or Addresses by Members of Council Concerning Matters Not Otherwise on the Agenda**

14. **Closed Session**

Mover Councillor L. Vezeau-Allen

Seconder Councillor M. Bruni
Resolved that this Council move into closed session to discuss:

- one item concerning a potential disposition of land;
- one item subject to solicitor-client privilege;
- one item explicitly supplied in confidence to the municipality by the Province;

- one item concerning information which, if disclosed, could reasonably be expected to prejudice significantly the competitive position of an organization; and

Further Be It Resolved that should the said closed session be adjourned, the Council may reconvene in closed session to continue to discuss the same without the need for a further authorizing resolution.

Municipal Act R.S.O.2001 – s. 239.2 (c) a proposed or pending acquisition or disposition of land; (f) advice that is subject to solicitor-client privilege (h) information explicitly supplied in confidence to the municipality or local board by Canada, a province or territory or a Crown agency of any of them; (i) a trade secret or scientific, technical, commercial, financial or labour relations information, supplied in confidence to the municipality or local board, which, if disclosed, could reasonably be expected to prejudice significantly the competitive position or interfere significantly with the contractual or other negotiations of a person, group of persons, or organization

15. Adjournment

Mover Councillor L. Vezeau-Allen

Seconder Councillor M. Bruni
Resolved that this Council now adjourn.

REGULAR MEETING OF CITY COUNCIL

MINUTES

Monday, June 23, 2025
5:00 pm
Council Chambers and Video Conference

Present:	Mayor M. Shoemaker, Councillor S. Hollingsworth (via video), Councillor S. Spina, Councillor L. Dufour, Councillor L. Vezeau-Allen, Councillor A. Caputo, Councillor R. Zagordo, Councillor M. Bruni, Councillor S. Kinach, Councillor C. Gardi, Councillor M. Scott
Officials:	T. Vair, R. Tyczinski, K. Fields, S. Schell, P. Johnson, S. Hamilton Beach, B. Lamming, N. Maione, C. Rumiel, P. Tonazzo, J. King, D. Perri, T. Vecchio, M. Zuppa, S. Facey, S. Zuppa, S. Marchese, K. Pulkkinen

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14. Closed Session

Moved by: Councillor S. Spina
Seconded by: Councillor M. Scott

Resolved that this Council move into closed session to discuss:

- one item concerning acquisition of land by the municipality or local board;
- one item concerning labour relations or employee negotiations; and
- two items concerning negotiations carried on or to be carried on by or on behalf of the municipality or local board

Further Be It Resolved that should the said closed session be adjourned, the Council may reconvene in closed session to continue to discuss the same without the need for a further authorizing resolution.

Municipal Act R.S.O.2001 – section 239 (2)(c) a proposed or pending acquisition or disposition of land by the municipality or local board; section 239 (2)(d) labour relations or employee negotiations; section 239 (2)(k) a position, plan, procedure, criteria or instruction to be applied to any negotiations carried on or to be carried on by or on behalf of the municipality or local board.

Carried

Mayor for the Day, Taylor May Brown assumed the Chair.

1. Land Acknowledgement

2. Adoption of Minutes

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Resolved that the Minutes of the Regular Council Meeting of June 2, 2025 be approved.

Carried

3. Questions and Information Arising Out of the Minutes and not Otherwise on the Agenda

4. Declaration of Pecuniary Interest

4.1 Mayor M. Shoemaker – Property Sale – 657 Fourth Line East (Rocchetta Holdings Corp.)

Purchaser is a client of law firm on this matter.

4.2 Mayor M. Shoemaker – Sale of Part 0 Sackville Road and Part 128 Sackville Road (Griffin Group Real Estate Ltd.)

Purchaser is a client of law firm on this matter.

4.3 Mayor M. Shoemaker – By-law 2025-95 (Property Sale) Part 0 & 128 Sackville Road (Griffin Group Real Estate Ltd.)

Purchaser is a client of law firm on this matter.

4.4 Mayor M. Shoemaker – By-law 2025-96 (Property Sale) 657 Fourth Line East (Rocchetta Holdings Corp.)

Purchaser is a client of law firm on this matter.

4.5 Councillor L. Vezeau-Allen – 2025 Arts and Culture Assistance Grants – Late Intake

Founder and ex officio member of Grocer 4 Good.

5. Approve Agenda as Presented

Moved by: Councillor S. Hollingsworth
Seconded by: Councillor C. Gardi

Resolved that the Agenda for June 23, 2025 City Council Meeting as presented be approved.

Carried.

6.1 Mayor for a Day

Taylor May Brown was the Mayor for a Day.

Honourable mentions: Charlotte MacKenzie, Jax O'Hara, and Scarlett Douglas

Mayor Shoemaker resumed the Chair

12.1.15 By-law 2025-114 (Appointment) City Solicitor

Moved by: Councillor C. Gardi
Seconded by: Councillor S. Spina

Resolved that By-law 2025-114 being a by-law to appoint Jeffrey King as City Solicitor be passed in open Council this 23rd day of June, 2025.

	For	Against	Conflict	Absent
Mayor M. Shoemaker	X			
Councillor S. Hollingsworth	X			
Councillor S. Spina	X			
Councillor L. Dufour	X			
Councillor L. Vezeau-Allen	X			
Councillor A. Caputo	X			
Councillor R. Zagordo	X			
Councillor M. Bruni	X			
Councillor S. Kinach	X			
Councillor C. Gardi	X			
Councillor M. Scott				X
Results	**10**	**0**	**0**	**1**

Carried

6.2 2024 Audited Financial Statements

Eric Pino, Partner, KPMG was in attendance.

6.3 Parking Reforms

Ronauq Sabharwal, Project Manager, CIMA+ was in attendance.

7. Communications and Routine Reports of City Departments, Boards and Committees – Consent Agenda

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Resolved that all the items listed under date June 23, 2025 – Agenda item 7 – Consent Agenda save and except Agenda items 7.4, 7.14, 7.17, 7.18, and 7.20 be approved as recommended.

Carried

7.1 Playground Equipment for Wilcox Park

The report of the Manager of Purchasing was received by Council.

Moved by: Councillor S. Hollingsworth
Seconded by: Councillor M. Scott

Resolved that the report of the Manager of Purchasing dated June 23, 2025 concerning the supply and installation of Playground Equipment for Wilcox Park be received and that the proposal submitted by Park N Water Ltd. at the price of $157,459.25 plus HST be approved.

Carried

7.2 Beverage Agreement Extension – PepsiCo Beverages Canada

The report of the Director of Community Services was received by Council.

The relevant By-law 2025-108 is listed under item 12 of the Minutes.

7.3 Vending Agreement Extension – Meyers Munchies

The report of the Director of Community Services was received by Council.

The relevant By-law 2025-107 is listed under item 12 of the Minutes.

7.5 49th Field Artillery Regiment – Canada Day Salute

The report of the Manager of Recreation and Culture was received by Council.

The relevant By-law 2025-97 is listed under item 12 of the Minutes.

7.6 Licence to Occupy Agreement – Etienne Brulé Community Garden

The report of the Manager of Recreation and Culture was received by Council.

The relevant By-law 2025-102 is listed under item 12 of the Minutes.

7.7 Community Development Fund – Green Initiatives Program Applications 2025 Q1 Intake

The report of the Sustainability Coordinator was received by Council.

Moved by: Councillor S. Hollingsworth
Seconded by: Councillor C. Gardi

Resolved that the report of the Sustainability Coordinator dated June 23, 2025 concerning Community Development Fund – Green Initiatives Program Applications 2025 Q1 Intake be received and that the recommendations of the Environmental Sustainability Committee to support the Save Our Young Adults (SOYA) Community Garden Project in the amount of $13,492 be approved.

Carried

7.8 Curb and Sidewalk Program 2025

The report of the Director of Public Works was received by Council.

Moved by: Councillor S. Hollingsworth
Seconded by: Councillor M. Scott

Resolved that the report of the Director of Public Works dated June 23, 2025 concerning the 2025 Curb and Sidewalk Program be received as information.

Carried

7.9 Landfill Operations and Monitoring 2024 – Environmental Monitoring Committee

The report of the Director of Engineering was received by Council.

Moved by: Councillor S. Spina
Seconded by: Councillor M. Scott

Resolved that the report of the Director of Engineering dated June 23, 2025 concerning annual operations and monitoring reports for the municipal landfill be received as information.

Carried

7.10 Contract 2025-5E Lyons Avenue Resurfacing

The report of the Manager of Design and Transportation Engineering was received by Council.

The relevant By-law 2025-104 authorizing execution of Contract 2025-5E and By-law 2025-105 authorizing the intermittent road closure of Wellington Street West from Lyons Avenue to Carmen's Way from June 24, 2025 to November 14, 2025 are listed under item 12 of the Minutes.

7.11 Contract 2025-8E Miscellaneous Paving

The report of the Manager of Design and Transportation Engineering was received by Council.

Moved by: Councillor S. Hollingsworth
Seconded by: Councillor M. Scott

Resolved that the report of the Manager of Design and Transportation Engineering dated June 23, 2025 concerning Miscellaneous Paving be received and that the road sections of MacDonald Avenue from Black Road to civic 654, John Street from Bainbridge Street to Carmen's Way, and miscellaneous patches at the Great Northern Road and Second Line intersection be included in the 2025 Road Resurfacing Program.

The relevant By-law 2025-106 authorizing execution of Contract 2025-8E is listed under Agenda item 12 and will be read with all by-laws under that item.

Carried

7.12 2025 Traffic By-law Update – Brock Street

The report of the Manager of Design and Transportation Engineering was received by Council.

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Resolved that the report of the Manager of Design and Transportation Engineering dated June 23, 2025 concerning Traffic Bylaw Update – Brock Street be received and the recommended amendments be approved.

Staff will revise the appropriate schedule in the Traffic By-Law which will be brought to Council for approval at a later date.

Carried

7.13 Peoples Road Reconstruction – Railway Upgrades

The report of the Manager of Design and Transportation Engineering was received by Council.

Moved by: Councillor S. Hollingsworth
Seconded by: Councillor C. Gardi

Resolved that the report of the Manager of Design and Transportation Engineering dated June 23, 2025 concerning the railway upgrades for Peoples Road Reconstruction be received as information.

Carried

7.15 Fire Hall 4 – Air Handling Units Fund Transfer Request

Moved by: Councillor S. Hollingsworth
Seconded by: Councillor M. Scott

Resolved that the report of the Assistant Fire Chief dated June 23, 2025 concerning Fund Transfer request for Fire Hall #4 Air Handling Units be received and that funding of $29,600 be reallocated from the Fire 2025 budget for windows.

Carried

7.16 Residency Requirement Policy for New Department Heads

Moved by: Councillor S. Spina
Seconded by: Councillor M. Scott

Resolved that the report of the City Solicitor dated June 23, 2025 concerning Residency Requirement Policy for new department heads be received as information.

Carried

7.19 Sale of 72 Victoria Street (Larry Woolley and Jennifer Woolley)

The report of the Assistant City Solicitor/Senior Litigation Counsel was received by Council.

The relevant By-Law 2025-101 is listed under item 12 of the Minutes.

7.21 Intact Public Entities – Claims Handling Agreement

The report of the Risk Manager was received by Council.

The relevant By-law 2025-102 is listed under item 12 of the Minutes.

7.22 A-5-25-Z – 33 Nichol Avenue – Amendment Report

The report of the Junior Planner was received by Council.

The relevant By-law 2025-99 is listed under item 12 of the Minutes.

7.23 Federal Housing Needs Assessment

Moved by: Councillor S. Hollingsworth
Seconded by: Councillor C. Gardi

Resolved that the report of the Junior Planner dated June 23, 2025 concerning the Federal Housing Needs Assessment be received and that Council adopt the assessment as the City's sole official housing needs assessment.

Carried

7.24 Parking Reforms

Moved by: Councillor S. Spina
Seconded by: Councillor M. Scott

Resolved that the report of the Director of Planning and Junior Planner dated June 23, 2025 concerning Parking Reforms be received as information.

Carried

7.25 Building Faster Fund Amended Transfer Payment Agreement

The report of the Junior Planner was received by Council.

The relevant By-law 2025-109 is listed under item 12 of the Minutes.

7.4 2025 Arts and Culture Assistance Grants – Late Intake

Councillor L. Vezeau-Allen declared a conflict on this item. (Founder and ex officio member of Grocer 4 Good).

The report of the Manager of Recreation and Culture was received by Council.

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Resolved that the report of the Manager of Recreation and Culture dated June 23, 2025 concerning 2025 Arts and Culture Assistance Program Grants – Late Intake allocation of funds be approved as follows:

1. Centre Francophone – $5,000
2. SSM Chamber of Commerce – $6,000
3. Sault Community Theatre Centre – $5,900
4. Algoma Arts Festival Association – $7,000
5. Over the Rainbow – $6,000
6. Friends of Ermatinger Clergue National Historic Site – $6,000
7. Living History Algoma – $5,825
8. Sault Film Festival – $5,000

9. Sault Malayalee Association – $5,900
10. The Klub – $6,000
11. Annie King – $2,090
12. Christopher Shoust – $2,300
13. Goldie Barzan – $2,265
14. Grocer 4 Good – $2,090
15. Isa Michaud – $2,375
16. John Paul Chalykoff – $1,980
17. Josh Norling – $2,300
18. Matt Warnock – $2,430
19. Michael Burtch – $1,185
20. Skye Smith – $2,360
21. Musical Comedy Guild – $5,000

	For	**Against**	**Conflict**	**Absent**
Mayor M. Shoemaker	X			
Councillor S. Hollingsworth				X
Councillor S. Spina	X			
Councillor L. Dufour	X			
Councillor L. Vezeau-Allen			**X**	
Councillor A. Caputo	X			
Councillor R. Zagordo	X			
Councillor M. Bruni	X			
Councillor S. Kinach	X			
Councillor C. Gardi	X			
Councillor M. Scott	X			
Results	**9**	**0**	**1**	**1**
				Carried

7.14 Hope's Cradle

The report of the Fire Chief was received by Council.

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Resolved that the report of the Fire Chief dated June 23, 2025 concerning Hope's Cradle be received as information.

7.14.1 Proposed Amendment

Moved by: Councillor A. Caputo
Seconded by: Councillor L. Vezeau-Allen

Resolved that the report of the Fire Chief dated June 23, 2025 concerning Hope's Cradle be received and that the matter be referred back to appropriate staff for additional input and information.

	For	Against	Conflict	Absent
Mayor M. Shoemaker	X			
Councillor S. Hollingsworth				X
Councillor S. Spina	X			
Councillor L. Dufour	X			
Councillor L. Vezeau-Allen	X			
Councillor A. Caputo	X			
Councillor R. Zagordo	X			
Councillor M. Bruni	X			
Councillor S. Kinach	X			
Councillor C. Gardi	X			
Councillor M. Scott	X			
Results	**10**	**0**	**0**	**1**
				Carried

7.17 Police Services Contract Extension Agreement – Prince Township

The report of the City Solicitor was received by Council.

The relevant By-law 2025-98 is listed under item 12 of the Minutes.

7.18 Property Sale – 657 Fourth Line East (Rocchetta Holdings Corp.)

Mayor M. Shoemaker declared a conflict on this item. (Purchaser is a client of law firm on this matter.)

The relevant By-law 2025-96 is listed under item 12 of the Agenda and will be read with all by-laws under that item.

7.20 Sale of Part 0 Sackville Road and Part 128 Sackville Road (Griffin Group Real Estate Ltd.)

Mayor M. Shoemaker declared a conflict on this item. (Purchaser is a client of law firm on this matter.)

The relevant By-law 2025-95 is listed under item 12 of the Agenda and will be read with all by-laws under that item.

8. Reports of City Departments, Boards and Committees

8.1 Administration

8.2 Corporate Services

8.2.1 2024 Audited Financial Statements

The report of the Chief Financial Officer/Treasurer was received by Council.

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Resolved that the report of the Chief Financial Officer and Treasurer dated June 23, 2025 concerning 2024 Audited Financial Statements be received and that the financial statements be approved.

	For	Against	Conflict	Absent
Mayor M. Shoemaker	X			
Councillor S. Hollingsworth				X
Councillor S. Spina	X			
Councillor L. Dufour	X			
Councillor L. Vezeau-Allen	X			
Councillor A. Caputo	X			

Councillor R. Zagordo	X			
Councillor M. Bruni	X			
Councillor S. Kinach	X			
Councillor C. Gardi	X			
Councillor M. Scott				X
Results	**9**	**0**	**0**	**2**

Carried

8.3 Community Development and Enterprise Services

8.4 Public Works and Engineering Services

8.5 Fire Services

8.6 Legal

8.7 Planning

8.8 Boards and Committees

9. Unfinished Business, Notice of Motions and Resolutions Placed on Agenda by Members of Council

9.1 Free Parking at Marinas for Veterans

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Whereas there are multiple marinas and boat launches in the City of Sault Ste. Marie; and

Whereas users pay a fee of $7 to launch their boat and park in the lot; and

Whereas veterans and active members from all branches of the Canadian Armed Forces (CAF) have contributed to the safety, security, and well-being of residents of and visitors to the City of Sault Ste. Marie; and

Whereas the recreational use of marinas and boat launches helps enhance the quality of life for users; and

Whereas as a small act of appreciation, the City of Sault Ste. Marie already offers free parking to veterans or vehicles transporting veterans,

Now Therefore Be It Resolved that staff be requested to implement a process to allow veterans and active members of the Canadian Armed Forces to also access marinas and boat launches within the City of Sault Ste. Marie free of charge beginning with the 2025 season.

	For	Against	Conflict	Absent
Mayor M. Shoemaker	X			
Councillor S. Hollingsworth				X
Councillor S. Spina	X			
Councillor L. Dufour	X			
Councillor L. Vezeau-Allen	X			
Councillor A. Caputo	X			
Councillor R. Zagordo	X			
Councillor M. Bruni	X			
Councillor S. Kinach	X			
Councillor C. Gardi	X			
Councillor M. Scott	X			
Results	**10**	**0**	**0**	**1**

Carried

10. Committee of the Whole for the Purpose of Such Matters as are Referred to it by the Council by Resolution

11. Adoption of Report of the Committee of the Whole

12. Consideration and Passing of By-laws

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Resolved that all By-laws under item 12 of the Agenda under date June 23, 2025 save and except By-laws 2025-95, 2025-96, 2025-98 and 2025-114 be approved.

Carried

12.1 By-laws before Council to be passed which do not require more than a simple majority

12.1.3 By-law 2025-97 (Agreement) 49th Field Artillery Regiment Canada Day Salute

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Resolved that By-law 2025-97 being a by-law to authorize the execution of the Agreement between the City and the 49th Field Artillery Regiment to occupy Top Sail Island for the

purposes of conducting a gun salute on Canada Day be passed in open Council this 23rd day of June, 2025.

Carried

12.1.5 By-law 2025-99 (Zoning) 33 Nichol Avenue (Jacob McEachern and Lana Perry)

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Resolved that By-Law 2025-99 being a by-law to amend Sault Ste. Marie Zoning By-laws 2005-150 and 2005-151 concerning lands located at 33 Nichol Avenue (Jacob McEachern and Lana Perry) be passed in open Council this 23rd day of June, 2025.

Carried

12.1.6 By-law 2025-101 (Property Sale) 72 Victoria Street (Larry Woolley and Jennifer Woolley)

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Resolved that By-Law 2025-101 being a by-law to declare the City owned property legally described as LT 165-166 PL 58 AWENGE; SAULT STE. MARIE being civic 72 Victoria Street as surplus to the City's needs and to authorize the disposition of the said property to Larry Woolley, Jennifer Woolley or as otherwise directed be passed in open Council this 23rd day of June, 2025.

Carried

12.1.7 By-law 2025-102 (Agreement) Intact Public Entities Claims Handling

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Resolved that By-law 2025-102 being a by-law to authorize the approval of an updated Claims Handling Agreement be passed in open Council this 23rd day of June, 2025.

Carried

12.1.8 By-law 2025-103 (Agreement) SOYA Community Garden 241 Albert Street East

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Resolved that By-Law 2025-103 being a by-law to authorize the execution of the Agreement between the City and SOYA (Save Our Young Adults) From Drug Abuse for the management of the community garden at 241 Albert Street East (Algoma District School Board) be passed at open Council this 23rd day of June, 2025.

Carried

12.1.9 By-law 2025-104 (Engineering) Contract 2025-5E Resurfacing Lyons Avenue

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Resolved that By-law 2025-104 being a by-law to authorize the execution of the Contract between the City and Avery Construction Limited for the resurfacing of Lyons Avenue from Korah Road to Wellington Street West and Wellington Street West from Lyons Avenue to Carmen's Way (Contract 2025-5E) be passed in open Council on this 23rd day of June, 2025.

Carried

12.1.10 By-law 2025-105 (Temporary Street Closing) Wellington Street West

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Resolved that By-law 2025-105 being a by-law to authorize the intermittent road closure of Wellington Street West from Lyons Avenue to Carmen's Way from June 24, 2025 to November 14, 2025 to facilitate the resurfacing of Lyons Avenue and Wellington Street West be passed in open Council this 23rd day of June, 2025

Carried

12.1.11 By-law 2025-106 (Engineering) Contract 2025-8E Ellwood Robinson Inc. Miscellaneous Paving

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Resolved that By-law 2025-106 being a by-law to authorize the execution of the Contract between the City and Ellwood Robinson Inc. for the miscellaneous paving of MacDonald Avenue from Black Road to Civic 654, John Street from Bainbridge Street to Carmens’s Way, and miscellaneous patches at the Great Northern Road and Second Line intersections (Contract 2025-8E) be passed in open Council on this 23rd day of June, 2025.

Carried

12.1.12 By-law 2025-107 (Agreement) Meyers Munchies Vending Extension

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Resolved that By-law 2025-107 being a by-law to authorize the execution of the Extension Agreement between the City and Meyers Munchies for the vending commission from vending equipment for a period of two (2) years be passed in open Council this 23rd day of June, 2025.

Carried

12.1.13 By-law 2025-108 (Agreement) PepsiCo Beverage Agreement Extension

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Resolved that By-law 2025-108 being a by-law to authorize the execution of the Extension Agreement between the City and Pepsico Beverages Canada, a business unit of Pepsico Canada ULC for the supply and delivery of soft drink concession supplies for a period of two (2) years be passed in open Council this 23rd day of June, 2025.

Carried

12.1.14 By-law 2025-109 (Amendment) Builder Faster Fund Transfer Plan

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Resolved that By-law 2025-109 being a by-law to amend By-law 2024-110 and to authorize the execution of the Amending Agreement between the City and His Majesty the King in right of Ontario as represented by the Minister of Municipal Affairs and Housing for the Building Faster Fund Transfer Payment Agreement be passed in open Council this 23rd day of June, 2025.

Carried

Acting Mayor L. Dufour assumed the Chair.

12.1.1 By-law 2025-95 (Property Sale) Part 0 & 128 Sackville Road (Griffin Group Real Estate Ltd.)

Mayor M. Shoemaker declared a conflict on this item. (Purchaser is a client of law firm on this matter.)

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Resolved that By-law 2025-95 being a by-law to authorize the sale of surplus property being part of civic 0 Sackville Road, legally described in Part PIN 31561-0158 (LT) and part of civic 128 Sackville Road, legally described in Part PIN 31561-0118 (LT) to Griffin Group Real Estate Ltd. be passed in open Council this 23rd day of June, 2025.

	For	Against	Conflict	Absent
Mayor M. Shoemaker			**X**	
Councillor S. Hollingsworth				X

Councillor S. Spina	X			
Councillor L. Dufour	X			
Councillor L. Vezeau-Allen	X			
Councillor A. Caputo	X			
Councillor R. Zagordo	X			
Councillor M. Bruni	X			
Councillor S. Kinach	X			
Councillor C. Gardi	X			
Councillor M. Scott	X			
Results	**9**	**0**	**1**	**1**
				Carried

12.1.2 By-law 2025-96 (Property Sale) 657 Fourth Line East (Rocchetta Holdings Corp.)

Mayor M. Shoemaker declared a conflict on this item. (Purchaser is a client of law firm on this matter.)

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Resolved that By-law 2025-96 being a by-law to authorize the sale of surplus property being civic 657 Fourth Line East, legally described in PIN 31510-0131 (LT) to Rocchetta Holdings Corp. be passed in open Council this 23rd day of June, 2025.

	For	**Against**	**Conflict**	**Absent**
Mayor M. Shoemaker			**X**	
Councillor S. Hollingsworth				X
Councillor S. Spina	X			
Councillor L. Dufour	X			
Councillor L. Vezeau-Allen	X			
Councillor A. Caputo	X			
Councillor R. Zagordo	X			

Councillor M. Bruni	X			
Councillor S. Kinach	X			
Councillor C. Gardi	X			
Councillor M. Scott	X			
Results	**9**	**0**	**1**	**1**

Carried

12.1.4 By-law 2025-98 (Agreement) Police and Prince Township Policing

Moved by: Councillor S. Spina
Seconded by: Councillor C. Gardi

Resolved that By-Law 2025-98 being a by-law to authorize the execution of the extension Agreement between the City and The Corporation of the Township of Prince for the provision of policing services to the Township be passed in open Council this 23rd day of June, 2025.

	For	**Against**	**Conflict**	**Absent**
Mayor M. Shoemaker	X			
Councillor S. Hollingsworth				X
Councillor S. Spina	X			
Councillor L. Dufour	X			
Councillor L. Vezeau-Allen	X			
Councillor A. Caputo	X			
Councillor R. Zagordo	X			
Councillor M. Bruni	X			
Councillor S. Kinach	X			
Councillor C. Gardi	X			
Councillor M. Scott		X		
Results	**9**	**1**	**0**	**1**

Carried

12.2 By-laws before Council for FIRST and SECOND reading which do not require more than a simple majority

12.3 By-laws before Council for THIRD reading which do not require more than a simple majority

13. Questions By, New Business From, or Addresses by Members of Council Concerning Matters Not Otherwise on the Agenda

15. Adjournment

Moved by: Councillor S. Spina
Seconded by: Councillor M. Scott

Resolved that this Council now adjourn.

Carried

_____

Mayor

_____

City Clerk







UPDATE TO CITY COUNCIL

Investing in Tomorrow: Growth, Innovation & Community Impact

July 14, 2025

Positioning PUC for Growth & Community Impact

Sector Growth Drivers

- Rising electricity demand (75% increase forecasted by 2050)
- Transition to clean energy and electrification
- Infrastructure renewal and grid modernization

PUC's Leadership

- One of Ontario’s few licensed transmitters and a national leader in smart grid innovation
- Proactively advancing generation, storage, transmission and other projects
- Strategic partnership models led by PUC are accelerating progress



Positioning PUC for Growth & Community Impact *Cont.*

Benefits for Our Community

- Job Creation: Local employment through capital projects and ongoing operations
- Economic Development: Reliable infrastructure attracts industry and enables business growth
- Innovation & Resilience: Modern systems ensure long-term affordability and reliability for customers
- Environmental Impact: Supporting electrification and emissions reductions
- Community Investment



PowerShare



PUC is a founding member of PowerShare, a new alliance of Ontario utilities working together to modernize the electricity grid.

This includes integrating local energy sources like battery storage and small-scale solar, and using advanced software to manage power more efficiently.

By joining forces, PowerShare protects shared innovation and prepares local utilities to take on a bigger role in grid operations—work traditionally done by the IESO.

PUC brings valuable experience from its Sault Smart Grid project, making it a leader in this space.

PUC-Axium Partnership (PAX):

Strength through Collaboration

PUC and Axium Infrastructure are seeking to form *PAX*, a new business development partnership focused on advancing utility infrastructure projects.

- Axium Infrastructure is a Canadian-owned, long-term investor in core infrastructure assets, with a focus on stability, sustainability, and long-term value creation. As the majority owner of PUC Transmission, Axium brings deep expertise and capital to support critical energy infrastructure.
- This partnership reflects Axium's commitment to stable, long-term investments in energy, transmission, and essential infrastructure.

Benefits to Our Community

- Supports job creation and local economic development
- Strengthens PUC's financial capacity to pursue more opportunities
- Enables sustainable growth in critical utility services

PUC Distribution Long-Term Financing

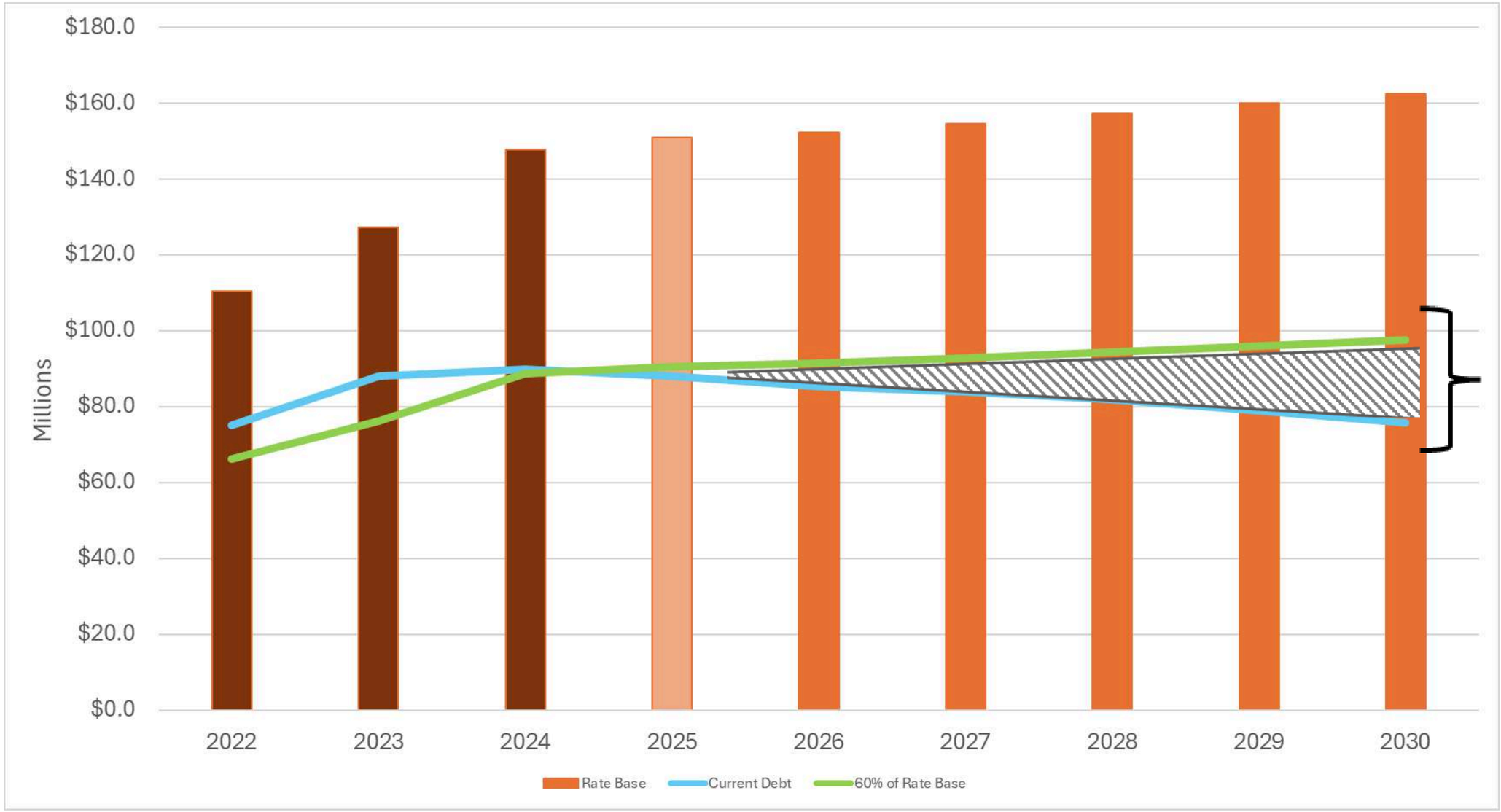
Key Objectives

1. Replace internal $26.5M Note Payable to PUC Inc. with third-party financing providing **flexibility** and **liquidity**.
    - PUC Inc. will now earn a return on its investment in PUC Transmission through ownership (equity), rather than through a loan (debt)

2. Secure new credit facility for critical annual **infrastructure reinvestment** needs ($7–8M/year).
    - Maintain optimal debt:equity ratio, aligned with OEB imposed 60:40 structure

Credit Facility	Amount	Comment
Term Loan	$26,500,000	Note Payable to PUC Inc.
Revolving Credit Facility	$25,000,000	NEW Debt

PUC Distribution Long-Term Financing



Council Resolutions

PUC is seeking Council Support for the following:

1. **PowerShare Alliance Participation**
    a. Approve PUC Distribution Inc. joining PowerShare Inc. as a founding member, including a $50,000 equity investment and authorization for all related agreements to support DSO development and access to shared IP.
2. **PAX Partnership Formation**
    a. Approve creation of the PAX entity with Axium Infrastructure Inc., and authorize PUC Inc. to invest development capital and execute all necessary partnership agreements.
3. **PUC Distribution Long-Term Financing**
    a. Approve the refinancing of PUC Distribution Inc., as recommended by both the PUC Inc. and PUC Distribution Inc. Boards of Directors.



QUESTIONS?

July 14, 2025

City of Sault Ste. Marie
Battery Electric Bus Feasibility Study & Fleet Transition Plan



July 14, 2025

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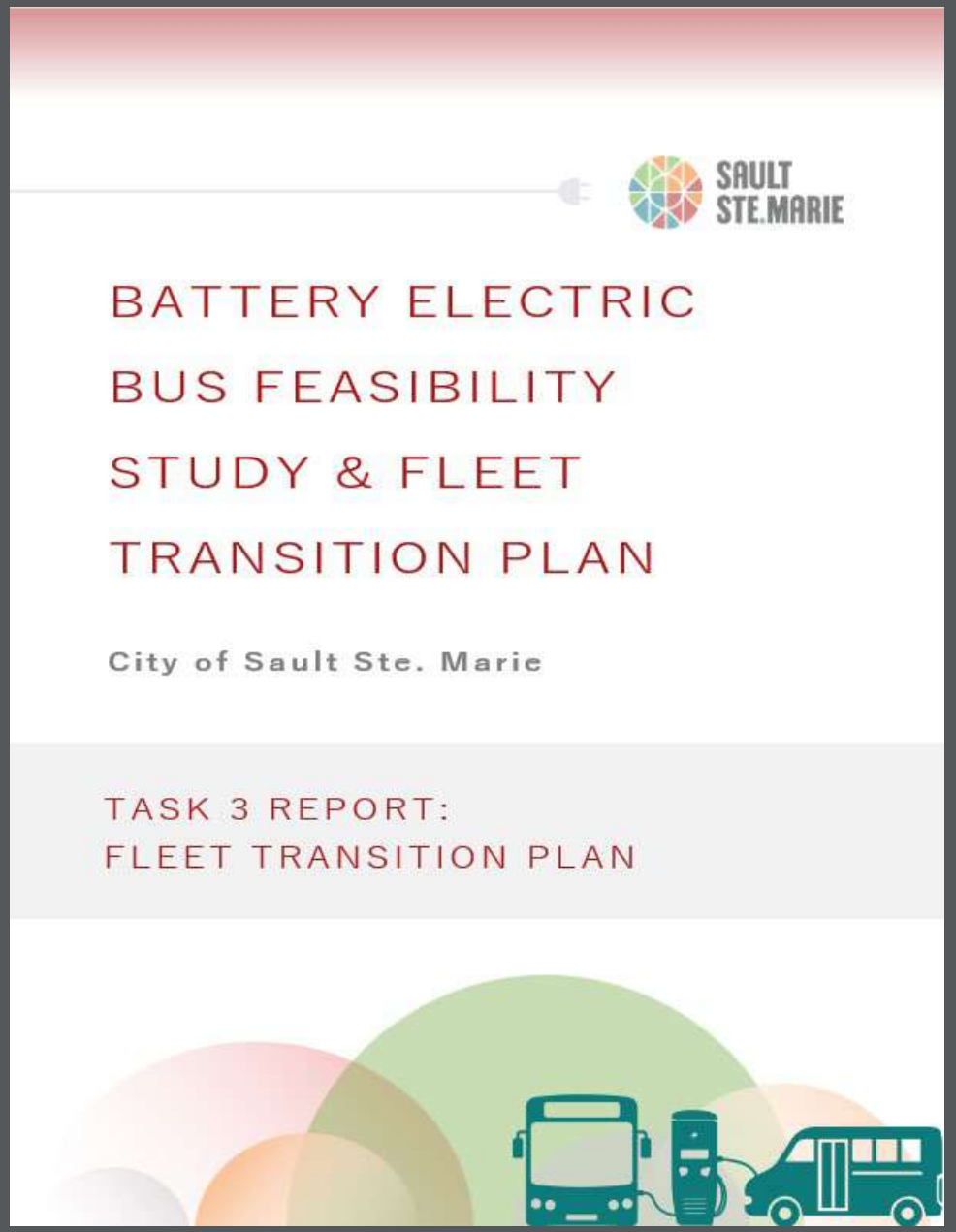
AGENDA

01 Objectives

02 What is a Fleet Transition Plan?

03 Fleet Transition Plan

04 Key Takeaways & Next Steps



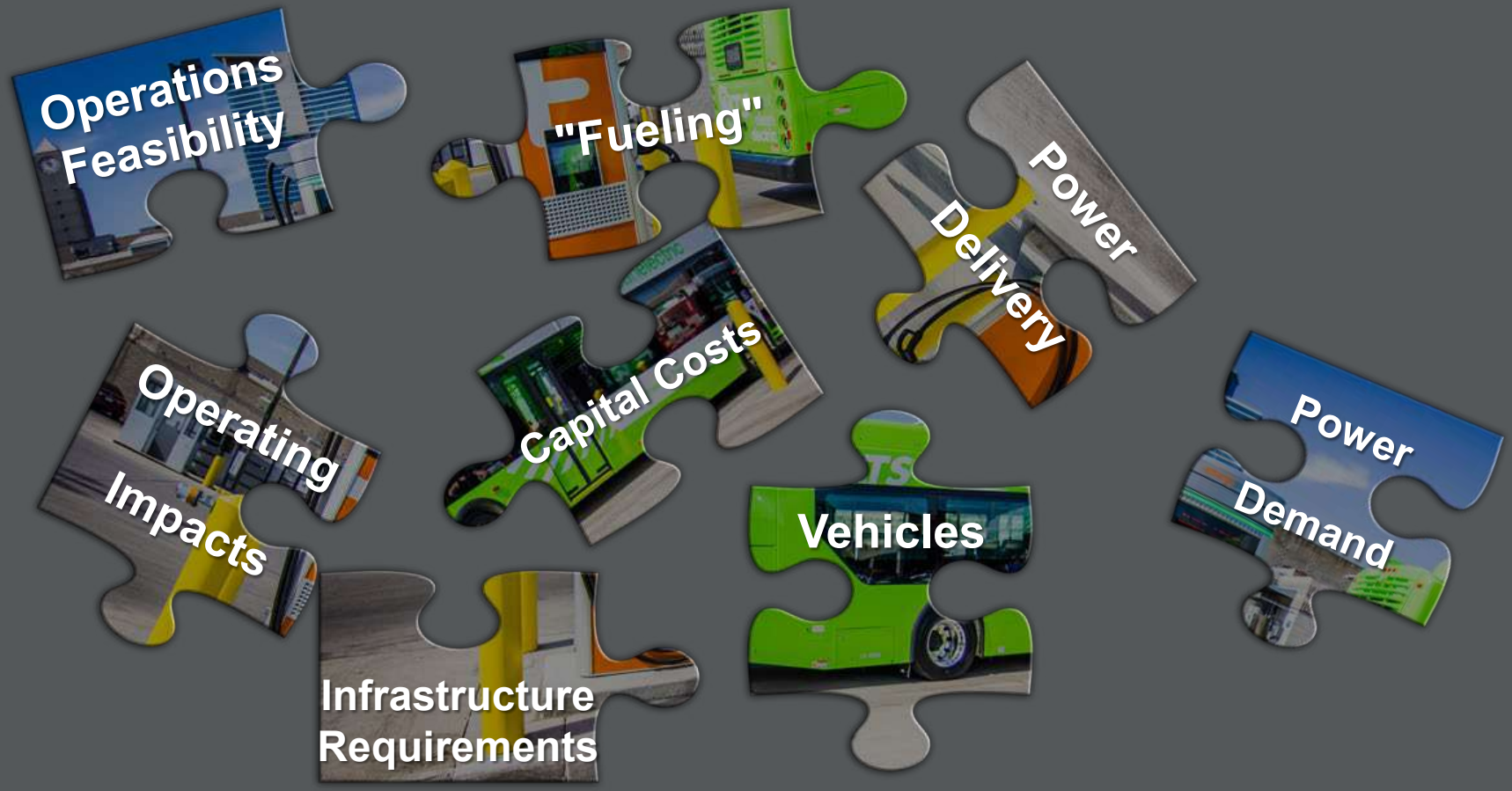
Objectives:

- Plan for how battery electric buses could be introduced
  - Supported by data-driven analysis
- Supports *Community GHG Reduction Plan* and net-zero by 2050
- Understand transition costs
- Prepare for funding opportunities

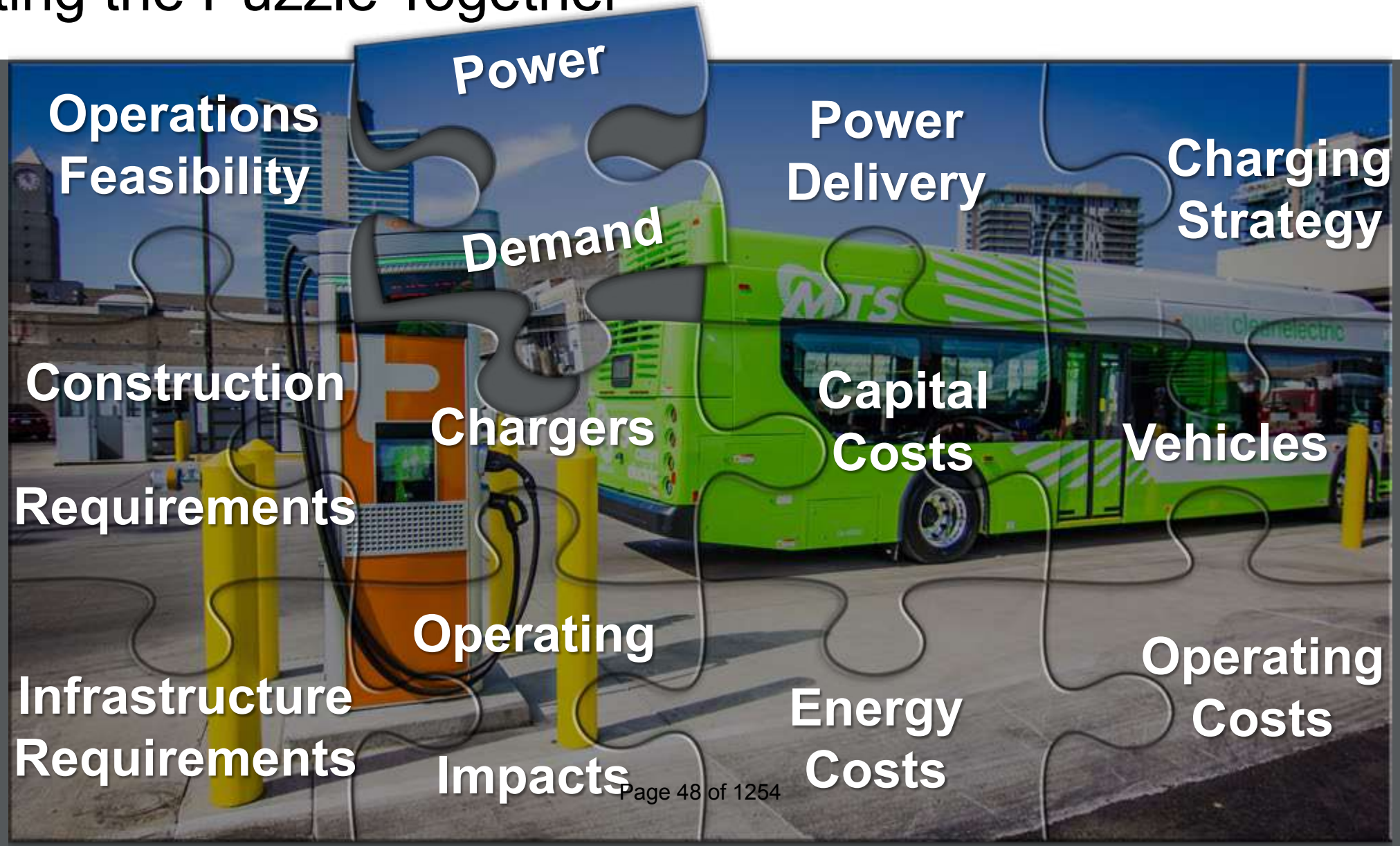
What is a Fleet Transition Plan?
Common Perceptions



What is a Fleet Transition Plan?
Key Considerations



What is a Fleet Transition Plan?
Putting the Puzzle Together



Transit Fleet Transition Plan

Operating Approaches

- **Depot-only charging:**
  - Connect to chargers at the garage only
  - Swap out when depleted
- **Depot and En-route charging:**
  - Add high-speed chargers at strategic locations to charge between runs

Depot Charging



En-Route Charging

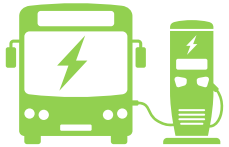


Predictive Route Modelling

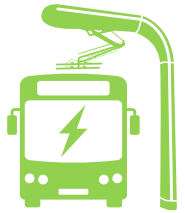
Simulated buses in service using mathematical models



Diesel



BEB
Scenario 1: Full Fleet Transition with Depot Only Charging

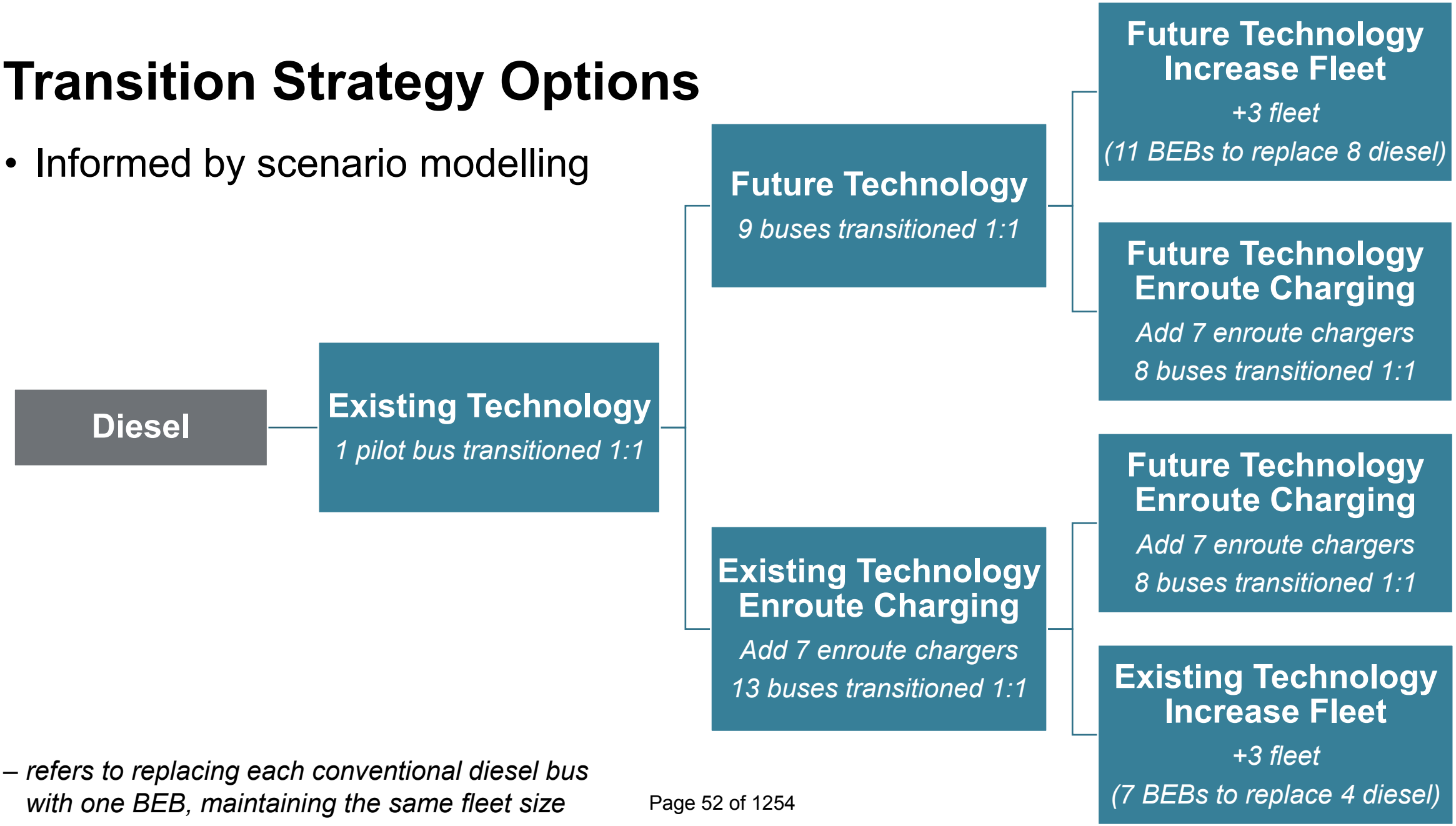


BEB
Scenario 2: Full Fleet Transition with Depot + Enroute Charging

	Baseline	***Scenario 1A: Existing technology***	***Scenario 1B: Future technology***	***Scenario 2A: Existing technology***	***Scenario 2B: Future technology***
Peak Fleet Requirement	18	29	21	21	18
Charger Requirement	-	10 depot (29 dispensers)	7 depot (21 dispenser)	7 depot (21 dispenser)	6 depot (18 dispenser)
				7 enroute	7 enroute
Level of Investment	$	$$$	$$	$$$$	$$$

Transition Strategy Options

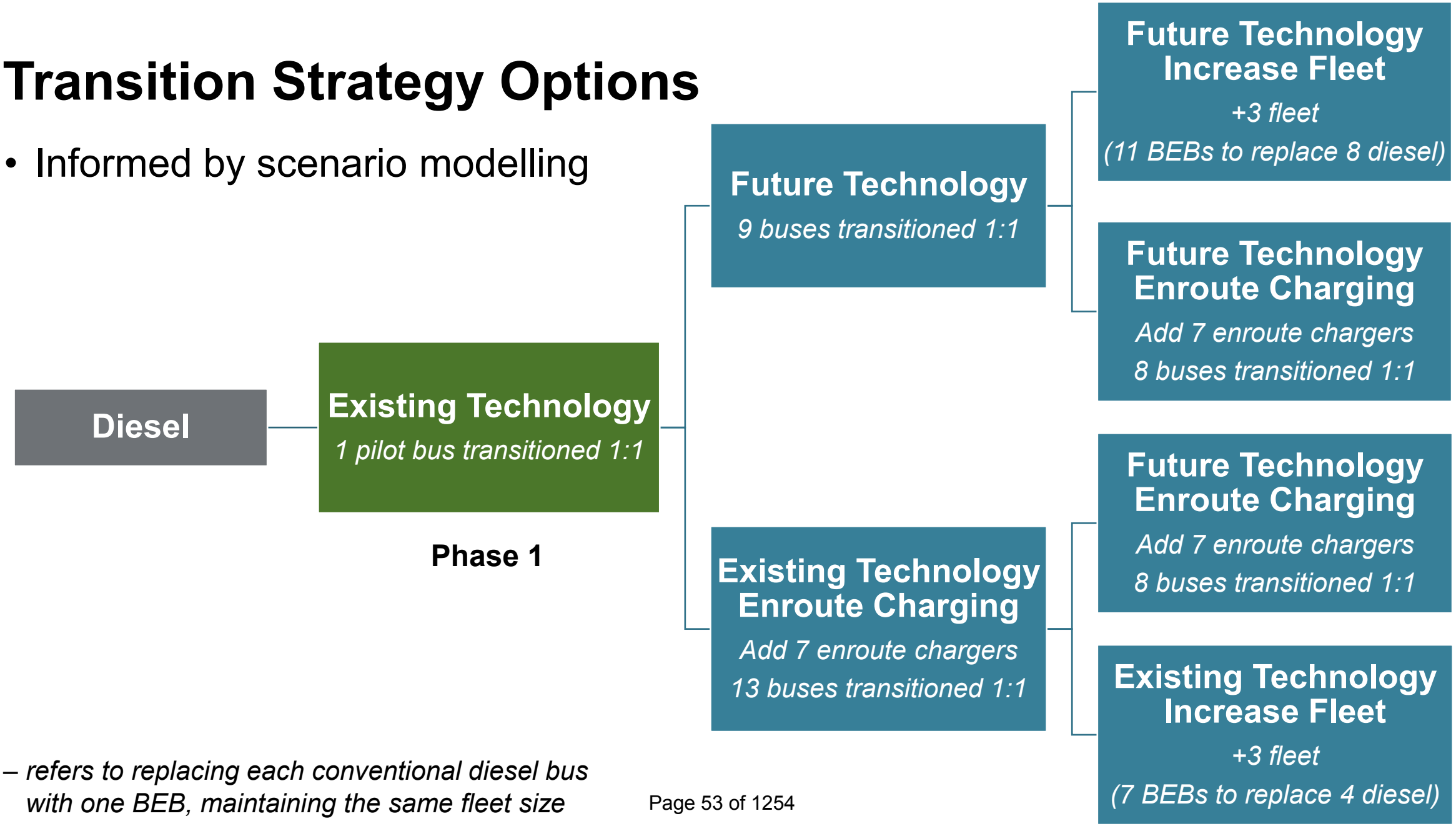
- Informed by scenario modelling



1:1 *– refers to replacing each conventional diesel bus with one BEB, maintaining the same fleet size*

Transition Strategy Options

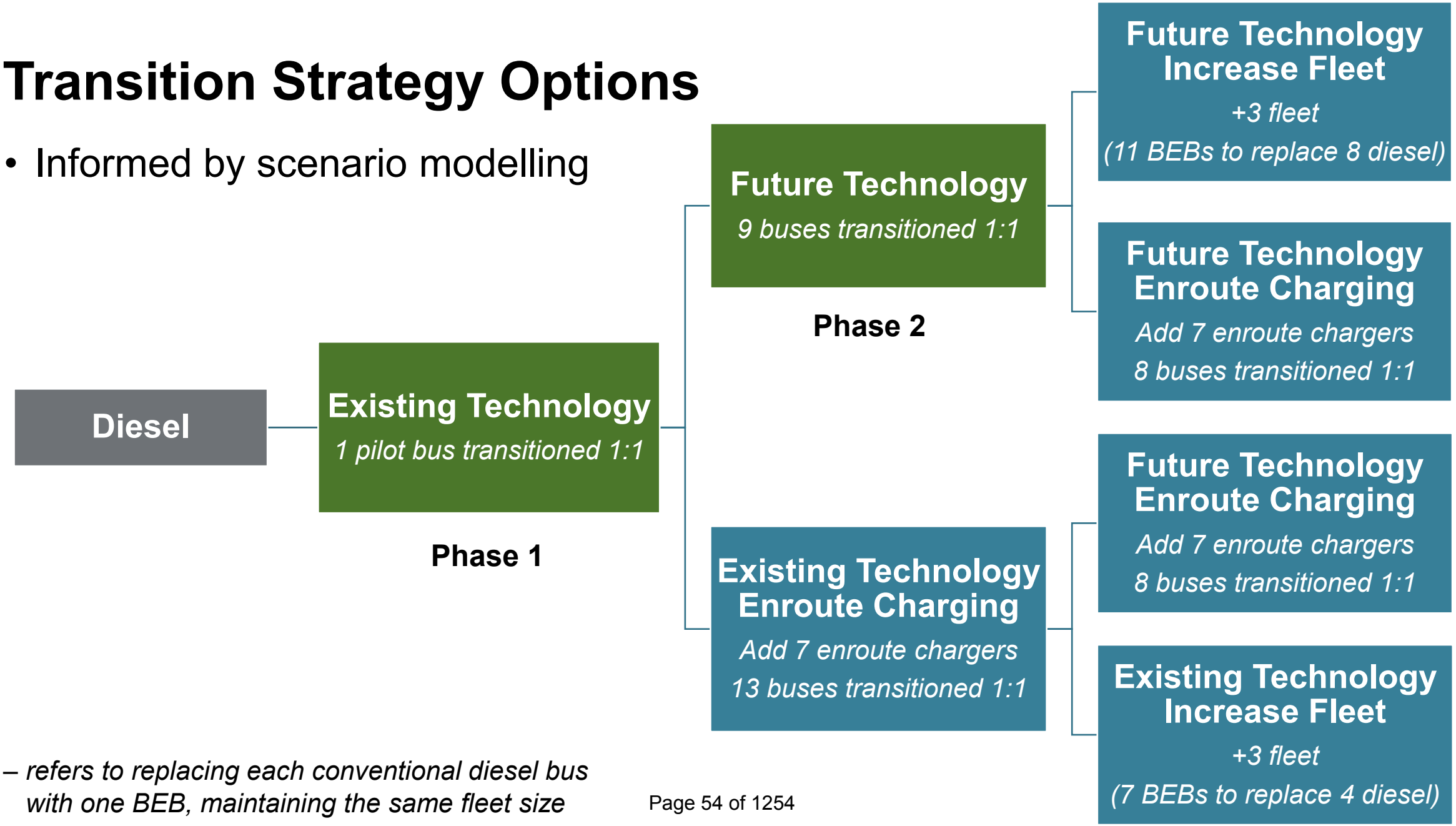
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Transition Strategy Options

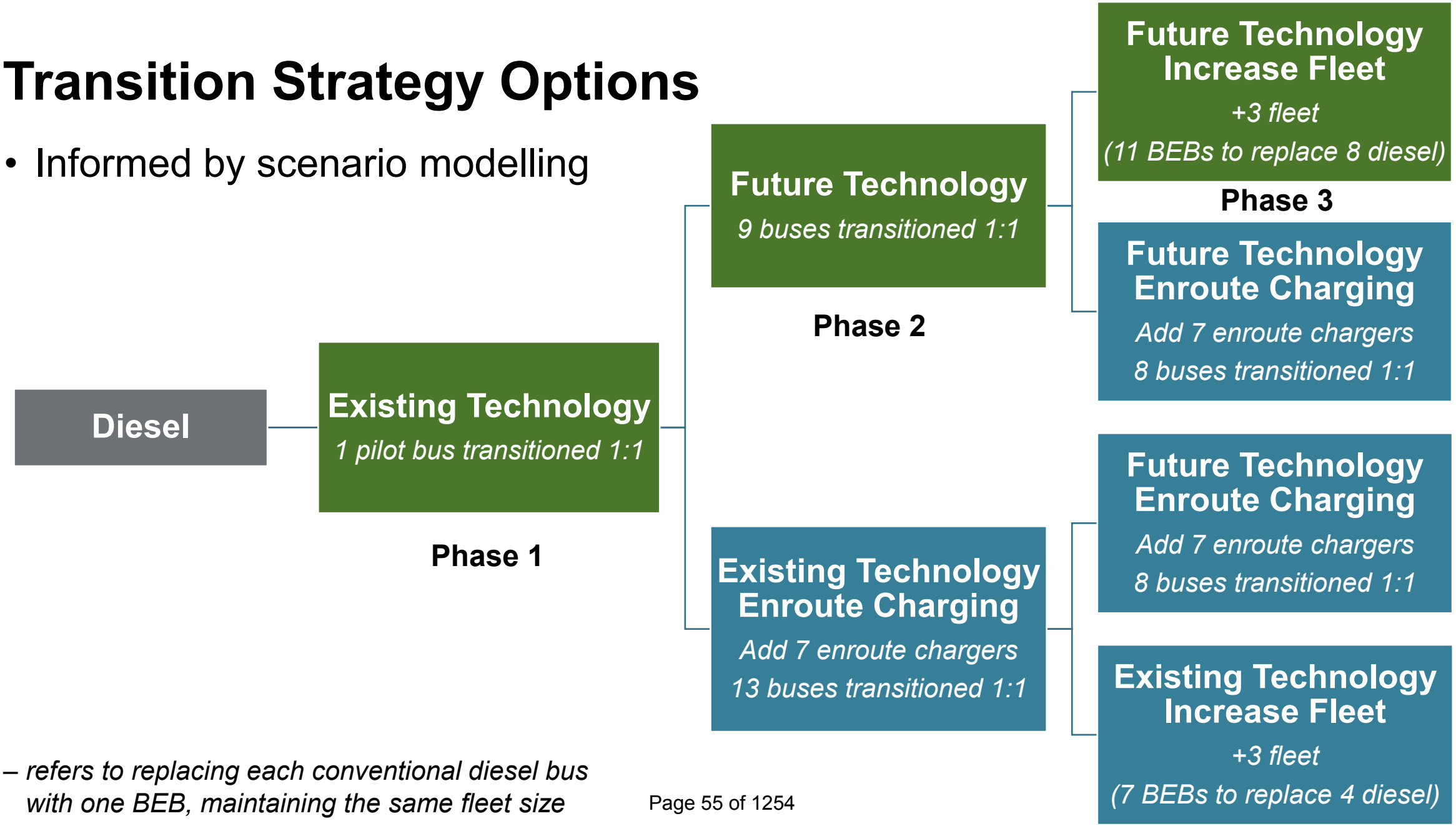
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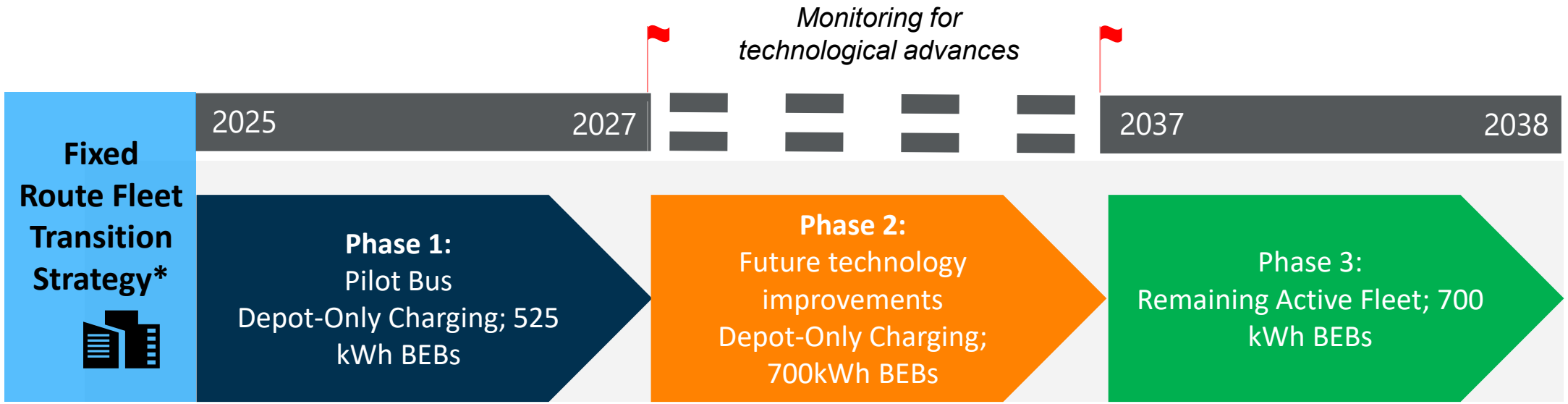
Transition Strategy Options

- Informed by scenario modelling



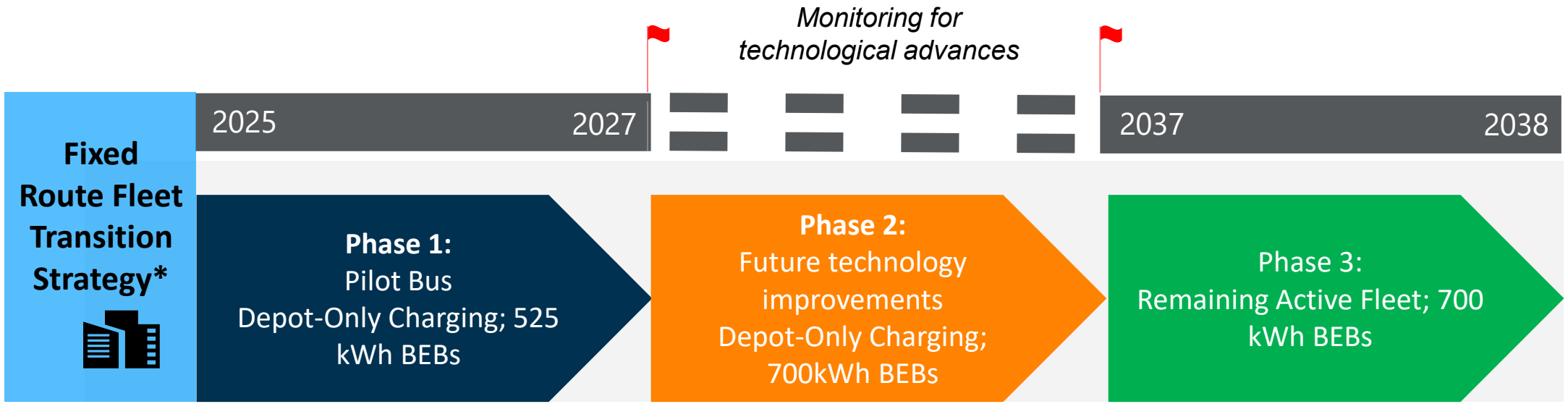
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Transit Fleet Transition Phasing



*Phase years are indicative, based on anticipated vehicle lifecycle/retirements, and may shift as needed.

Transit Fleet Transition Phasing



*Phase years are indicative, based on anticipated vehicle lifecycle/retirements, and may shift as needed.

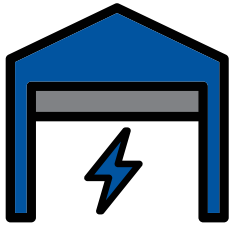
Additional Options Phase 2 and Beyond
• Re-evaluating enroute charging • Exploring fuel cell electric (hydrogen) buses • Service adjustments / reblocking to align to BEB capabilities

Facility Assessment – Transit Depot Facility



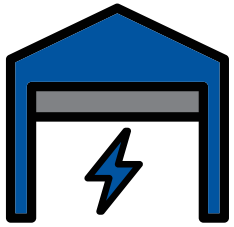
Phase 1: Pilot

- Charger installed on existing transformer
- Load = 0.3 MW



Phase 2: Future technology improvements

- Transformer upgrade required
- Load = 1.4 MW



Phase 3: Remaining fleet

- New service required
- Load = 2 MW

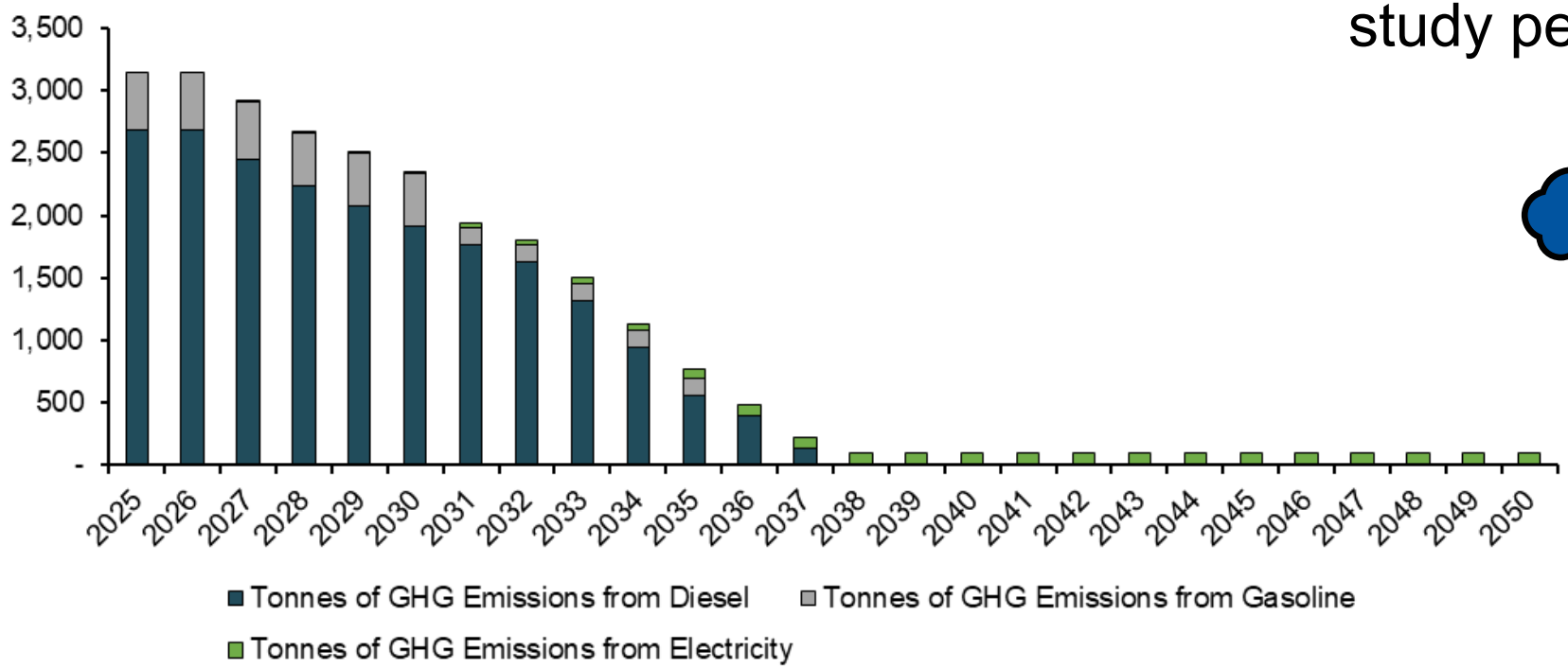
Fleet Transition Costs



Transition to battery electric buses costs an additional **$28.6M** (exclusive of funding)

Net Present Value, 2025$	Diesel	BEB
Life Cycle Capital Costs	**$29.2 M**	**$78.0 M**
Conventional Fleet	$26.3 M	$67.0 M
Paratransit Fleet	$2.9 M	$3.5 M
Related Infrastructure	-	$7.4 M
Life Cycle O&M	**$235.8 M**	**$215.6 M**
Operations	$157.8 M	$157.0 M
Maintenance	$45.2 M	$42.2 M
Propulsion	$32.8 M	$16.4 M
Total	**$265.0 M**	**$293.6 M**
Difference		**$28.6 M**

Emissions Reduction Impact



55,000 tonnes emissions reduction over the study period

95%+ reduction by the end of the transition

Key Takeaways and Next Steps

Key Takeaways

BEB Feasibility Study & Transition Plans provides:

- Implementation plan that considers operating conditions and resource allocation
- Phased timelines for vehicle and infrastructure procurement
- Financial planning & cost estimates





Next Steps

Additional considerations:

- Leverage plan to apply for additional funding (e.g., ZETF, CPTF, etc.)
- Consider implementing 1 pilot BEB
- Continue to monitor for technological advances

EDF power solutions



Canuck Wind

Will Colucci
Project Developer

Toby Shepherd
Community Engagement Manager

July 14, 2025

Agenda

1. Company Overview
2. Ontario Energy Context
3. Project Information
4. Project Benefits
5. Partnerships



Company Overview

Overview

EDF power solutions is a project developer, owner, and operator with end-to-end solutions for every market...

As developer, owner and operator of one of the largest renewable energy portfolios and second largest project pipeline on the continent, EDF power solutions is active in every market across North America.

With our history of innovation, and deep experience developing and operating renewable energy assets, we bring a full-suite of solutions for grid-scale, distribution-scale, asset optimization and onsite energy.

Our outstanding capabilities allow us to utilize our in-house experts, providing maximal efficiency and end-to-end oversight of any size of energy project.

...with the capabilities, financial strength and global footprint to help you secure your energy future.



Experience in Canada

16 Years
in Canada

EDF power solutions has been developing and operating clean energy projects across the country.

2,646 MW
of projects

Put into service, under construction or contracted across the country.

4,172 MW
pipeline

We continue to expand our energy expertise with projects in various stages of development.

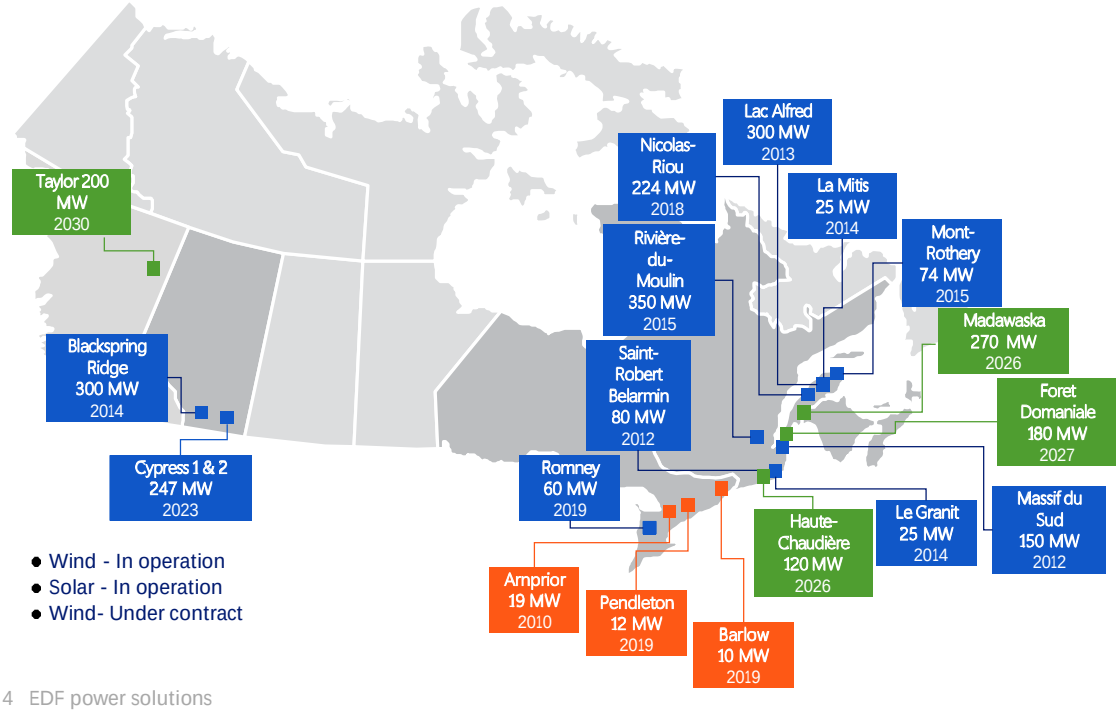
$5.2+B
invested

Since 2008 in Canada, including support of local wildlife habitats for bats, honeybees and Monarch butterflies.



EDF power solutions in Canada

2,646 MW
In operation, In construction or under contract



- Wind - In operation
- Solar - In operation
- Wind- Under contract

Domestic presence

- Offices in Montreal , Toronto and Calgary
- **215+** employees across Canada

Canadian Portfolio

- **1 876 MW** in operation (11 Wind / 3 Solar)
- **570 MW** under contract (3 Wind)
- **Over 2000 MW** in Wind, Solar and Storage in development

Operations & Maintenance

- **1 820 MW** Wind
- **457 MW** Solar

Portfolio in numbers

- **$5.2 Billion** invested in Canada
- **3 000 jobs at peak construction period**
- **475 000** homes supplied with electricity by wind and solar power

Ontario Energy Context



Ontario's Energy Needs and the RFP

- The energy transition is moving forward at a rapid pace. Province is predicting a 75% increase in electricity demand by 2050.
- The IESO is now addressing overall energy needs going into the 2030's and beyond by procuring more energy.
- IESO signaling that demand is growing in Northern Ontario and new supply is needed.
- IESO planning predictable Long Term (LT) procurements. Latest plans indicate an annual cycle of procurements running from 2025-2028 for LT2.
- EDF power solutions is developing projects to submit to the IESO in **October 2025**, part of the IESO's LT2 W1 procurement.

ieso
Connecting Today.
Powering Tomorrow.

EDF power solutions

IESO LT2 Procurement Timeline



Note: If the project proceeds, there will be a 2-3 year; community, municipal and indigenous consultation and engagement process, to ensure the project is well designed and that infrastructure is suitably located to avoid and mitigate potential impacts.

** Timelines are estimates based on information we have to date and may change.*

LT2 RFP Requirements

Municipal Resolution	• Simply allows EDF to continue development; A municipal resolution does not preclude any permitting decisions at the municipal level. Could be project specific or blanket.
Proponent Experience	• Proponents must have proven experience in Planning, Developing, Financing, Constructing and Operating projects.
Criteria Points	• Additional criteria points are awarded to projects sited in the North, who have Local Indigenous participation, and who avoid agricultural lands.
Pre Engagement Confirmation Notice	• This Notice sent to the applicable Local Body Administrator dated no later than 60 days before proposal submission deadline.
Crown Land Site Report	• Required for any portion of the project on crown lands.

IESO Bid Preparation

- As part of the process the IESO requires that bidders include a prescribed form from the Municipality with their application.
- This prescribed form can be general i.e. the municipality as a whole or project specific.
- Guidance from the IESO:
  - "the municipality supports the submission of a proposal for the Long-Term Energy Project located on the applicable Municipal Lands. The statement in such a resolution **may be qualified as being solely for the purposes of satisfying the mandatory requirements** under section 4.2(b) of the LT2(e-1) RFP and **does not supersede any applicable permits or approvals under applicable laws and regulations** that may be required for a particular Long-Term Energy Project. "
- Providing a resolution is NOT approval of the project, just allows the submission of a bid. The project would still need to go through a 2-3 year permitting and public consultation process.
- IESO is still reviewing RFP documents, anticipates publishing the final versions soon.







Project Information

Why Sault Ste. Marie?

Strong Winds & Transmission

- The study area has consistent and strong wind speeds suitable for a project
- There are multiple interconnection options with suitable capacity that will allow for electricity to be use locally as well as throughout Ontario

Rated Criteria Points

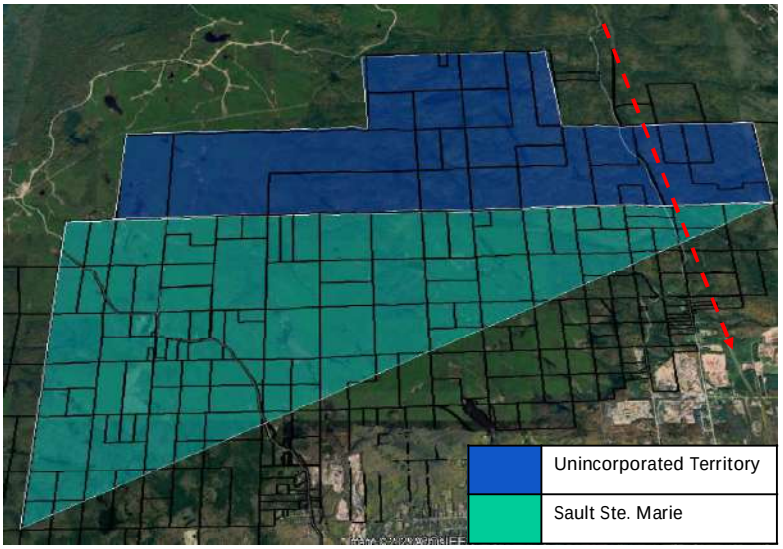
- IESO is providing rated criteria points for projects located in the two IESO 'North Zones', for projects not sited on agricultural land, and for having a local indigenous partner

Suitable lands

- EDF has engaged with landowners and local stakeholders since early 2024 and have received very positive feedback and interest.
- No major environmental constraints identified
- Proximity to serviceable ports and highways for construction
- Currently have ~4000 acres signed in the project study area

Canuck Wind Project

- The proposed study area is approximately 10 kms north of Sault Ste Marie. The project would also include portions of Prince Township and Pennefather and Aweres Townships.
- The site was selected because:
  - There is a strong wind resource. We have two met towers installed on site, collecting data in the area with positive results.
  - It is close to existing transmission lines with capacity to connect the project.
  - Site feasibility studies completed – no major obstacles to development.
  - There is a desire to host wind turbines by private landowners. 4,000 acres signed to date.
  - Wind energy has been delivering electricity in this area for almost 20 years.
- The total project size is approximately 30-35 turbines. For context the existing Prince Wind project is 126 turbines. Approximately 15-18 wind turbines are proposed to be located in Sault St Marie.



Environmental Studies and Permitting

Environmental studies work will be completed and submitted to the Ministry of Environment, Conservation and Parks (MECP) for approval if the RFP is successful.

- Renewable Energy Approval (REA) Report Requirements:
  - Engineering Reports: Project Description Report, Construction Report, Design & Operations Report and Decommissioning Report
  - Natural Heritage Assessment (Site Investigation, Environmental Impact Study, Species at Risk Report)
  - Water Report
  - Archaeological Assessment Reports
  - Cultural Heritage Assessment Report
  - Consultation Report (Municipal, Public, Federal/Provincial Agencies, Open House information)
  - Noise Impact Study

Recycling

EDF power solutions has committed to reuse, recycle, or recover all decommissioned wind turbine blades.

- **Towers**: 100% steel and recyclable
- **Blade Recycling and Reuse Options:** fortified cement, creating 3D printed furniture, repurposing them for structures such as bridges, play gyms for children, and soundwalls
- **Inspection & Repair:** EDF will continue industry leading inspection and repair services, which reduce the need for blade replacement by extending the useful life of each blade.
- **Environmental Impact:** Blades are chemically inert but landfilling is unsustainable.



Community Engagement

EDF Renewables prioritizes having an active presence in the community and responding to local interests. We engage early with stakeholders, connecting during the siting and permitting process and nurturing these relationships through installation and operation.

Engagement:

- SSM:
  - First reached out to SSM staff Dec 2023 to begin early-stage engagement
  - landowner and community engagement beginning in early 2024
  - Mayor and City senior staff on May 8th to provide a project update
  - Met with Director of Planning on June 3rd to begin conversations on planning process and procedures
- Batchewana First Nation and the Metis Nation of Ontario; we will engage other Indigenous Communities as the project progresses
- Sault Ste Marie Conservation Authority
- PUC Services
- We will continue to expand stakeholder engagement as the project progresses

Support:

- United Way of Sault Ste Marie
- Algoma Family Services
- St Vincent Place

Project Benefits

Economic Benefits

- **Host Municipal Agreement**: annual payment from EDF to the City to support municipal priorities. $300K/year x 20 years = $6 million
- **Host Community Fund**: annual fund set up by EDF to support local priorities. $25K/year = $500,000
  - Educational scholarships
  - Public School nutrition program
  - Recreation facilities/trails
  - Local Foundation support
- **Increased Property Tax** covered by EDF; millions of dollars over course of the project
- **Lease payments** to landowners
  - Project revenue-sharing
  - Turbine payments: ~$7.5M (SSM only)



Economic Benefits

EDF will focus procurement of materials and hiring as locally as possible.

- 200 MW wind project ~ $580 million in capex
- 30% spent on Balance of Plant ~$175 million and significant amount of that spent locally
  - 16-20 months of construction, with a peak of 200 staff, average of 100
  - Room/Board: local spending for lodging, food, and small businesses in support of construction workers
  - Concrete and rebar supply
  - Equipment rental
- Opportunities for work:
  - Surveying, Civil engineering, Mechanical Work, Electrical work, Transportation equipment, labourers, etc.
  - Maintenance of paths, snow removal, vehicle maintenance
  - Hospitality and other worker services



Host Community Fund: Romney Wind

In 2019, EDF Renewables launched the **Wheatley Area Community Fund**. The goal is to award $25,000 annually, to be spent on local community-driven initiatives in the village of Wheatley. The Fund is pleased to have presented to the following organizations for 2024:

Village Resource Centre

Wheatley BIA

Wheatley Community Chest

Wheatley Horticultural Society

Wheatley Junior Hockey Club

Wheatley Recreation

Talbot Trail Golf Club

The Meadows of Wheatley

Two Creeks Mountain Bike Trail Association

Wheatley Two Creeks Association

Wheatley Fish Fest Committee







Partnerships

Partnerships with Indigenous Communities



"Partnering with EDF power solutions has been one of the more progressive business partnerships that we've engaged in. We want to be able to produce electricity that is much needed by Albertans, Canadians, and North Americans."

CHIEF ROY FOX
Blood Tribe (Standoff, Alberta)

EDF power solutions portfolio has more than 1,700 MW of projects in partnership with Indigenous communities.

United States

Arrow Canyon 200 MW, Nevada, 2023
Chuckwalla 200 MW, Nevada, 2023
Playa Del Sol 50 MW, Nevada, 2023

Canada

Cypress, 247 MW, Alberta, 2023
Romney, 60 MW, Ontario, 2019
Barlow, 10 MW, Ontario, 2019
Pendleton, 12 MW, Ontario, 2019
Nicolas-Riou, 224 MW, Quebec, 2018
Rivière-du-Moulin, 350 MW, Quebec, 2015

Indigenous Partnerships in Ontario

ROMNEY WIND:

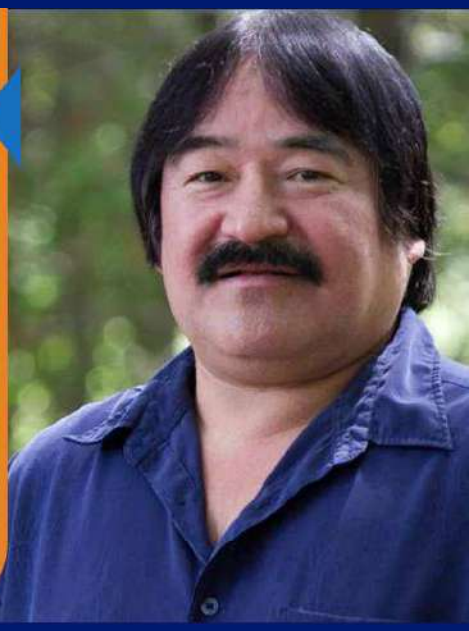
- In 2016, EDF power solutions developed an equity partnership with the Aamjiwnaang First Nation (ON) to develop the 60 MW Romney Wind Project located near Chatham, ON.
- The project started construction in 2018 and operation began in 2020.

BARLOW & PENDLETON SOLAR:

- In 2016, EDF power solutions developed an equity partnership with the Algonquins of Pikwakanagan First Nation (ON) to build 22 MW of solar at Barlow and Pendleton Solar Energy Centres.
- The projects started construction in 2018 and operation began in 2019.

"The Algonquins of Pikwakanagan are excited to form a partnership with EDF Renewables for the development and generation of renewable energy. This initiative will bring forth important economic benefits to the First Nation while continuing to foster the preservation of our environment"

Chief Kirby Whiteduck, Chief of the Algonquins of Pikwakanagan



Canuck Wind Summary

- EDF Power Solutions is a global leader in renewable energy development and operations
- Proposing a 200MW wind energy project to be submitted to the IESO LT2 W1 Procurement
- The project will provide significant benefits to the local community:
  - Host Municipality Agreement- ~$6,000,000
  - Host Community Agreement- ~$500,000
  - Project participation and revenue-sharing
  - Job creation and economic development
- Project development is underway with the completion of feasibility assessments and ongoing stakeholder engagement
- Detailed engineering and permitting work to be completed over the next 2-3 years
- Ongoing indigenous engagement and escalating negotiations with our potential First Nation partner to complete the formation of a formal equity partnership
- Construction to start in 2028 with a commercial operations date of May 2030

Thank you



Energy Designed *for the Future.*

SAULT STE. MARIE

Soo Moves
Active Transportation Master Plan

Council Presentation

July 14, 2025

What is Active Transportation?

Movement at a **human scale**:



Walking



Bicycles / e-bikes



Wheelchairs / electric wheelchairs



Scooters



Rollerblades



Skateboards

What is an ATMP?

The **Active Transportation Master Plan (ATMP) is:**

- ✓ A community-focused strategy
- ✓ Forward-looking long-term vision
- ✓ A flexible document
- ✓ A community building asset
- ✓ An implementation guide
- ✓ A support for existing plans

ATMP Objectives



Enhance Safety and Accessibility

Leverage Complete Streets guidelines to improve access to safe and comfortable walking, rolling, and cycling facilities



Create Connectivity

Fill in active transportation network gaps that connect the Hub Trail to key downtown destinations, residential and employment areas, alongside transit services



Advance Transportation Equity

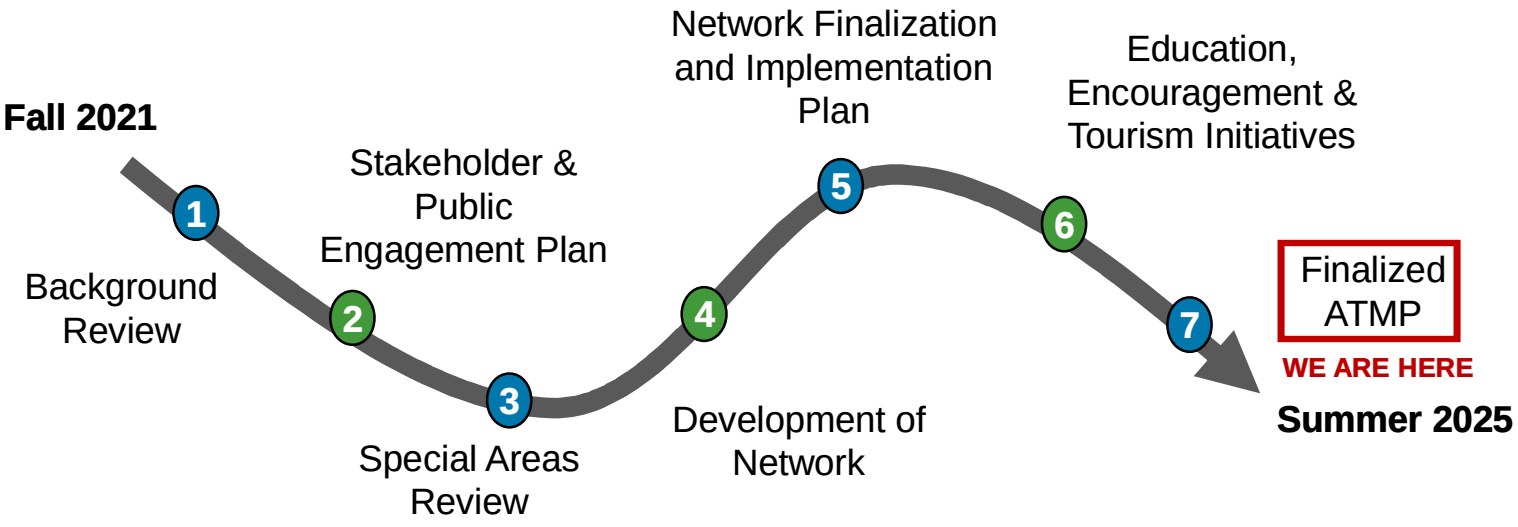
Ensure that residents of all ages, abilities and backgrounds have access to safe and reliable transportation



Educate and Encourage

Provide residents with resources to allow them to easily adopt active transportation modes

What Was Done



Route Selection Criteria

Safety and Accessibility
Improves safety and enhances accessibility

Connected & Continuous
Ensures a consistent user experience with continuous, comfortable routes while closing existing gaps.

Feasibility
Evaluated by capital investment level, alignment with existing projects, and property constraints

Support Multi-modal Needs
Provides pedestrian and cyclist space, and connections to transit

Connections to Key Designations
Connections to tourist destinations, parks, and green spaces within the City

What Could the Cycling Network Look Like?

Overview of different facility types that could be included as part of Sault Ste. Marie's future active transportation network:

Shared and Designated Facilities

Paved Shoulders (rural)



- Provides a space for active transportation users separate from motor vehicles.

Neighbourhood Bikeways



- Active transportation users share the road with motor vehicles.
- Includes measures to slow vehicles and/or reduce vehicle volumes.

Painted or Buffered Bike Lanes



- Designated space for active transportation users
- Separated from motor vehicles by white lines, painted symbols, and signage.

What Could the Cycling Network Look Like?

Overview of different facility types that could be included as part of Sault Ste. Marie's future active transportation network:

Protected or Separated Facilities

Protected Bike Lanes



Physical barriers, like curbs and delineators, separate active transportation users from motor vehicles and enhance safety

Cycle Tracks



- Facility is above the curb and exclusive to active transportation users.
- Tactile strip separates pedestrian sidewalk and cycle track.

Multi-Use Pathways



Pathway is off-road but within road right-of-way

Consultation to Date

A number of engagement activities occurred between fall 2022 to summer 2025:

- Listening Sessions/Focus Groups with key stakeholders
- Progress meetings with City Staff

Online Community survey and interactive mapping tool

- 161 participants and 900+ comments on the interactive map



Online interactive mapping tool



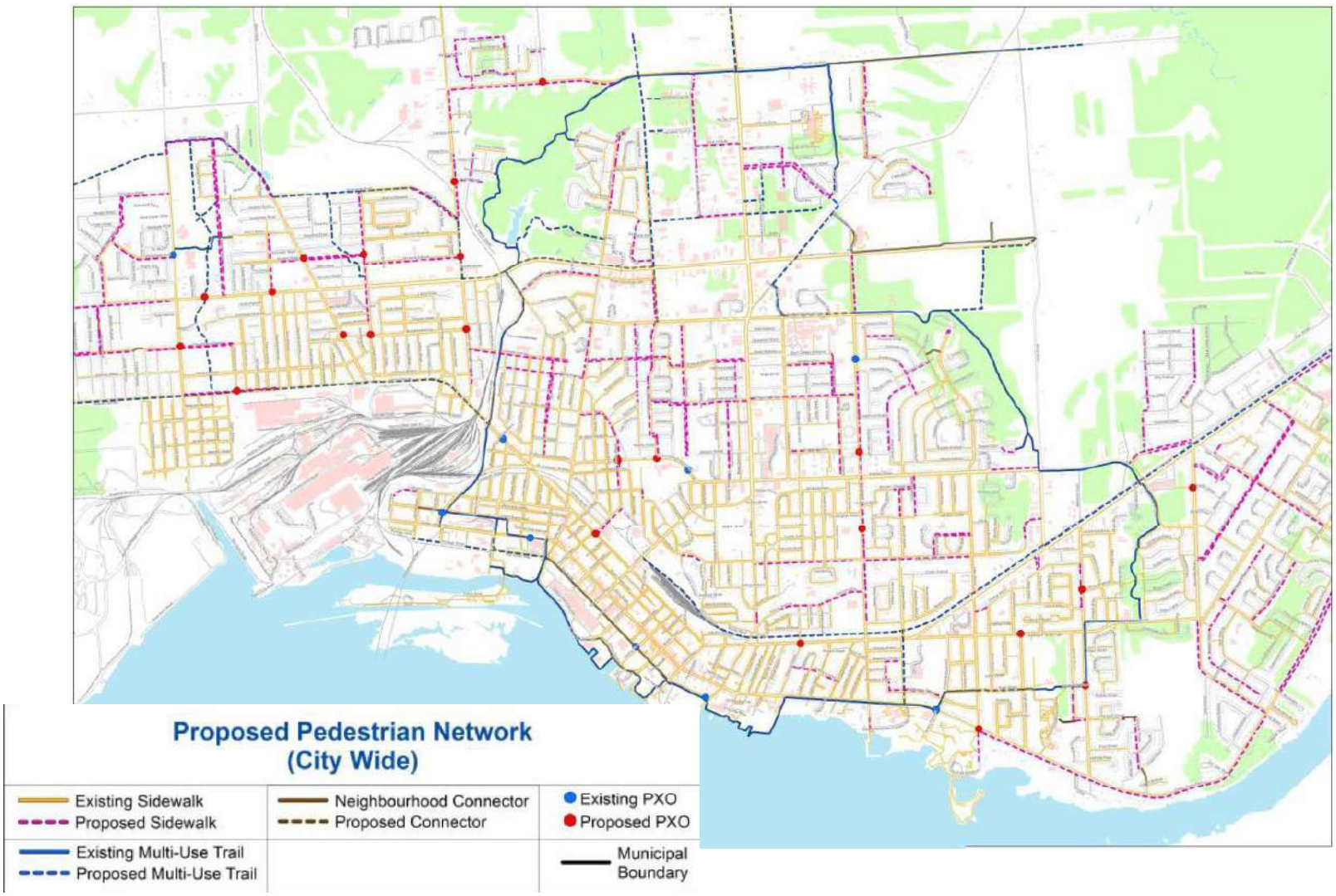
Open House promotion

Key Themes and Priorities

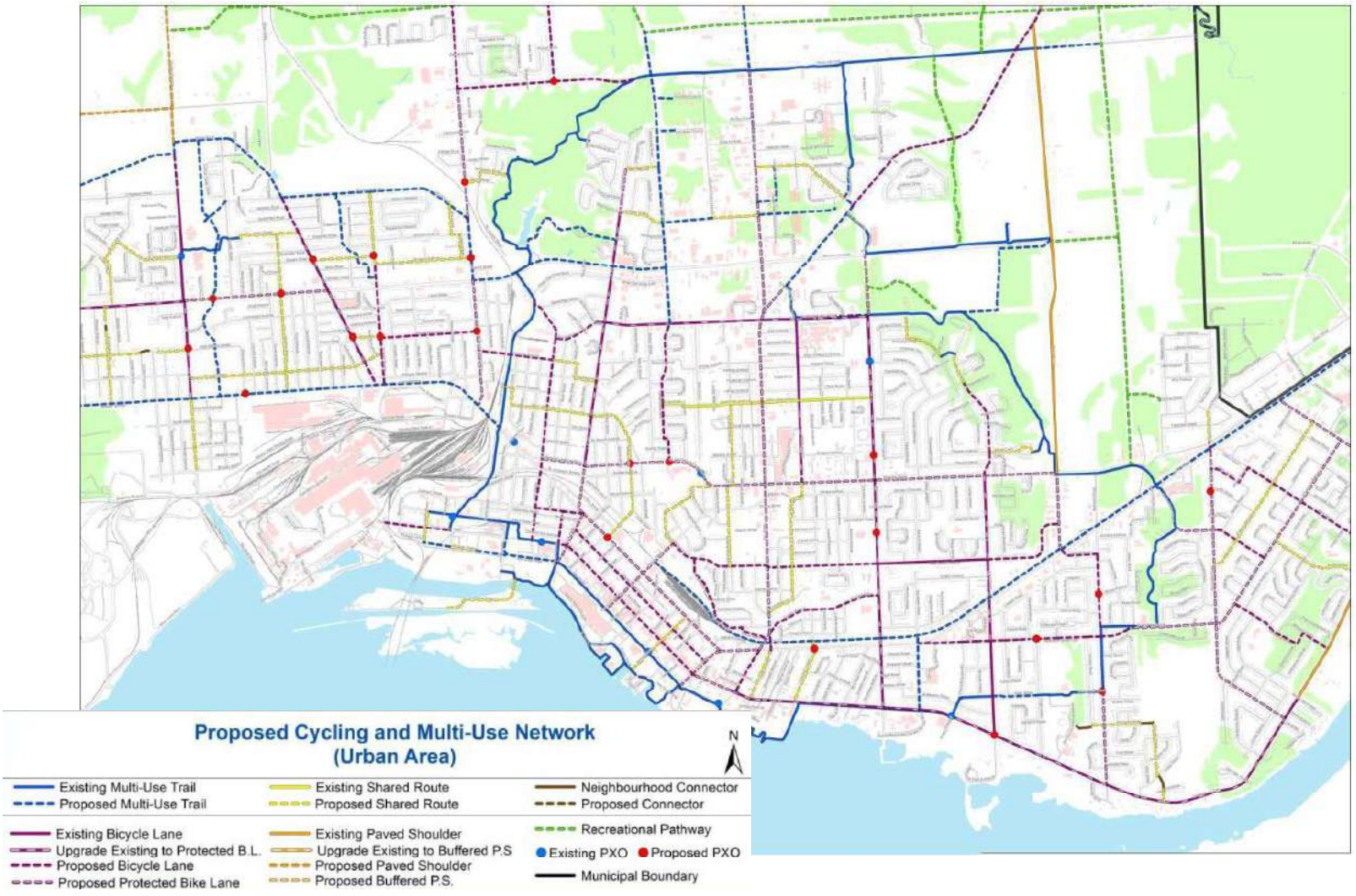


- **Improved safety** for pedestrians and cyclists
- **Separated** cycling facilities from motor vehicles
- **Safer crossings** at intersections to the Hub Trail
- **Close gaps** to create a continuous network
- **Expanded network** of active transportation facilities
- **More connections** to key destinations and the Hub Trail
- **Improved maintenance and accessibility** of sidewalks and active transportation facilities during all seasons
- **More amenities** that support active transportation users, like rest areas, wayfinding, and bike racks

Proposed Pedestrian Network - (Urban Area)



Proposed Active Transportation Network - (Urban Area)



Network Highlights

- **West End Hub Trail**, expanding the John Rowswell Hub Trail in an area of the city with currently limited active transportation infrastructure
- **Trunk Road Trail**, running between the rail line and Trunk Road, is under consideration for long-term implementation
- **Expanded network and new connections,** close key network gaps and expand the network to key destinations and in previously underserved areas of the City
- **Enhanced facilities,** providing a variety of facility types to improve the safety and comfort for active transportation users
- **Utilizing hydro corridors and parks**, bypassing busy roads and providing greater connectivity

Programs & Initiatives

Supportive community programs will help building a culture of active travel and normalize its use. Programs will be delivered in three phases:

Phase 1: Foundations

- Routine Community Slow Roll Events
- Initiate an Active School Travel Program
- Open Streets Events
- AT Wayfinding
- AT Advisory Committee
- Support for Marginalized Communities

Phase 2: Basic Programming

- Winter Wheels Program
- 1m Safe Passing Public Awareness Campaign
- Designated Amenity Hubs
- Lunch and Learn AT Workshops at Workplaces
- E-Bike Loan Service
- Community Cycling / Walking Challenge

Phase 3: Advanced Programing

- Bike Valet at Community Events
- Monitoring and Evaluation Scheme
- Bike Equipment Giveaways

  Bike Rodeos

Thank you!

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Project Manager - WSP
James.Schofield@wsp.com

Adam Rosenfield, P.Eng.
Senior Transportation Engineer - WSP
Adam.Rosenfield@wsp.com

The Corporation of the
City of Sault Ste. Marie

C O U N C I L R E P O R T

July 14, 2025

TO:	Mayor Matthew Shoemaker and Members of City Council
AUTHOR:	Tom Vair, CAO
DEPARTMENT:	Chief Administrative Officer
RE:	O.P.P. Costing Request

Purpose
The purpose of this report is to provide Council with information related to the request for costing of Ontario Provincial Police (O.P.P.) policing services for Sault Ste. Marie.

Background
On May 12, 2025, City Council approved the following resolution:

> *Whereas a safe community free of crime and social disorder is beneficial for all residents of and visitors to the City of Sault Ste. Marie; and*
>
> *Whereas the Sault Ste. Marie Police Service was founded as a municipal police service for the City of Sault Ste. Marie in 1871; and*
>
> *Whereas year-over-year, the cost of policing in the City of Sault Ste. Marie has risen at a rate higher than the rate of inflation; and*
>
> *Whereas the rising costs of police services must be paid by taxpayers; and*
>
> *Whereas the rising cost of policing in the city of Sault Ste. Marie is not sustainable; and*
>
> *Whereas the Ontario Provincial Police (O.P.P.) provide policing service across the province along with the ability to provide additional resources; and*
>
> *Whereas a priority of Council and City staff is to ensure that tax dollars are spent in a fiscally responsible way while exploring all options to provide services that will enhance the safety of our community,*
>
> *Now Therefore Be It Resolved that the CAO be directed to send a letter to Ontario's Solicitor General, the Honourable Michael Kerzner to request*

> *pricing for O.P.P. services for the City of Sault Ste. Marie; and further that, copies of the letter be sent to the Sault Ste. Marie Police Services Board, the Interim Sault Ste. Marie Police Chief and Police Association and Senior Officers Association.*

Staff sent the request letter and received a reply from the Solicitor General on July 3, 2025 indicating that the Province will not provide an O.P.P. resource plan (Attachment A – Solicitor General Response).

Analysis
Given the response from the Solicitor General, focus will remain with the Sault Ste. Marie Police Services Board and Chief of Police to deliver adequate and effective policing services to the community.

Staff are working with the Police Services Board to finalize a Memorandum of Understanding (MOU), which aligns with the recommendations from the KPMG Shared Services Review Feasibility Study. This MOU is anticipated to improve communication and collaboration between the City and Sault Ste. Marie Police Services, particularly between the Finance and Human Resources departments of the respective organizations.

In addition, the City will continue to advocate, along with the Northern Ontario Large Urban Mayors (NOLUM), to seek financial support from the Province to address the escalating cost of police services. Since 2019, the actual percentage increase for community policing costs has increased 52%. The Consumer Price Index increase over the same period was 18.9%. This level of increase is unsustainable for a municipality to absorb with current financial resources. The 2024 BMA Municipal Study indicated Sault Ste. Marie has the highest net policing costs per capita for communities with a population between 30,000-99,000.

Financial Implications
There are no financial implications directly contemplated in this report. The cost of policing services in Sault Ste. Marie will continue to be advised through the Sault Ste. Marie Police Services Board and Chief of Police.

Strategic Plan / Policy Impact / Climate Impact
This is an operational matter not articulated in the corporate Strategic Plan.

Recommendation
It is therefore recommended that Council take the following action:

Resolved that the report of the CAO dated July 14, 2025 concerning O.P.P. costing be received as information.

Respectfully submitted,

Tom Vair
CAO
705.759.5347
cao.vair@cityssm.on.ca

Solicitor General

Office of the Solicitor General

25 Grosvenor Street, 18th Floor
Toronto ON M7A 1Y6
Tel: 416 326-5000
Toll Free: 1 866 517-0571
Minister.SOLGEN@ontario.ca

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Ontario

132-2025-1914
By email

July 3, 2025

Tom Vair
Chief Administrative Officer (CAO)
City of Sault Ste. Marie
99 Foster Drive
Sault Ste. Marie ON P6A 5X6
Cao.Vair@cityssm.on.ca

Dear Tom Vair:

Thank you for your correspondence dated May 15, 2025, formally requesting a policing resource plan from the Ontario Provincial Police (OPP). As Solicitor General of Ontario, I appreciate the opportunity to respond.

I want to acknowledge the vital role that Ontario's small and medium municipal and First Nations police services play in protecting Ontario and keeping our communities safe. They are the backbone of public safety across the province. The Sault Ste. Marie Police Service stands out as a leading example in northern Ontario and I am proud of the dedication its frontline officers have shown in serving and protecting their community for more than 150 years.

The Sault Ste. Marie Police Service is critical to the diversity of policing across Ontario and serves as a key employer in the region with over 200 full-time members. I believe the service remains well-positioned to continue delivering effective, community-based policing to the residents of Sault Ste. Marie. Accordingly, under the authority granted by section 62 (1) of the *Community Safety and Policing Act*, *2019* (CSPA), I have directed the OPP Commissioner not to provide the Sault Ste. Marie municipal council with an OPP policing resource plan.

However, community safety is a shared responsibility. Our government will always stand with our world-class police officers ensuring they have the tools, and support needed to do their jobs effectively and safely. Through a range of public safety grants provided to municipal and First Nations police services across the province, we are responding to evolving challenges and equipping these services to meet the demands of modern policing.

…/2

Thank you again for writing.

Sincerely,



The Honourable Michael S. Kerzner
Solicitor General

c: Thomas Carrique, C.O.M.
Commissioner, Ontario Provincial Police

The Corporation of the
City of Sault Ste. Marie

C O U N C I L R E P O R T

July 14, 2025

TO:	Mayor Matthew Shoemaker and Members of City Council
AUTHOR:	Karen Marlow, Manager of Purchasing
DEPARTMENT:	Corporate Services
RE:	Design Study – Home Energy Improvement Loan Program

Purpose

The purpose of this report is to obtain Council approval to award professional services for a Design Study for Home Energy Improvement Loan Program, as required by Community Development and Enterprise Services.

Background

The proposal was publicly advertised and notification provided to all firms on the bidders list. Proposals were required to be submitted for consideration no later than 4:00 p.m. on June 4, 2025.

Analysis

Proposals from seven proponents were received prior to closing deadline:

Clean Air Partnership, Toronto ON
Dunsky Energy (6893449 Canada Inc), Montreal QC
Econoler Inc., Quebec QC
Enermatrix Consulting Inc., Toronto ON
Enerva Energy Solutions Inc., Toronto ON
RFS Energy Consulting & Research Group Inc. Calgary AB
Verdure Global Energy Solutions Inc., Burnaby BC

The proposals received have been reviewed and evaluated by a committee comprised of staff from CDES. It is the consensus of the evaluation committee that the proponent scoring the highest in the evaluation process is Dunsky Energy.

Financial Implications

Dunsky Energy submitted pricing in the amount of $132,174 including non-rebateable HST to complete the Design Study.

Eighty percent of the project costs will be funded through a grant from the Federation of Canadian Municipalities (FCM). The remaining 20% will be covered through in-kind staff services.

Strategic Plan / Policy Impact / Climate Impact
This program aligns with the Corporate Strategic Plan in the Service Delivery focus area as it continues to assist in delivering excellent customer service to citizens.

Recommendation
It is therefore recommended that Council take the following action:

Resolved that the report of the Manager of Purchasing dated July 14, 2025 concerning services to provide a Design Study for Home Energy Improvement Loan Program as required by Community Development and Enterprise Services be received and that the proposal submitted by Dunsky Energy be awarded in the amount of $129,888.00 plus HST.

Respectfully submitted,

Karen Marlow
Manager of Purchasing
705.759.5298
k.marlow@cityssm.on.ca

The Corporation of the
City of Sault Ste. Marie

C O U N C I L R E P O R T

July 14, 2025

TO:	Mayor Matthew Shoemaker and Members of City Council
AUTHOR:	Karen Marlow, Manager of Purchasing
DEPARTMENT:	Corporate Services
RE:	Factory Repair Snow Removal Equipment – PWT

Purpose

The purpose of this report is to obtain Council approval to proceed with certified factory repair on two City-owned Larue loader mounted snow blowers presently in use by Public Works and Engineering Services.

Background

This equipment is used by Public Works for City street snow removal. This past winter four street blowers in use handled approximately 2.5 million cu/metres of snow removal. These two blowers require extensive repair due to the winter experienced and, because of complexity, cannot be completed in house. The blowers have been sent to Larue for quotes on complete rebuilds performed at their factory.

Analysis

The repairs will include replacement within the engine compartment and of the conveyor, drum, chute, impeller, and other miscellaneous requirements found.

These units are the newest two in the fleet (2015 and 2018 models) and not scheduled for replacement for some time. These repairs will restore the units to like-new condition to ensure prolonged use. The quoted pricing for repair is about 25% of the purchase cost of a new unit.

J.A. Larue Inc. is the manufacturer of this equipment and specializes in rebuilding used snow removal equipment. This sole source request is in accordance with the Purchasing By-law 22.3 a), c) as there is an absence of competition for technical reasons and the service is supplied by manufacturer.

Financial Implications

J.A. Larue Inc. submitted pricing in the amount of $151,904 including non-rebateable HST for the two units.

This repair will be funded through Public Works operations Buildings and Equipment accounts as set in the 2025 budget. This request can be accommodated within this funding allocation.

Strategic Plan / Policy Impact / Climate Impact
This repair is an operational matter not articulated in the corporate Strategic Plan.

Recommendation
It is therefore recommended that Council take the following action:

Resolved that the report of the Manager of Purchasing dated July 14, 2025 concerning the factory repair of two loader mounted snow blowers as required by Public Works and Engineering be received and that the work be awarded to J.A. Larue Inc. as sole source in the amount of $149,277.06 plus HST.

Respectfully submitted,

Karen Marlow
Manager of Purchasing
705.759.5298
k.marlow@cityssm.on.ca

The Corporation of the
City of Sault Ste. Marie

C O U N C I L R E P O R T

July 14, 2025

TO:	Mayor Matthew Shoemaker and Members of City Council
AUTHOR:	Brent Lamming, Deputy CAO, Community Development and Enterprise Services
DEPARTMENT:	Community Development and Enterprise Services
RE:	IESO LT2 Procurement and Role of the Municipality

Purpose

The purpose of this report is to provide information to Council on the recently announced Long-Term 2 Request for Proposals (LT2 RFP) procurement process by the Independent Electricity System Operator (IESO) and the role that the municipality has been requested to perform in the approval process.

Background

The IESO recognizes the importance of collaborative efforts between stakeholders and communities to advance Ontario's energy infrastructure while meeting municipal planning goals and is committed to keeping municipalities informed as work progresses.

The IESO maintains reliability by overseeing the operation of the grid in real time—24 hours a day, 7 days a week. They also conduct ongoing planning and procurement processes to ensure Ontario's electricity system has the infrastructure and tools in place to meet needs 20 years into the future.

To ensure reliable and affordable electricity is available where and when it is needed, the IESO is moving forward with ambitious plans to build a significant amount of new supply and transmission infrastructure, as well as to expand energy efficiency programs.

Analysis

The IESO has initiated the LT2 RFP to address the forecasted annual electricity demand growth of 75 percent by 2050. Locally, obtaining new energy capacity is especially important given Algoma Steel's electric arc furnace transformation and the need to be able to meet the power needs of new economic development opportunities.

Attached is a letter from the IESO (Appendix A) on the process overview, and further information can be found on the LT2 RFP webpage

https://www.ieso.ca/Sector-Participants/Engagement-Initiatives/Engagements/Long-Term-RFP

In addition, Appendix B details the LT2 Procurement Steps and Requirements for municipalities.

Staff are recommending that the City's approach is to have each project developer present to Council to provide an overview of their project. This will provide both Council awareness and information to the community on proposed projects.

Highlights from the IESO communication:

- Municipalities play an important role in the process;
- As a first step, project developers need to obtain support from the City at the initial stage to even submit their project for consideration (Municipal Support Confirmation);
- The Municipal Support Confirmation does not mean the project will be approved by IESO;
- The Municipal Support Confirmation is only a moment-in-time expression of support – they are not binding final approvals, and there is no effect to revoking the support even if an IESO contract is issued for a project;
- Project developers will need to comply with all municipal requirements (e.g., zoning, site plan) if they are successful with the IESO and need to return for regular approvals; and
- There is an opportunity for the City to negotiate community benefit agreements with developers, and some of the developers have outlined annual payments to the City should their projects be successful in the RFP process and produce the expected amount of energy generation.

City staff are aware of several projects being developed that will fall within, or partially within, municipal boundaries, including solar generation, energy storage, and wind generation. Developers have been in touch with staff, and several projects are anticipated to come before Council leading up to the deadlines in October or December (depending on the type of project). A report can be found elsewhere on the agenda with respect to a request for a proposed wind farm, which relates to the LT2 RFP requiring a municipal support resolution to move forward to the next phase of the application process.

Indigenous consultation falls into phase two of the process; however, City staff are encouraging all proponents to commence that consultation immediately.

In addition, the City has the right to negotiate a community benefit per megawatt of power produced. A forthcoming report to the Council will recommend the establishment of a "Community Growth Fund Reserve" where proceeds can be directly reinvested into community priority projects, subject to Council approval.

Financial Implications
This report has no immediate impact on the operating budget; however, there is potential for future revenue from negotiations of a community benefit per megawatt of power produced.

Strategic Plan / Policy Impact / Climate Impact
The recommendation supports the focus area of the Community Strategic Plan for 2024-2027 in a number of ways.

- Under Economic Activity, it supports the growth of a diversified economy with entrepreneurs and attracts new businesses.
- It exemplifies communication and stakeholder consultation to create an environment that encourages engagement and the exploration of mutual goals to grow our community. Collaboration with community partners and stakeholders is essential to our success.

Climate Impact
The LT2 procurement process is crucial for securing clean energy capacity to meet the Sault Ste. Marie and area growing needs and supports the City's net-zero emissions target by 2050. Engaging with renewable energy projects, such as solar and wind support and the decarbonization of the grid, which will reduce local carbon emissions and align with the City's sustainability goals. Community benefit agreements from these projects can also be considered for reinvestment into further climate action initiatives.

Recommendation
It is therefore recommended that Council take the following action:

Resolved that the report of the Deputy CAO, Community Development and Enterprise Services dated July 14, 2025 concerning the Independent Electricity System Operator Long-Term 2 Procurement Process and Role of the Municipality be received as information.

Respectfully submitted,

Brent Lamming, PFP, CPA, CMA
Deputy CAO
Community Development and Enterprise Services
(705)759-5314
b.lamming@cityssm.on.ca

June 27, 2025

Connecting Today.
Powering Tomorrow.

Independent Electricity System Operator
1600-120 Adelaide Street West
Toronto, ON M5H 1T1
t 416.967.7474
www.ieso.ca

Dear Members of Council,

Re: Update from IESO on LT2 Procurement Process

Please accept this letter to be shared with relevant staff and members of your Council to help municipalities prepare as the Independent Electricity System Operator (IESO) launches the Long-Term 2 (LT2) procurement. The IESO recognizes the importance of collaborative efforts between stakeholders and communities to advance Ontario's energy infrastructure while meeting municipal planning goals and is committed to keeping municipalities informed as work progresses. This letter aims to provide a fact-based view of the province's growing need for electricity, the important role that securing new electricity infrastructure plays in ensuring Ontario continues to have a reliable, affordable and sustainable electricity system today and into the future and offers a suite of online resources to support municipalities through the procurement process.

The IESO works at the heart of Ontario's electricity system. We maintain reliability by overseeing the operation of the grid in real time – 24 hours a day, 7 days a week. We also conduct ongoing planning and procurement processes to ensure Ontario's electricity system has the infrastructure and tools in place to meet our needs 20-years into the future.

The growth of Ontario's electricity system must accelerate at an unprecedented pace. The IESO forecasts annual electricity demand to grow 75 per cent by 2050 due to economic growth, electrification, and evolving technologies. To ensure reliable and affordable electricity is available where and when it is needed, the IESO is moving forward with ambitious plans to build a significant amount of new supply and transmission infrastructure, as well as to expand energy efficiency programs.

To address Ontario's growing electricity needs, the IESO has initiated several electricity supply acquisition mechanisms, including the LT2 procurement process. The LT2 Request for Proposal (RFP) seeks to procure new supply resources and will include multiple proposal submission windows, that will be run on approximately an annual basis. The LT2 RFP will take an "all of the above" approach to eligibility and may see wind, solar, bioenergy, energy storage, combined heat and power, hydroelectric and natural gas projects come forward under the first submission window. Successful projects will be awarded a 20-year contract term.

Municipalities play a critical role in Ontario's energy transition and local decisions are shaping the future of Ontario's electricity system. Municipal governments determine whether their community will be a willing host of electricity projects by issuing a Municipal Support Confirmation (MSC) and oversee local development approvals. The MSC does not guarantee that the project will be awarded an IESO contract and does not supersede any applicable permits or approvals under applicable Laws and Regulations. If you would like more information, you can review our LT2 RFP webpage.

While the IESO always encourage developers to conduct early engagement with communities, for the LT2 RFP, the IESO is empowering municipalities to determine the appropriate levels of engagement required in their communities. Each community in Ontario is unique and should be engaged in a manner that works best for their community members. This means that municipalities will be able to determine minimum engagement standards that developers must meet, as part of their issuance of an MSC.

To help inform discussions, the IESO is sharing the following resources:

- The Annual Planning Outlook Engagement webpage which provides IESO's forecast of Ontario's electricity system needs out to 2050.
- A dedicated community engagement webpage which provides key information to aid municipal decision-making.

While the IESO is responsible for planning the system and executing the procurement process, other Ministries and government authorities are responsible for overseeing environmental assessment processes and setting standards for the safe maintenance and operation of electrical equipment. As part of the IESO's contracts, proponents are required to obtain and comply with all relevant permits and processes. Additional resources include:

- Ontario Ministry of the Environment, Conservation and Park's (MECP) Location/Site Considerations Checklist for Renewable Energy Projects.
- MECP's Technical Guide to Renewable Energy Approvals which provides information on land use planning, siting considerations and decommissioning.
- To support the completion and review of the Agricultural Impact Assessment requirements the Ontario Ministry of Agriculture, Food, and Agribusiness has published guidelines documents here: OMAFA Guidelines for the LT2 AIA Component One Requirement.
- The Ontario Association of Fire Chiefs, the Canadian Renewable Energy Association and Energy Storage Canada released the Solar Electricity and Battery Storage Systems Safety Handbook for Firefighters.
- A toolkit created by the Association of Municipalities of Ontario (AMO) to guide municipalities on the development of electricity projects.
- The Ontario government requires all renewable energy proposals to acquire Renewable Energy Approvals before moving forward with development. More information on the approval process can be found via the link above.
- More information about wind turbine noise can be found on Health Canada's page.

The current electricity system will not meet electricity demand projected for 2050. Ontario requires more electricity, and we must work together to secure it. Municipalities like yours are

key partners in Ontario's energy transition and local decisions play a critical role in shaping the province's electricity system. Municipalities determine whether they are willing hosts for new supply resources and are therefore essential to securing the energy resources needed to meet Ontario's growing electricity needs. For this reason, it is essential that municipalities remain engaged and informed in the procurement process. To stay up to date please subscribe here.

The IESO is committed to continuing our engagement with municipalities as work progresses, and we welcome your feedback and involvement in these important matters.

If you would like more information, please email our Regional and Community Engagement team at communityengagement@ieso.ca.

Sincerely,



Carla Y. Nell

Executive Vice-President, Corporate Relations, Engagement and Strategy, IESO

LT2 Procurement Steps and Requirements for Municipalities

June 2025

Purpose

This document aims to provide further details on the steps a municipality can expect during the IESO's Long-Term 2 (LT2) procurement process and the specific requirements that developers and municipalities must complete if the proposed project is to be supported by the municipality and be eligible to compete for an IESO contract. It also includes details on the approximate timelines for both developers and municipalities as contemplated in the LT2 procurement process.

Step 1: Engagement with Developer

- Municipalities can expect to be approached by developers to discuss potential projects. As all developers are required under the LT2 RFP to provide the Local Municipality with a **Pre-Engagement Confirmation Notice** at least 60 days prior to Proposal Submission Deadline, this may be the first form of formal engagement. A sample of the Pre-Engagement Confirmation Notice will be provided as part of the Prescribed Form(PF): Evidence of Municipal Support.
- The Pre-Engagement Confirmation Notice serves the purpose of sharing preliminary project details, including a request that the Local Municipality confirms the land use designation of the proposed project site, and begins the collaborative work between the Local Municipality and the developer to establish an agreed upon community engagement plan.
- Municipalities are encouraged to set expectations and minimum community engagement standards with developers directly. This allows municipalities to determine what is sufficient community engagement based on their local needs and preferences and allows the IESO to rely on a Municipal Support Confirmation as a measure that engagement has been completed in a manner that is satisfactory to the host community.

Step 2: Protections for Agricultural Lands – applicable to Project Sites located on Prime Agricultural Land as defined by the PPS, 2024 and designated in the Local Municipality's Official Plan

- Municipalities can expect to be asked by the developer to confirm the land-use designation of the proposed project site. There are additional requirements if the project is proposed to locate in a Prime Agricultural Area.
- Per the Ministerial Directive all new electricity projects are prohibited in Specialty Crop Areas, and all new ground mounted solar projects are prohibited in Prime Agricultural Areas. All eligible projects that are proposed in Prime Agricultural Areas require the completion of an Agricultural Impact Assessment (AIA).There are three components of an AIA (avoid, minimize, and mitigate), which may be completed in two different stages for projects proposed under the LT2 RFP:
    - Stage 1: AIA Component One Requirement considers ways to avoid potential impacts (e.g., prevent impacts, where possible, through a project location process that considers options outside prime agricultural areas and lower priority soils, if necessary).
    - Stage 2: AIA Components Two and Three Requirement considers strategies to minimize potential impacts (e.g., keep impacts to a minimum by incorporating specifics in the design of a project or operational plan) and approaches to mitigate potential impacts (e.g., adopt measures to reduce the severity of impacts such as noise, dust and traffic).
- **The AIA Component One Requirement** must be met as of the Proposal submission deadline and the **AIA Components Two and Three Requirement** must be met within 18-months of the IESO awarding a Contract. These requirements are completed by the developer and then reviewed to the satisfaction of the Local Municipality. To support the completion and review of the AIA requirements the Ontario Ministry of Agriculture, Food, and Agribusiness has published guidelines documents here: OMAFA Guidelines for the LT2 AIA Component One Requirement. The OMAFA Guidelines for the LT2 AIA Component Two and Three Requirement have not been published yet.
- Confirmation that the AIA Component One Requirement has been completed to the satisfaction of the Local Municipality is evidenced via the Municipal Support Confirmation.
- Confirmation that the AIA Components Two and Three Requirement has been completed to the satisfaction of the Local Municipality is evidenced via Exhibit T: Form of AIA Confirmation Certificate of the LT2 Contract.

Step 3: Municipal Support Confirmation

- Once a developer has completed, (or has committed to completing) the agreed upon community engagement plan, the developer will ask the Local Municipality to issue a **Municipal Support Confirmation (MSC)**. A MSC is required as a part of the Proposal submission and serves as confirmation that community engagement has been completed by the developer in a manner that is satisfactory to the municipality and that the municipality is supportive of the developer submitting their proposed project to the IESO.
- The MSC does not guarantee that the proposed project will be awarded an IESO Contract and does not supersede any applicable permits under applicable Laws and Regulations.

- The MSC can be in the form of a **Municipal Resolution in Support of Proposal Submission** or a **Blanket Municipal Support Resolution** provided together with a Blanket Municipal Support Confirmation Letter.
- Municipalities are welcome to develop their own resolution, however, to make the process easier, a writable form that includes all necessary information will be posted as part of the **Prescribed Form: Evidence of Municipal Support** once the LT2 RFP documents are finalized. Municipalities can work with the proponent on filling in the relevant details. Municipalities developing their own resolution should follow the instructions included in the Prescribed Form: Evidence of Municipal Support.

Step 4: Contract Awarded

- After a project is awarded an IESO LT2 contract, municipalities continue to work with developers to ensure that projects align with their community interests and requirements. Municipalities and developers have the ability to negotiate community engagement requirements and community benefit agreements. Additionally, before construction, successful projects must obtain a number of permits and approvals, including:
    - a site plan approval;
    - zoning permits or amendments (if required);
    - environmental approvals (including engagement and consultation requirements with Indigenous communities);
    - Regulatory approvals;
    - grid connection approvals; and
    - permits for new roads and other infrastructure.
- Other government organizations will also play an oversight role to ensure projects are safe and appropriately sited. Some examples include:
    - **Environmental Assessments (EA)**: The Ontario Ministry of the Environment, Conservation and Parks may conduct a Renewable Energy Approval (REA) assessment for some wind, solar and bioenergy projects. There are several other EA's that can be undertaken. More information on types of EAs can be found here.
    - **Land Use and Municipal Requirements**: The Ontario Ministry of Municipal Affairs and Housing provides guidance on legal and regulatory requirements related to land use, such as zoning and buffer zones for specific types of generation.
    - **Agricultural Land**: The Ontario Ministry of Agriculture, Food and Agribusiness provides guidance on zoning requirements and other regulatory restrictions.
    - **Crown Land**: The Ontario Ministry of Natural Resources provides guidance on the use of crown lands, including approvals, rules for access, and the role of municipalities.
    - **Fire and Safety**: Third parties, such as the Electrical Safety Authority and Technical Standards and Safety Authority, ensure that project proposals and development comply with all applicable laws and regulations.

- Over the course of the project's development, municipalities engage directly with project developers to ensure compliance with all applicable laws, regulations and local requirements.
- Additionally, projects that are **unsuccessful and are not awarded a contract** could participate in subsequent procurement windows, if the Municipality and developer are interested. This would require further engagement between the two parties to ensure compliance with the LT2 RFP and the potential to be awarded a contract in one of the multiple procurement windows.

The Corporation of the
City of Sault Ste. Marie

COUNCIL REPORT

July 14, 2025

TO:	Mayor Matthew Shoemaker and Members of City Council
AUTHOR:	Brent Lamming, Deputy CAO Community Development & Enterprise Services
DEPARTMENT:	Community Development and Enterprise Services
RE:	Pedal Pub Pilot

Purpose

The purpose of this report is to seek Council approval for a two-year pilot permitting Pedal Pubs in the downtown core with the option to extend upon mutual agreement.

Background

Pedal pubs have been discussed locally for several years with local proponents, community services, and tourism staff.

On June 27, 2025, the Provincial Government announced it is supporting small businesses and encouraging local tourism by allowing alcohol to be served and consumed on large quadricycles, commonly known as pedal pubs. As of July 1, this change would apply to pedal pubs which currently operate in Niagara-on-the-Lake, Toronto, Ottawa, and Windsor, with space for 12 or more people travelling between restaurants and bars. In the face of tariffs and economic uncertainty, the government is continuing to pursue opportunities to help grow Ontario's $32 billion provincial tourism industry, which supports 325,000 jobs across the province.

A pedal pub (Appendix A) also known as a party bike, is a multi-passenger, human-powered vehicle where the passengers provide the propulsion by pedaling. It is a large, open-air, bike-like contraption designed for social gatherings, often used for bar crawls or tours.

Pedal pubs offers community members and tourists a chance to socialize with friends, partake in a light workout, and tour neighbourhoods and cities in an exciting, unique way. https://www.youtube.com/watch?v=LX3nwOzbQOU

Analysis

Pedal pubs are permitted to operate in a community only once the local municipality passes a by-law. In addition to existing provincial requirements,

municipalities may set specific local rules governing the operation of pedal pubs on their roadways, such as designated riding routes and hours of operation, to support community safety and ensure pedal pubs do not cause disruption or contribute to traffic issues.

To sell and serve alcohol on pedal pubs, a licence from the Alcohol and Gaming Commission of Ontario (AGCO) is required.

A local proponent has expressed an interest in purchasing a Pedal Pub to operate as a two-year pilot in the downtown core.

City staff are recommending the two-year pilot now in order for the proponent to procure the pedal pub, obtain the necessary insurance, and licence through the AGCO. The pilot will allow the community and proponent a chance to review the success and challenges of this new venture over the two year timeframe. The goal would be to see the pilot commence late summer 2025, or the start of summer of 2026. Other operators could also approach the City for approval within the pilot period.

A by-law will be prepared and returned at a future Council date should Council approve the report. Staff are recommending the pilot as it will add another tourist attraction, support downtown businesses, and provide another unique amenity for community members to enjoy.

Financial Implications
There are no impacts to the operating budget resulting from the proposed pilot.

Strategic Plan / Policy Impact / Climate Impact
The recommendation supports the focus area of the Community Strategic Plan for 2024-2027 in a number of ways:

- Under Economic Activity, it supports the growth of a diversified economy with entrepreneurs and increases tourism visitor spending;
- It aids in creating a Vibrant Hub in the downtown core and continues to develop a world-class waterfront; and
- It exemplifies communication and stakeholder consultation to create an environment that encourages engagement and the exploration of mutual goals to grow our community. Collaboration with community partners and stakeholders is essential to our success.

Recommendation
It is therefore recommended that Council take the following action:

Resolved that the report of the Deputy CAO, Community Development and Enterprise Services dated July 14, 2025 concerning a two-year pilot permitting a Pedal Pub pilot in the downtown core with the option to extend upon mutual agreement be approved and that a by-law be returned at a subsequent Council meeting.

Respectfully submitted,

Brent Lamming, PFP, CPA, CMA
Deputy CAO
Community Development and Enterprise Services
(705)759-5314
b.lamming@cityssm.on.ca

APPENDIX A – SAMPLE PEDAL PUBS





The Corporation of the
City of Sault Ste. Marie

C O U N C I L R E P O R T

July 14, 2025

TO:	Mayor Matthew Shoemaker and Members of City Council
AUTHOR:	Nicole Maione, Director of Community Services
DEPARTMENT:	Community Development and Enterprise Services
RE:	Lease Amendment – Jayteq Pro Shop Vending Machine

Purpose

The purpose of this report is request approval for Jayteq Pro Shop (John Rhodes Community Centre) operating a hockey accessories vending machine on the property.

Background

The original agreement to lease space at the John Rhodes Community Centre to operate a Pro Shop was approved on February 24, 2025 by By-law 2025-26.

Analysis

Jayteq Pro Shop requested to have a vending machine that sells hockey accessories installed outside the Pro Shop at the John Rhodes Community Centre. Staff recognize the importance that a Pro Shop plays in providing a valuable service to patrons. The addition of a vending machine will enhance services available to patrons while providing the opportunity to purchase hockey accessories outside of the regular business hours of Jayteq Pro Shop.

Financial Implications

The City will receive a monthly payment of $25 ($300 annually) plus HST.

Strategic Plan / Policy Impact / Climate Impact

The recommendation supports the focus area of the Corporate Strategic Plan 2024-2027 in a number of ways:

- Within the Service Delivery focus area, it will continue to assist in delivering excellent customer service to the community as well as support community partnerships to enhance service delivery options.

Recommendation

It is therefore recommended that Council take the following action:

The relevant By-Law 2025-112 is listed under item 12 of the Agenda and will be read with all by-laws under that item.

Respectfully submitted,

Nicole Maione
Director of Community
Services
Community Development and
Enterprise Services
705.759.5264
n.maione@cityssm.on.ca

The Corporation of the
City of Sault Ste. Marie

C O U N C I L R E P O R T

July 14, 2025

TO:	Mayor Matthew Shoemaker and Members of City Council
AUTHOR:	Nicole Maione, Director of Community Services
DEPARTMENT:	Community Development and Enterprise Services
RE:	Lease Amendment and Extension – Icebreakers Sport Bar and Grill

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Purpose

The purpose of this report is to obtain Council approval to extend the current agreement with 1848626 Ontario Inc. O/A Icebreakers Sports Bar and Grill for a term of five years.

Background

The original lease agreement for the operation of a restaurant/lounge at the John Rhodes Community Centre was approved on August 13, 2018 by By-Law 2018-179. Further, on September 24, 2018, Council approved an amendment to the original lease agreement for rent abatement, By-Law 2018-193.

Analysis

The City is prepared to extend the current lease with the addition of maintenance requirements pertaining to the grease trap and piping, as well allowing the opportunity for the City and other facility users the occasional use of the meeting room to support events and tournaments that take place at the John Rhodes Community Centre.

Financial Implications

The extension will see the agreement extended for a period of five years which will generate annual revenue of $40,000 ($200,000 for the length of the extension) as well as annual taxes in the approximate amount of $16,760.

Strategic Plan / Policy Impact / Climate Impact

The recommendation supports the focus area of the Corporate Strategic Plan 2024-2027 in a number of ways:

- Within the Service Delivery focus area, it will continue to assist in delivering excellent customer service to the community as well as support community partnerships to enhance service delivery options.
- It also supports Infrastructure as it will assist in maintaining current infrastructure.

Recommendation
It is therefore recommended that Council take the following action:

The relevant By-Law 2025-111 is listed under item 12 of the Agenda and will be read with all by-laws under that item.

Respectfully submitted,

Nicole Maione
Director of Community Services
Community Development and Enterprise
Services
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The Corporation of the
City of Sault Ste. Marie

C O U N C I L R E P O R T

July 14, 2025

TO:	Mayor Matthew Shoemaker and Members of City Council
AUTHOR:	Virginia McLeod, Manager of Recreation and Culture
DEPARTMENT:	Community Development and Enterprise Services
RE:	Public Art Funding – Soo Market Mural

Purpose

The purpose of this report is to seek Council approval to allocate $6,000 in funding towards a mural on the Soo Market building.

Background

The Community Cultural Plan 2019-2024 identified the need to create greater street-level animation. Public art plays a vital role in creating vibrant spaces and helps establish the downtown as a core destination for cultural activity.

VIVID is an arts, culture and music festival that reawakens the spirit of Baawaating and our sense of place. This annual local arts and culture festival looks to include and highlight local or regional and out of town artists, musicians, and include community members in the planning and implementation of activities and events across a variety of arts. Each year the festival includes the creation of murals throughout the downtown.

Analysis

This annual celebration of the arts and culture landscape planned to coincide during Ontario culture days (September 19-September 21, 2025), may feature up to four large scale public art installations (murals) in addition to meet and greet ‘Q and A’ style event with artists and the public, cultural concerts, performances and market, a headline concert at the Sault Downtown Plaza amongst art walking tours, workshops for artists and community members, and opportunities to connect through art.

The projected costs for public art installation are $13,500 for this location (73 Brock Street). The Soo Market has committed $7,500 to be paid out in August 2025. The Cultural Vitality Committee discussed the request of $6,000 in support of the installation of a large-scale mural.

On June 18, 2025, the Cultural Vitality Committee passed the following resolution:

Be it resolved that $6,000 from the Public Art Fund in support of the Soo Market Public Art Proposal be recommended to the City Council by the Cultural Vitality Committee.

Financial Implications
There are sufficient funds in the 2025 Community Development Fund – Arts and Culture operating budget to support the $6,000 request.

Strategic Plan / Policy Impact / Climate Impact
This project supports the Corporate Strategic Plans Focus Area: Quality of Life – Support and grow the creative economy and celebrate arts and culture.

Recommendation
It is therefore recommended that Council take the following action:

Resolved that the report of the Manager of Recreation and Culture dated July 14, 2025 concerning Public Art Project – Soo Market Mural in the amount of $6,000 to support the mural be approved.

Respectfully submitted,

Virginia McLeod
Manager of Recreation and Culture
705.759-5311
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Rachel Tyczinski

Subject: FW: MYAC Comment - Agenda Item 7.8 Public Market Funding - Soo Market Mural

Attention Members of Council:

I'm reaching out on behalf of the Mayor's Youth Advisory Council (MYAC) to raise a suggestion on behalf of the youth in Sault Ste. Marie. We noticed on the agenda that funding will be allocated for a public mural at the Soo Market as part of a community enhancement initiative. To help include youth in this initiative, we'd love to suggest that City Council recommend youth representation in the mural designs. This could be done by artistically highlighting youth within one of the murals or, if possible, by involving local youth artists directly through a dedicated youth section or by collaborating with the lead mural artists. Thank you for your time and consideration. We appreciate your ongoing support of youth engagement in our community.

Have a great evening!

Andrei Nugas (MYAC member)

The Corporation of the
City of Sault Ste. Marie

C O U N C I L R E P O R T

July 14, 2025

TO:	Mayor Matthew Shoemaker and Members of City Council
AUTHOR:	Carl Rumiel, Director of Engineering
DEPARTMENT:	Public Works and Engineering Services
RE:	2025 Connecting Link Funding Agreement

Purpose

The purpose of this report is to obtain Council approval to enter into a contribution agreement with the Province for a Connecting Link grant for the resurfacing of Great Northern Road from Third Line East to Wigle Street.

Background

The Province recently announced that the City's 2025 Connecting Link application was approved. The City will be the recipient of up to $2,993,720 in funds for eligible costs for the resurfacing of Great Northern Road from Third Line East to Wigle Street. The Province has recognized the need to assist the City with the movement of provincial traffic through City streets in the absence of the ability to by-pass Sault Ste. Marie.

Analysis

In order to access the funds, it is necessary to enter into a contribution agreement with the Province. While the funding announcement was received in the spring, the City has only now received the agreement for execution. Provincial staff had previously advised that the City could proceed without the funding agreement therefore construction is now under way.

Financial Implications

This amount is included within the combined 2025 City and Connecting Link budget of $3,326,355.

Strategic Plan / Policy Impact / Climate Impact

Resurfacing is linked to the infrastructure focus area of the corporate strategic plan.

Recommendation

It is therefore recommended that Council take the following action:

The relevant By-law 2025-113 is listed under item 12 of the Agenda and will be read with all by-laws under that item.

Respectfully submitted,

Carl Rumiel, P. Eng.
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The Corporation of the
City of Sault Ste. Marie

C O U N C I L R E P O R T

July 14, 2025

TO:	Mayor Matthew Shoemaker and Members of City Council
AUTHOR:	Carl Rumiel, Director of Engineering
DEPARTMENT:	Public Works and Engineering Services
RE:	Five-Year Capital Transportation Program (2026–2030)

Purpose

The purpose of this report is to present an updated five-year Capital Transportation Program.

Background

The yearly capital transportation budget is brought to Council for approval with the annual budget in the fall after a capital priorities assessment is completed. Council is not being asked to approve the 2026 capital roads budget today; however, it is necessary to procure engineering services to proceed with field data acquisition and begin design of 2026 capital road projects to ensure timely tenders in the new year.

Capital road improvements for the City of Sault Ste. Marie are carried out under various programs including capital road construction, infrastructure improvement programs, and the Connecting Links program. The capital transportation program prioritizes reconstruction of arterial and collector streets, which are critical to the City's movement of traffic while at the same time attempting to address some of the numerous needs of local residential streets as well as to make improvements to key areas of the community.

Analysis

Road sections are recommended for the Capital Transportation Program based primarily on pavement condition index scores, which are tabulated based on road condition in the Asset Management program. All road sections are evaluated and scored based on many factors, including, but not limited to, surface condition, structure, drainage, etc. Age and condition of water mains, sanitary and storm sewers, level of maintenance, and traffic volumes are also considered when selecting a road section for reconstruction. An attempt is made to keep the mix between arterials, collectors, and local streets balanced. In the 2026-2030 plan, there are significant improvements recommended through previous environmental assessments and continued improvements to the downtown, which affects the number of projects, particularly residential roads, that can be completed on a yearly basis.

This plan is presented based on two funding assumptions. The Ministry of Transportation (MTO) Connecting Link fund is applied for on a yearly basis, and the assumed maximum allocation of $3M is included in our yearly allocation to road resurfacing. The MTO announces this program annually in the spring. The second funding assumption is the Health and Safety Water Stream funding (HSWS). Staff have applied for a grant of approximately $2.5M towards four stormwater management ponds recommended in the Peoples Road Drainage EA. Should the City be unsuccessful in either of these funding applications, the program will be amended by cancelling these projects until other funding can be identified.

One other funding source currently contributing to the program includes an added Ontario Community Infrastructure Fund (OCIF) allowance of $2.5M. This funding source will be no longer available after 2026.

Bridges and Aqueducts

Municipalities are legislated to perform detailed bridge inspections every two years, and the City follows that inspection frequency for major aqueducts as well. In past capital programs, considerable capital funds have been diverted to bridges and aqueducts. A professional structural engineer evaluates aqueducts and bridges every two years and makes recommendations for capital improvements, rehabilitation, and maintenance. The Herkimer Street bridge was recently closed due to structural defects observed during the bridge inspections. A detailed structural evaluation is currently underway to determine if the bridge can be reopened to traffic. Staff are also evaluating whether the bridge can be permanently closed without replacing it. If the bridge is to be reconstructed, a Municipal Class Environmental Assessment may be required. Staff will report back to Council with recommendations within the next few months regarding the Herkimer Street bridge.

Active Transportation – Hub Trail and Future Spokes

In past capital programs, cycling lanes, segments of off-road trails, and paved shoulders have been constructed under capital road projects. The intention is to include the construction of active transportation components in tenders for capital projects if they are within the construction limits or in the near vicinity of a project. The Sackville Road, East Street, and Peoples Road projects all include significant active transportation connections with multi-use paths and cycling facilities being included.

Update – 2025 Program

The following projects are currently underway:

- Queen Street Improvements – Elgin Street to East Street
- Peoples Road Phase 1 – Churchill Avenue to Penno Road
- Sackville Road Extension – Early works, filling the ravine

- East Street – Bay Street to Wellington Street East (*postponed*)
- Great Northern Road – Third Line East to Wigle Street
- 2025 Road Resurfacing and Miscellaneous Construction

Due to delays in design and tendering and increases in the construction estimate due to added streetscaping, the reconstruction of East Street has been cancelled for the 2025 construction season. An allocation from the 2026 recommended program has been added to increase the budget so that it can be completed in 2026.

Recommended 2026 Program

The attached Five-Year Transportation Program represents the proposed 2026-2030 programs.

Program costs are based on preliminary estimates. Detailed road design may reveal additional expenditures or cost savings that are not possible to identify at this preliminary stage.

The proposed list of 2026 projects is as follows:

Reconstruction of Peoples Road Phase 2 – Penno Road to Third Line: As identified in the Peoples Road Drainage Environmental Assessment, this road section requires sanitary sewer upgrades to increase sewer capacity. While replacing the sanitary sewer, it is recommended that the entire road undergo reconstruction including storm sewer, watermain, road base, sidewalks and curb. Increasing the sanitary sewer capacity is a critical recommendation from the Peoples Road Drainage Environmental Assessment to alleviate the recurrence of basement flooding. Further, increased sewer capacity will open the potential for the development of lands north of Third Line, which are currently on hold due to the Peoples Road sewer being at capacity. This is the second phase of the Peoples Road improvements for which the City received a $7.4M grant through the Housing Enabling Water Systems Fund.

Sackville Road Extension – North Limit to Third Line: The extension of Sackville Road from the current north limit to Third Line was the recommended preferred solution to address traffic capacity concerns in the Great Northern Road corridor between Second Line and Third Line. This was completed as a Schedule C Municipal Class Environmental Assessment (EA) in 2012, but construction did not commence due to other priorities. In April of 2024, Council approved posting an addendum to the original Sackville Road EA document to confirm that the project met the current environmental regulations to ensure that the planning and mitigation measures are still valid. This review found that there are no changes to the proposed project conditions and that the recommended solution, the extension of Sackville Road, is still valid. This is the second phase of the Sackville Road Extension for which the City received a $5.2M grant through the Housing Enabling Core Services Fund.

East Street – Bay Street to Wellington Street: This road section requires full replacement of underground services and road structure. This section of road also requires some traffic-related lane geometry improvements as well as extensive streetscaping improvements to meet the recommendations of a pedestrian corridor identified in the Waterfront Master Plan. This project was part of the approved 2025 program; however, it was deferred until 2026. The complete 2025 allocation of $5.06M is being carried forward from 2025 to 2026 to complete this project.

Great Northern Road – 500m north of Wigle to the City Limits: This section of road is the City's next highest Connecting Link priority and will be the project that is applied for in the 2026 Connecting Link program application.

Bridges and Aqueduct: Continue with small sections of aqueduct replacement and other priorities recommended in the biennial bridge and aqueduct reports.

Engineering 2027: An allocation for 2027 engineering must be included in the 2026 budget to ensure engineering work starts early enough to meet spring tender schedules in the following year.

Resurfacing – Various Roads: An allocation is required in the 2026 capital roads budget for resurfacing. Arterial roads such as Wellington Street East and Bennett Boulevard are in need of a new asphalt surface. Roads are prioritized and annual programs are brought to Council for approval each spring.

Traffic Signal Upgrades: An allocation is required in the 2025 capital roads budget for replacement of aged traffic signal controllers.

2027–2030 Programs

This program has prioritized larger projects, which have impacted the number of local residential roads that can be reconstructed. Staff will continue to look for funding opportunities at all levels of government to help narrow this funding gap.

The attached plan shows the potential 2027 through 2030 programs based on needs identified in the City's Asset Management Plans. The Engineering Division will update the five-year Capital Transportation Program annually, and individual programs will be recommended to Council for approval with the capital budgets.

Allowances for bridges and aqueducts are based on biennial inspections and the asset management plan. Inspections may alter the forecasts, and these allowances are reviewed annually.

Due to the complex nature of the Elgin Street Reconstruction/ Rehabilitation, staff recommends retaining a consulting engineer to do a preliminary design in 2025 so that it will be shovel-ready for 2027.

Financial Implications
The 5-year Capital Transportation Program is based upon the recommended priorities within the City's Asset Management Plans. Funding availability will be assessed along with other corporate capital priorities and presented to Council with the 2026 Capital Budget. This report has no impact on the approved 2025 Capital Transportation Program. Funds for completion of design and contract administration, and for construction of 2026 projects will be brought to Council with the 2026 capital budget

Strategic Plan / Policy Impact / Climate Impact
Improvements to capital infrastructure including roads, storm and sanitary sewers, aqueducts, and bridges are linked to the infrastructure and quality of life components of the strategic plan.

Recommendation
It is therefore recommended that Council take the following action:

Resolved that the report of the Director of Engineering dated July 14, 2025 concerning 2026–2030 Five-Year Capital Transportation Program be received and that:

- Council approve the 2026–2030 programs in principle;
- That staff procure consulting engineering services for the Elgin Street Reconstruction/Rehabilitation; and
- That the resurfacing of Great Northern Road between 500m north of Wigle Street to the north city limit be the designated project for the City's application to the 2026 Connecting Link Program.

Respectfully submitted,

Carl Rumiel, P. Eng.
Director of Engineering
705.759.5379
c.rumiel@cityssm.on.ca

2026-2030 CAPITAL TRANSPORTATION PROGRAM					
Year	**Street**	**From**	**To**	**Cost**	**Comments**
2026	Peoples Road - Phase 2	Penno Road	Third Line		Reconstruction
2026	Sackville Road Extension	North Limit	Third Line		New construction
2026	Connecting Link - GNR	north of Wigle	City limits		Resurfacing - assume 90% CL grant
2026	Bridges and Aqueducts				Rehabilitation - aqueducts, bridges and culverts
2026	Engineering - 2027				Engineering for next year capital
2026	Various Roads				Road Resurfacing
2026	Traffic Signal Upgrades				Traffic Signal Controller Replacements
2026	East Street - additional funding				
			Total	**$ 26,257,296**	
2027	Elgin Street	Bay Street	Wellington Street		Reconstruction
2027	Church Street	Queen Street	Wellington Street		Reconstruction
2027	Connecting Link	TBD			Resurfacing - assume 90% CL grant
2027	Bridges and Aqueducts				Rehabilitation - aqueducts, bridges and culverts
2027	Engineering - 2028				Engineering for next year capital
2027	Various Roads				Road Resurfacing
2027	Traffic Signal Upgrades				Traffic Signal Controller Replacements
2027	Peoples Road EA SWM Facilities				SWM Facilities - assumes HSWF
			Total	**$ 20,488,087**	
2028	Queen Street - Phase 2	TBD	TBD		Queen Street Streetscaping
2028	Sackville Road	Second Line	Niagara Drive		Class B to Class A
2028	Connecting Link	TBD			Resurfacing - assume 90% CL grant
2028	Bridges and Aqueducts				Rehabilitation - aqueducts, bridges and culverts
2028	Engineering - 2029				Engineering for next year capital
2028	Various Roads				Road Resurfacing
2028	Traffic Signal Upgrades				Traffic Signal Controller Replacements
2028	Peoples Road EA SWM Facilities				SWM Facilities - assumes HSWF
			Total	**$ 19,492,557**	
2029	The Drive	The Crescent	Simpson Street		pair with Putney Road - full reconstruction
2029	Putney Road	The Drive	Forest Avenue		pair with The Drive - full reconstruction
2029	Sackville Road	Niagara Drive	Mary Avenue		Class B to Class A
2029	Spring Street Streetscaping				Streetscaping
2029	Connecting Link	TBD			Resurfacing - assume 90% CL grant
2029	Bridges and Aqueducts				Rehabilitation - aqueducts, bridges and culverts
2029	Engineering - 2030				Engineering for next year capital
2029	Various Roads				Road Resurfacing
2029	Traffic Signal Upgrades				Traffic Signal Controller Replacements
			Total	**$ 19,026,606**	
2030	Queen Street - Phase 3	TBD	TBD		Queen Street Streetscaping - Phase 2
2030	Brown Street	Cathcart Street	Wellington Street		Reconstruction
2030	Connecting Link	TBD			Resurfacing - assume 90% CL grant
2030	Bridges and Aqueducts				Rehabilitation - aqueducts, bridges and culverts
2030	Engineering - 2031				Engineering for next year capital
2030	Various Roads				Road Resurfacing
2030	Traffic Signal Upgrades				Traffic Signal Controller Replacements
			Total	**$ 18,179,626**	

The Corporation of the
City of Sault Ste. Marie

C O U N C I L R E P O R T

July 14, 2025

TO:	Mayor Matthew Shoemaker and Members of City Council
AUTHOR:	Maggie McAuley, Manager of Design and Transportation Engineering
DEPARTMENT:	Public Works and Engineering Services
RE:	Peoples Road Reconstruction – Railway Warning Protection Systems

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Purpose

The purpose of this report is to obtain Council approval for the procurement of the design and installation of the warning protection systems for the railway on Peoples Road.

Background

At the May 12, 2025 Council meeting, the contract for reconstruction of Peoples Road was awarded and Council was informed that the railway crossing would be upgraded in coordination with Watco, the railway owner.

At the June 23, 2025 Council meeting, Council approved $219,165 to be spent on the upgrading the railway surface.

Analysis

The City engaged Watco's contractor CDL Electric Canada to complete a grade crossing safety assessment of the railway crossing in order to meet current standards. It is recommended to install automatic crossing gates for the road as well as the multi-use path and the sidewalk. The non-competitive method of sourcing the work to CDL Electric Canada is recommended because they were chosen by Watco, the owner of the railway. This sole source request is in accordance with the Purchasing By-law 22.3a), c) as the service is supplied by the by the owner's representative, and absence of competition for technical reasons.

Through negotiations with Watco, it is recommended that the City pays for 100% of the gate for the multi-use path which is a new feature installed along the roadway and share the costs for the roadway and sidewalk gates 50% each with Watco. Watco has requested that the City invoice them for their appropriate costs in Q1 2026.

Financial Implications
When non-recoverable HST is added, the cost to design and install the warning protection systems is projected to be $670,616. When all other costs associated with the railway upgrades, including costs that were previous approved by Council and staff level purchase orders, the total costs are projected to be $1,008,935. The City's share of this work is projected to be under the allowance that was included for the railway upgrades in the Peoples Road Reconstruction contract award approved at a previous meeting.

Strategic Plan / Policy Impact / Climate Impact
This report is linked to the Infrastructure focus area of the Corporate Strategic Plan.

Recommendation
It is therefore recommended that Council take the following action:

Resolved that the report of the Manager of Design and Transportation Engineering dated July 14, 2025, concerning the railway warning protection systems for Peoples Road Reconstruction be approved and that CDL Electric Canada be authorized as sole source to proceed with final design and installation of the warning protection systems.

Respectfully submitted,

Maggie McAuley, P.Eng.
Manager of Design and Transportation Engineering
705.759.5385
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The Corporation of the
City of Sault Ste. Marie

C O U N C I L R E P O R T

July 14, 2025

TO:	Mayor Matthew Shoemaker and Members of City Council
AUTHOR:	Andrew Mallette, P. Eng., Manager of Development and Environmental Engineering
DEPARTMENT:	Public Works and Engineering Services
RE:	Asset Management Plan – Lifecycle Management and Financial Strategy

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Purpose

The purpose of this report is to request approval of the Asset Management Plan reports by completion of Phase III, Lifecycle Management and Financial Strategy, in accordance with Ontario Regulation 588/17 (as amended by Ontario Regulation 193/21) under the *Infrastructure for Jobs and Prosperity Act*.

The Asset Management Plans aim to establish realistic, financially viable, level of service targets that align with stakeholder expectations and regulatory requirements.

Background

In 2017 municipalities were legislated to prepare an Asset Management Plan for all municipal infrastructure assets by July 1, 2025.

In 2022 Council approved the City's Asset Management Plans related to core assets, and on September 9, 2024, approved the Asset Management Plans related to non-core assets.

On September 9, 2024, Council also approved an Agreement with AECOM Canada Ltd. for continuation of the Asset Management Plan Phase III work, to incorporate all assets, proposed levels of service, lifecycle management and financial strategies.

Analysis

Core and non-core asset management plans have been updated with proposed level of service standards and financial lifecycle management strategies.

Proposed level of service considers stakeholder interests, the City's Official Plan overarching themes, metrics for community and technical performance, financial impacts of varying levels of service, and revenue sources.

Lifecycle management and financial strategies have considered municipal infrastructure assets' preventative and renewal activities, financial needs to achieve the proposed level of service, risks of not meeting the proposed level of service, available funding and funding gaps, and alternative strategies to manage the shortfall.

The asset management plan reports have been attached as follows:

- Roads and Bridges
- Active Transportation
- Stormwater
- Roadway Appurtenances
- Protective Services
- Facilities
- Fleet
- Parks and Cemetery
- Solid Waste
- Wastewater
-

The asset management plans will be posted on the City's website for public access.

Asset Management Plan updates are required every 5-years.

Financial Implications
These reports do not have direct financial implications. Asset management plans enable the City to make consistent, informed, and responsible decisions regarding capital and operating budgets. They guide investments in asset renewal, help maintain desired service levels, manage risks, plan for future needs, and strengthen public confidence in municipal infrastructure.

These plans are key guiding documents for the City and will result in budgetary requests in accordance with the City's Long-term Financial Plan. They will also help inform decisions and recommendations in future capital and operating budgets.

Strategic Plan / Policy Impact / Climate Impact
This project is linked to the Infrastructure focus area of the Corporate Strategic Plan, and specifically maintaining existing infrastructure.

Recommendation
It is therefore recommended that Council take the following action:

Resolved that the report of the Manager of Development and Environmental Engineering dated July 14, 2025 be received and that the asset management plan reports be approved.

Respectfully submitted,

Andrew Mallette, P. Eng.
Manager of Development and
Environmental Engineering
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AECOM

SAULT STE. MARIE

CITY OF SAULT STE. MARIE

ROADS AND BRIDGES ASSET MANAGEMENT PLAN

FINAL | 60735219 | June 2025



Statement of Qualifications and Limitations

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- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued;
- must be read as a whole and sections thereof should not be read out of such context;
- was prepared for the specific purposes described in the Report and the Agreement; and
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Quality information

Prepared by	Prepared by
	
Donghui Lu, Ph.D., IAM Cert., Asset Management Manager	Luke Zhao, Ph.D., P.Eng., IAM Cert., Asset Management Consultant

Checked by	Verified by	Approved by
		
Donghui Lu, Ph.D., IAM Cert., Asset Management Manager	Jeff Atherton, M.Sc., AScT, PMP, Associate Vice President	Chris Lombard, MBA, P.Eng., IAM Cert., Asset Management Practice Leader

Revision History

Revision	Revision date	Details	Authorized	Name	Position
Draft V0	June 30th, 2022	Draft Report – Roads and Bridges AMP		Chris Lombard	Project Manager
Final	August 4th, 2022	Final Report – Roads and Bridges AMP		Chris Lombard	Project Manager
Draft V0	May 28th, 2025	Draft Report – Roads and Bridges AMP		Chris Lombard	Project Manager
Final	June 12th, 2025	Final Report – Roads and Bridges AMP		Chris Lombard	Project Manager

Distribution List

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0	1	Carl Rumiel, P.Eng., Director of Engineering, Public Works and Engineering Services, City of Sault Ste. Marie

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List of Abbreviations

Abbreviation	Description
AADT	Average Annual Daily Traffic
AM	Asset Management
AMP	Asset Management Plan
BCI	Bridge Condition Index
BFF	Building Faster Fund
CCBF	Canada Community-Building Fund
CHBDC	Canadian Highway Bridge Design Code
CL	Connecting Link
CIBI	Canadian Infrastructure Benchmarking Initiative
CMMS	Computerized Maintenance Management System
DFO	Department of Fisheries and Oceans Canada
DSS	Decision Support System
Ea.	Each
ESL	Estimated Service Life
FIPPA	Freedom of Information and Protection of Privacy Act
GIS	Geographic Information System
ID	Identity
km^2	Square Kilometre
LoS	Level of Service
m^2	Square Metre
MFIPPA	Municipal Freedom of Information and Protection of Privacy Act
MTO	Ministry of Transportation Ontario
N/A	Not applicable
NRBCPI	Non-Residential Building Construction Price Index
NORDS	Northern Ontario Resource Development Stream
O&M	Operations and Maintenance
O. Reg.	Ontario Regulation
OCIF	Ontario Community Infrastructure Funding
OSIM	Ontario Structure Inspection Manual
PCI	Pavement Condition Index
PCR	Pavement Condition Rating
RCR	Ride Comfort Rating
RMS	Road Management System
RSL	Remaining Service Life

1. Introduction

AECOM Canada ULC (AECOM) was retained by The City of Sault Ste. Marie (the "City") to update the asset management plan developed in 2022 to comply with the third phase (Phase III) of the Ontario Regulation 588/17 (O. Reg. 588/17) requirements in respect to its core municipal infrastructure assets. The scope of work is outlined in AECOM's proposal dated September 20, 2024, and subsequent project correspondence.

1.1 Background

Sault Ste. Marie is a City located on the St. Mary's River, North of the United States of America, bordering on two of the Great Lakes with an estimated population of 72,051 (2021). The City provides a wide range of public services to their constituents with the expectation from the public that these services are expected to function efficiently at a certain level of service. The provision of these services requires the management of the physical assets to meet desired service levels, manage risks, and to provide long term financial sustainability. These assets include, but aren't limited to roads, bridges, sidewalks, wastewater assets, stormwater management assets, landfill, fleets, buildings, and parks.

In accordance with the terms of reference for this assignment, it is understood that the City is proceeding with an asset management plan to comply with the third phase of the regulatory requirements in respect to its core municipal infrastructure assets, in accordance with O. Reg. 588/17 by July 1, 2025. The core assets to be included in the scope, as defined by the regulation, include the City's wastewater assets, stormwater management assets, roads, and bridges and culverts.

1.2 Scope and Objectives

In 2015, the City's first Asset Management Plan (AMP) was published. In 2019, by City Council approval, the Strategic Asset Management (AM) Policy came into effect. In 2022, the City published its core asset AMPs. Following that, the City developed the AMPs for its non-core assets in 2024.

Organizations that implement good AM practices will benefit from improved business and financial performance, effective investment decisions, and better risk management. Stakeholders can expect lower total asset lifecycle costs, higher asset performance, and confidence in sustained future performance.

The AMP is to capture the City's infrastructure assets and deliver a financial and technical roadmap for the management of the City's assets. The intent of this plan is to provide the means for the City to maximize value from its roads, bridges and culverts assets, at the lowest overall expense while, at the same time, enhance service levels for its residents.

The objective of this Phase III endeavours is to update all the core and non-core AMPs to comply with the July 1st, 2025, deadline set by O. Reg. 588/17. Phase III will update the AMP by incorporating the latest asset information, with a focus on:

- Updating the current AMPs to integrate proposed Levels of Service (LoS).
- Defining the lifecycle activities and associated costs required to achieve those LoS.
- Identify the available funding and any funding shortfalls.
- Document the risk(s) of failing to meet the proposed LoS for all asset classes over a 10-year period.

This 2025 AMP is an update of the 2022 AMP for the City's Roads, Bridges, and Culverts, as shown in **Table 1-1**. Other core and non-core AMPs are presented under separate reports.

Table 1-1: In-Scope Roads, Bridges and Culverts

Asset Category	Sub-Assets
Roads	Arterial, Collector, Local, and Rural Roads.
Bridges and Culverts (span > 3 m)	Vehicular Bridges, and Pedestrian Bridges.

The following elements are included within the scope of this AMP:

- Asset hierarchy, a summary of the asset inventory, including the replacement cost of the assets, the average age of the assets, pavement field condition assessment, and data gaps analysis (**Sections 2**).
- The City's LoS objectives, stakeholder identification, current LoS have been determined in accordance with the qualitative descriptions and technical metrics outlined in O. Reg. 588/17, proposed service levels, LoS forecast, and future demand drivers (**Section 3**).
- Asset lifecycle management strategies, lifecycle activities and funding needs to achieve proposed LoS, risk of not meeting proposed LoS, available funding and funding gap, and alternative (non-financial) strategies to manage funding shortfall (**Section 4** and **Section 4.3.2**).

1.3 Asset Management Provincial Requirements

O. Reg. 588/17 came into effect in 2018 and stipulates specific AM requirements to be in place within Ontario municipalities by certain key dates (**Table 1-2**). The development of this AMP is one of the steps to guide the City towards meeting the July 1st, 2025 deadline.

Table 1-2: O. Reg. 588/17: AM Planning for Municipal Infrastructure

Deadline Date	Regulatory Requirement
July 1st, 2019	All municipalities are required to prepare their first Strategic AM Policy.
July 1st, 2022	All municipalities are required to have an AM Plan for its entire core municipal infrastructure (i.e., water, wastewater, stormwater, roads, and bridges & culverts).
July 1st, 2024	All municipalities are required to have an AM Plan for infrastructure assets not included under their core assets.
July 1st, 2025	All AM Plans must include information about the LoS that the municipality proposes to provide, the lifecycle activities and associated costs needed to achieve those LoS, available funding, any funding shortfalls, and the risk of failing to meet the proposed LoS.

1.4 Relationship to Other Corporate Documents

This AMP is a tactical plan which links "top-down" strategic objectives with "bottom-up" operational activities. **Figure 1-1** demonstrates the line-of-sight between AM strategic objectives and tactical and operational AM elements, including the relationship this AMP has to the other plans in the City's hierarchy of documents.

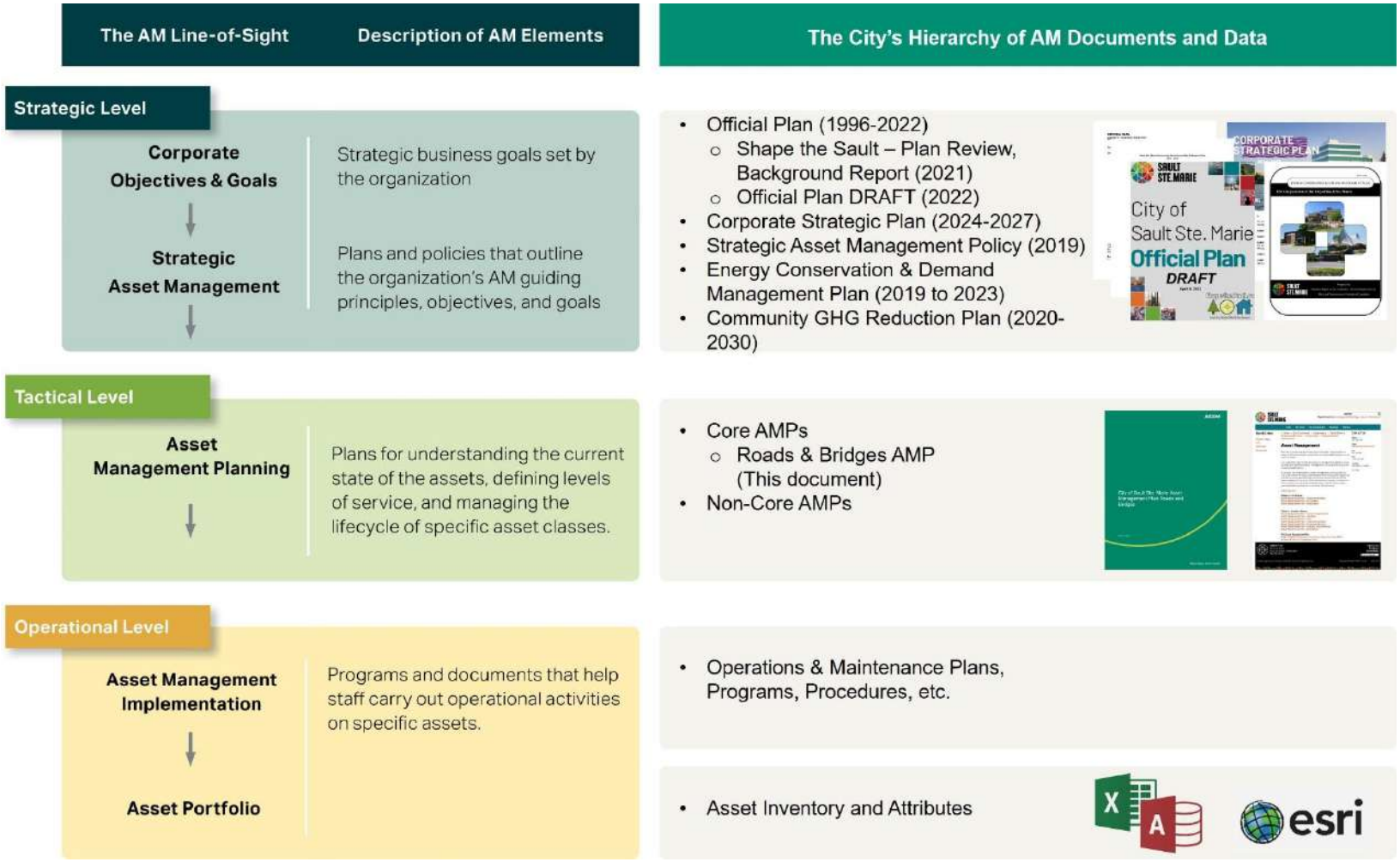


Figure 1-1: The City's Asset Management Line of Sight

2. State of Infrastructure

Understanding the basic physical state of the complex systems that support an owner's network are key to proper asset management, safe use of said infrastructure and effective delivery of service to the public. If the current condition is not known, it poses a serious problem in determining how to maintain an effective service life. As part of AECOM's mandate, a review of available roads, bridges and culverts was completed. The following sections present the results of the assessment and the current state of these assets.

2.1 Asset Hierarchy

Roads are categorized by functional class including arterial roads, collector roads, local roads, and rural roads. Bridges and culverts are divided by vehicular bridges and pedestrian bridges. The in-scope culverts are structural culverts that have a span of 3 metres or more as defined in the Ontario Structure Inspection Manual (OSIM).

Approximately 36% (25 centreline kilometres) of the arterial roads are designated as Ministry of Transportation Provincial Connecting Link roads, which move provincial traffic through the City. There also exists a connection to the United States Interstate System at the International Bridge to Michigan in the downtown core. The City continues to apply for annual funding to assist with the cost of moving provincial traffic within the municipal boundaries. The usual Ministry of Transportation Ontario (MTO) Connecting Link grant is the lesser of 90% of the project cost or $3 million, if the annual application is successful. **Figure 2-1** below presents the asset hierarchy for roads and bridges.

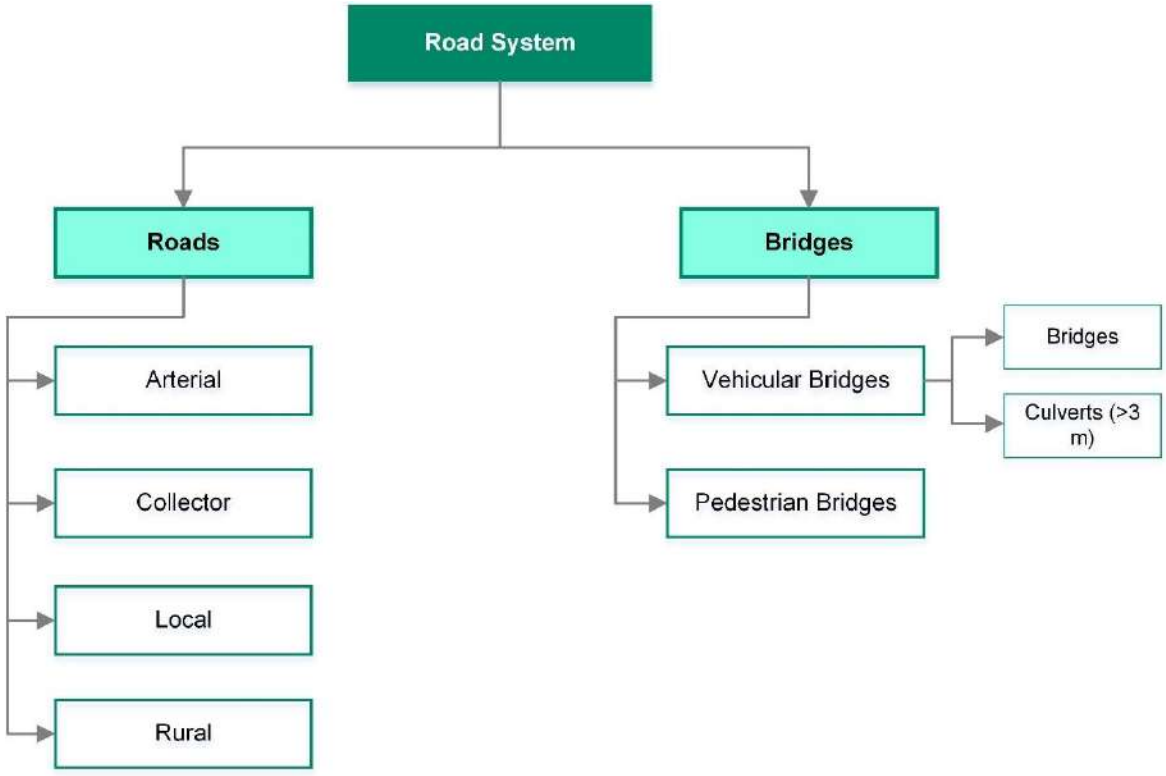


Figure 2-1: City of Sault Ste. Marie Roads, and Bridges and Culverts Asset Hierarchy

2.2 Current State of the Assets

2.2.1 Asset Inventory

The roads quantity is summarized by "*centreline kilometre"* and *"lane kilometre"*. Centreline kilometre refers to the linear distance of the road section measured at the center of the road from its starting point to its end point, while lane kilometre is used to measure the total length and lane count of a given road.

The City currently owns and maintains 531 centreline kilometres of roads, totalling 1,185 lane kilometres. Local roads account for approximately half of the road network. **Table 2-1** present the summary for the road inventory.

Table 2-1: Roads Asset Inventory

Asset Class	Asset Type (Road Class)	Centreline km	Lane-km
Roads	Arterial Roads	73	244
	Collector Roads	73	166
	Local Roads	267	537
	Rural Roads	119	238
	Total	**531**	**1,185**

Please refer to **Appendix A** for the complete roads inventory.

Figure 2-2 summarizes the pavement surface types within the City limits. Approximately 98% of the road network is predominantly constructed as high class and low-class bituminous pavement (flexible / surface treatment) with 1% constructed as a gravel roadway, and the remaining 1.5% as rigid or composite pavement.

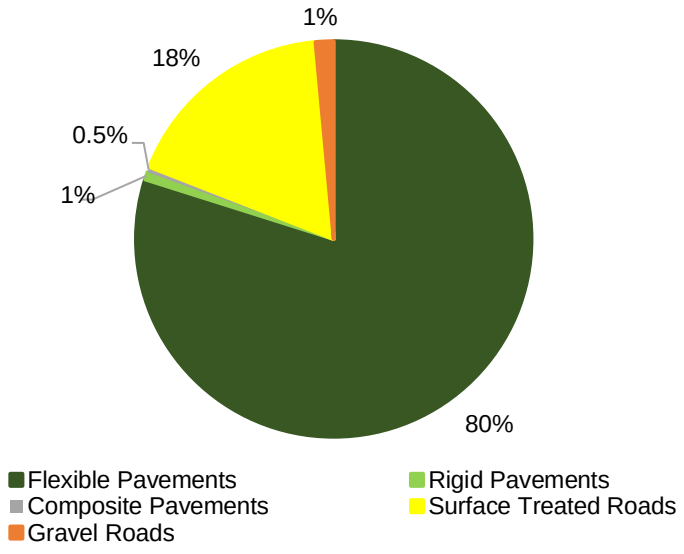


Figure 2-2: City's Pavement Surface Type by Lane km

Table 2-2 summarizes the bridges and culverts inventory. The City has a total of forty-nine bridges and structural culverts including thirty-six vehicular bridges and thirteen pedestrian bridges. Pedestrian Bridges are structures supporting pedestrian movement. Refer to **Appendix B** for complete bridges and culverts inventory including a structural level inventory and an element level inventory.

Table 2-2: Bridges and Culverts Asset Inventory

Asset Class	Asset Category	Asset Type	Quantity	Unit
Bridges and Culverts	Vehicular Bridges	Bridges	24	Ea.
		Culverts (> 3m)	12	Ea.
	Pedestrian Bridges		13	Ea.
		Total	**49**	Ea.

2.2.2 Traffic Volume Impact

Average Annual Daily Traffic (AADT) is generally the representation of the average traffic loads experienced by a roadway daily, over the course of a year. This information is very important in assessing the current structural support capabilities of a roadway, asking the question if the subject road can support current traffic but also will a road be able to support future traffic growth.

Available traffic information was provided to AECOM by the City. This traffic data was used as one of the metrics to determine the current service level of the roadway asset, pavement lifecycle strategy, as traffic loads have a significant impact on the deterioration rate and service life of the pavements. **Figure 2-3** present the traffic distribution for each road functional class.

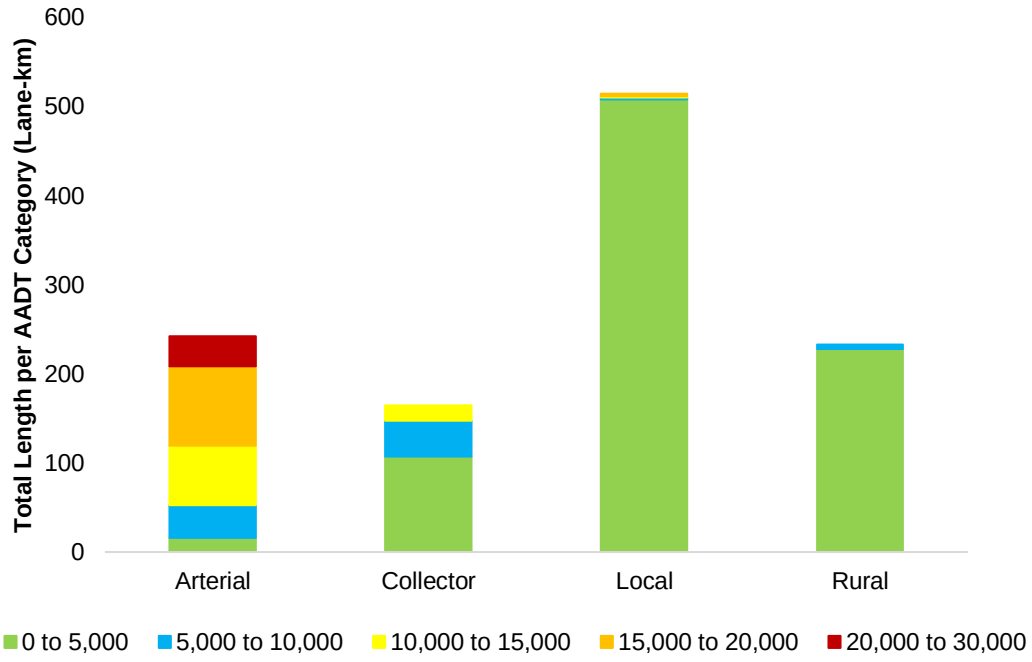


Figure 2-3: Current Traffic Volume Distribution by Functional Class

2.2.3 Current Replacement Value

The replacement value for roads in 2025 was estimated based on inflating 2022 road construction costs that includes pavement removal and reinstatement. The estimate includes a contingency cost to address specific road related ancillary items such as curbs. The total cost does not include replacement costs for underground pipes, adjacent sidewalks, and other peripheral items.

The replacement value for bridges and culverts in 2025 was estimated based on inflating unit cost per deck areas from 2016 MTO Parametric Estimating Guide, with a project markup of 45% applied to account for the cost to remove existing structure, engineering costs, contingencies, and mobility.

The total estimated replacement value of the City's roads, and bridges and culverts is $867 million. **Table 2-3** summarizes replacement values for roads and bridges. The total estimated replacement value of the City's roads is approximately $769 million. Local roads account for the majority value of the network value. The current replacement value for the City's bridges and culverts is estimated at $99 million.

Table 2-3: Roads and Bridges Current Replacement Value Summary

Asset Group	Asset Category	Unit Replacement Cost (2025)	Total Replacement Value (2025)
Roads	Arterial Roads	$1,496,000 - $3,381,000 / Centreline-km	$170,421,000
	Collector Roads	$576,000 - $3,381,000 / Centreline-km	$119,981,000
	Local Roads	$521,000 - $2,810,000 / Centreline-km	$354,334,000
	Rural Roads	$521,000 - $1,496,000 / Centreline-km	$123,476,000
Bridges & Culverts	Vehicular Bridges	$8,000- $ 12,000 / m^2	$81,231,000
	Pedestrian Bridges	$10,000 / m^2	$17,080,000
		Roads Sub-Total	**$768,211,000**
		Bridges & Culverts Sub-Total	**$98,310,000**
		Total	**$866,521,000**

2.2.4 Asset Age and Remaining Service Life

In practice, various assets will deteriorate at different rates and not necessarily linearly over time. However, it is pivotal to keep in mind the level of effort required to predict failure compared with the asset value. More sophisticated deterioration modelling may be warranted for very high value assets, whilst the cost of deterioration modeling for low-value assets may very well exceed the replacement cost of the asset. The actual service life can vary significantly from the estimated service life (ESL). The latter is defined as the period over which an asset is available for use and able to provide the required LoS at an acceptable risk and serviceability (i.e., without unforeseen costs of disruption for maintenance and repair). In some instances, a variation in expected vs. actual service life is evident due to the following factors:

- **Operating conditions and demands:** Some assets are operated intermittently or even infrequently or are being operated at a lower demand than its designed capacity. Thus, the actual operating "age" of the asset is reduced.
- **Environment:** Some assets are exposed to very aggressive environmental conditions (e.g., corrosive chemicals), while other assets are in relatively benign conditions; thus, the deterioration of assets is affected differently.
- **Maintenance:** Assets are maintained through refurbishment or replacement of components, which prolongs the service life of the asset.
- **Technological Obsolescence:** Some assets can theoretically be maintained indefinitely, although considerations such as cost to maintain the asset, its energy efficiency, and the cost to upgrade to an updated technology that would result in cost savings are likely to render this approach uneconomical.

As built construction information is currently not available for analyzing the age and remaining service life (RSL) for roads. Collecting construction date / rehabilitation date information will better represent the state of road assets and help inform future pavement AM decisions.

For bridges & culverts, **Figure 2-4** shows the average age, remaining service life, and ESL weighted by replacement value. Currently, the City's vehicular bridges are at approximately 78% through the asset's expected service life, while pedestrian bridges are about 38% through the asset's expected service life.

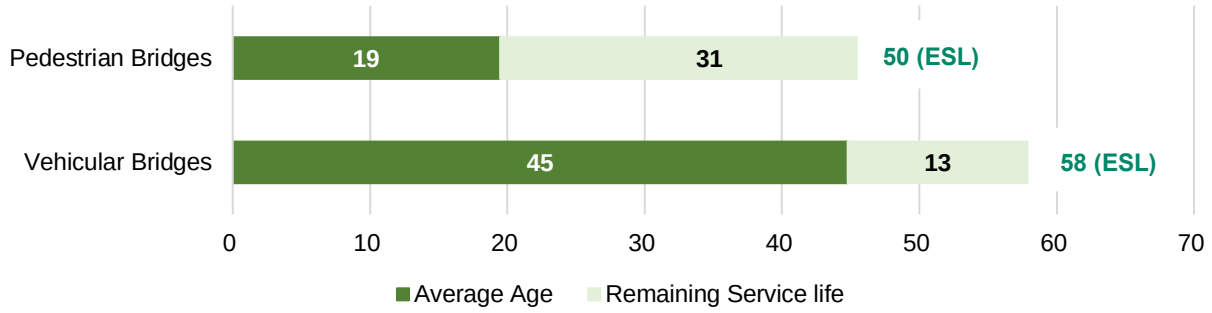


Figure 2-4: Weighted Average Age and Remaining Service Life

2.2.5 Road Condition Summary

A visual field condition survey of the City's road network was performed in Summer 2021. The condition survey was completed in accordance with the MTO guidelines including the "Manual for Condition Rating of Flexible Pavements (SP-024)", "Manual for the Condition Rating of Surface-Treated Pavements (SP-021)", and "Manual for Condition Rating of Gravel Surface Roads (SP-025)".

High resolution videos were collected for the full length of each road section in both directions of travel by driving a vehicle with two mounted cameras. The pavement condition index (PCI) was calculated by integrating Ride Comfort Rating (RCR) and Pavement Condition Rating (PCR) following the MTO guidelines and MTO Pavement Design and Rehabilitation Manual.

The PCI score (0 - worst to 100 - best) was used as an indicator for the pavement's condition. The PCI thresholds for different surface types for the condition states were adopted from the condition rating approach from MTO condition rating guidelines. **Table 2-4** shows the condition grading scale for different pavement surface types.

Table 2-4: Condition Grading Scale

Pavement Condition Rating	Flexible and Rigid Pavements		Surface Treated and Gravel Pavements	
	PCI Minimum	PCI Maximum	PCI Minimum	PCI Maximum
Very Poor	0	19	0	19
Poor	20	39	20	39
Fair	40	64	40	59
Good	65	89	60	79
Very Good	90	100	80	100

Results of AECOM's assessment indicate that in general, the City's road network is overall in Fair condition. **Figure 2-5** presents the summary of current road network condition summary weighted by replacement cost. 39% of the road network is currently in Good to Very Good Condition, 28% in Fair condition, and 33% in Poor and Very Poor Condition.

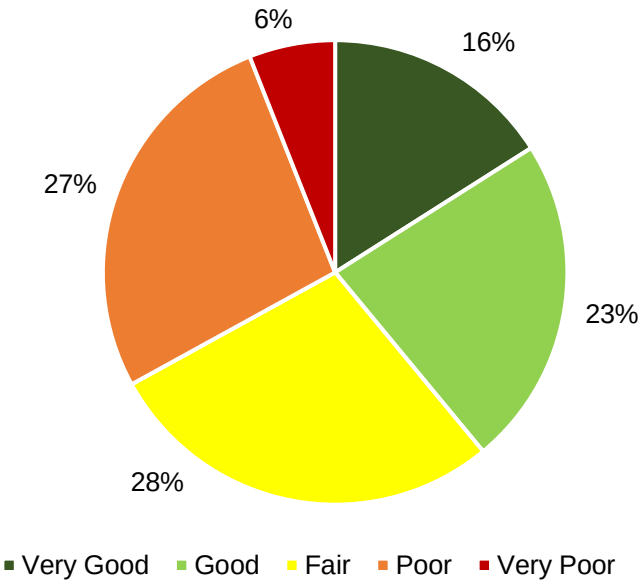


Figure 2-5: Roads Condition Summary Weighted by Replacement Cost

Figure 2-6 and **Figure 2-7** show the road condition distribution for each road class in lane kilometre and replacement value respectively. Arterial roads are primarily in Very Good to Good condition with no sections in Very Poor condition. The City made great efforts in keeping this functional class at a relatively high level of condition among all the functional classes. Collector roads are overall in Fair and better condition. Local roads and rural roads have higher proportions in Fair or Poor conditions.

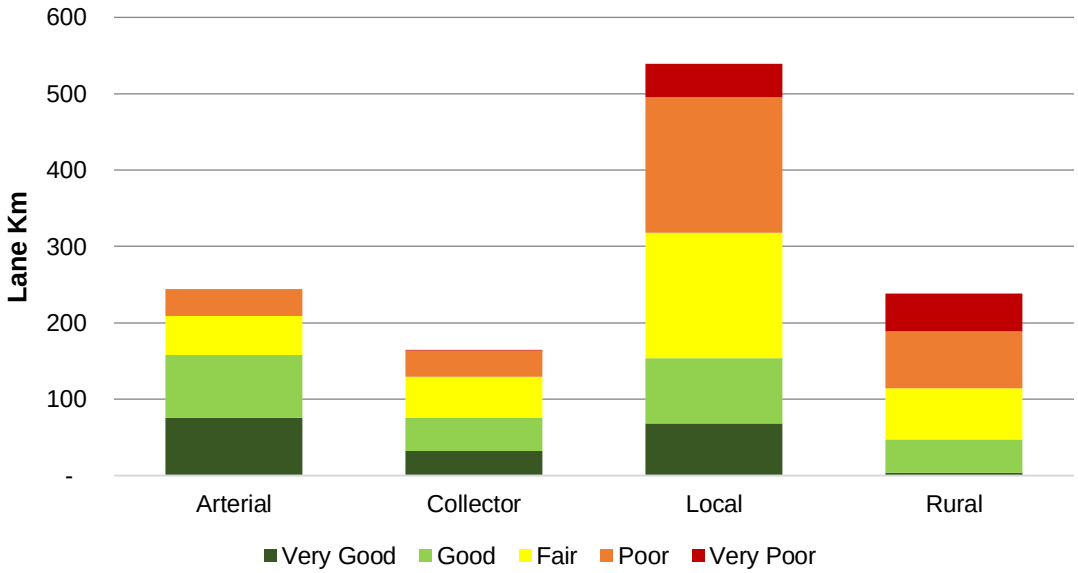


Figure 2-6: Roads Condition Distribution in Lane Kilometres

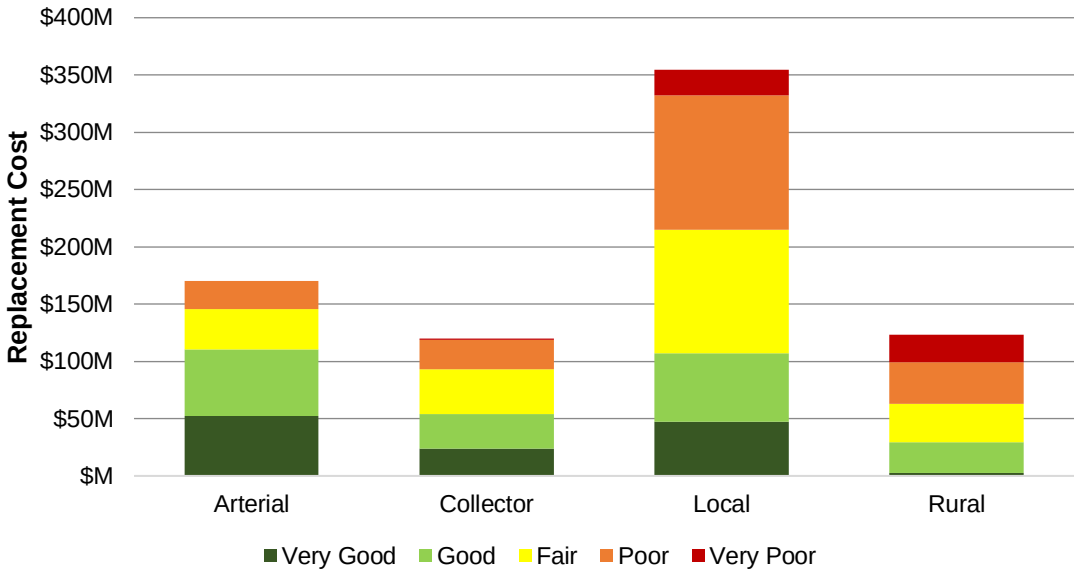


Figure 2-7: Roads Condition Distribution in Replacement Cost

2.2.6 Bridges and Culverts Condition Summary

It is understood that the City retains a consultant every two years to perform a network level inspection of the bridges and culverts within the City limits. The objective of this inspection is to identify structural issues and concerns following OSIM which is in compliance with O. Reg. 104/97. Inspection results are documented and prioritized 10-year capital needs are identified in the consultant report. The most recent inspections were completed in 2024, which provides an overall condition of each bridge and culverts (>3m in diameter), through the bridge condition index (BCI). BCI ranges from 0 to 100 where 100 represents a new structure with no deficiency. To have a consistent condition rating system across the City's asset groups, the bridge conditions are divided into five classes by BCI ranges: Very Good (80-100), Good (60-80), Fair (40-60), Poor (20-40), and Very Poor (0-20).

Figure 2-8 shows a summary of the City's bridges and culverts. Approximately, 81% of the bridges and culverts are in Good to Very Good condition. 17% in Fair condition, while the remaining 2% are in Poor condition. Currently, there are no bridges or culverts in Very Poor condition.

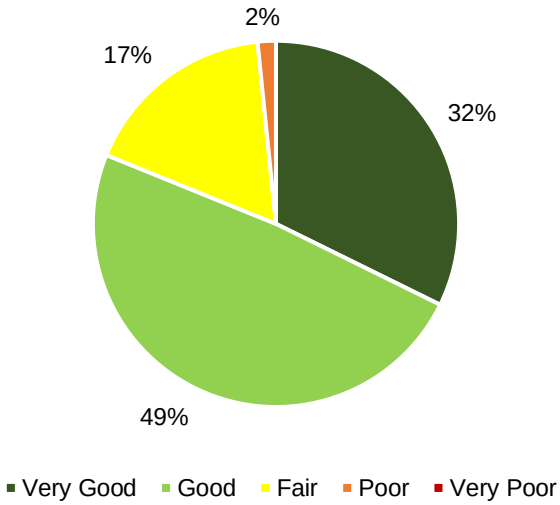


Figure 2-8: Bridges & Culverts Condition Summary Weighted by Replacement Cost

The condition distributions for vehicular bridges and pedestrian bridges are shown in **Figure 2-9**. Both Vehicular Bridges and Pedestrian Bridges are predominantly in a Good or Very Good condition.

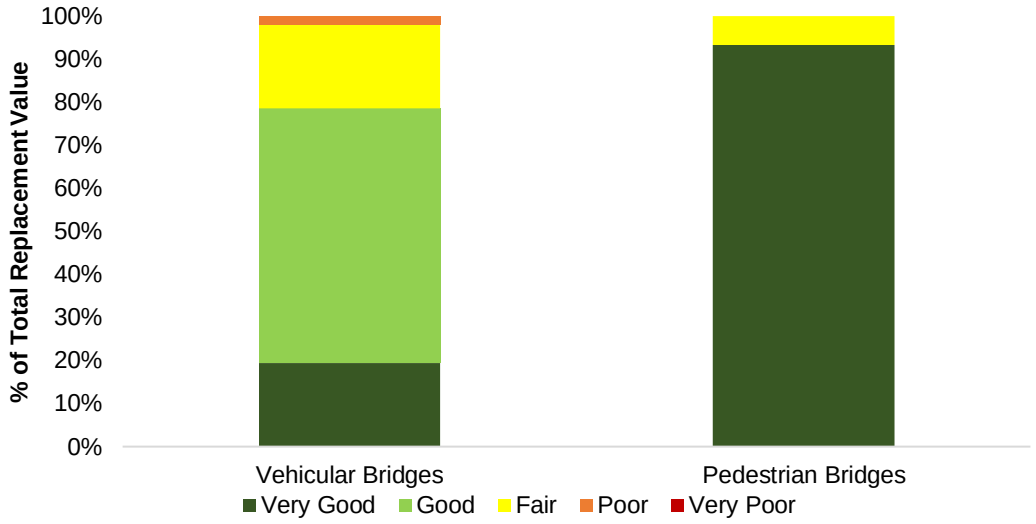


Figure 2-9: Bridges and Culverts Condition Distribution Details

2.3 Asset Data Gap Analysis

This section summarizes the current state of the City's asset data by assessing the quality of the asset inventory. AECOM facilitated a virtual State of Infrastructure and Data Gap Analysis Workshop with key staff across the in-scope assets to determine the overall confidence in the current asset data, identify existing data gaps, as well as to gather insight into the City's data management practices. An online Data Management Gap Assessment Survey was also distributed to the AM Working Group to elicit further insights on the City's current and desired future state, as well as key challenges, regarding the City's overall data management.

2.3.1 Data Gap Observations

Table 2-5 provides a summary of observed data gaps in the compiled roads, and bridges and culverts inventory across key data attributes that help to make informed decisions over the asset lifecycle for this AM plan.

Table 2-5: Observations on Asset Data Completeness

Asset Group	Inventory Completeness (%)						
	Asset ID	Street Name / Location	Install Date	Inspection Date	Condition	Expected Service Life	Replacement Cost
Roads	100%	100%	0%	100%	100%	100%	100%
Bridges & Culverts	100%	100%	100%	100%	100%	100%	100%

2.3.2 Data Confidence

The quality of asset data is critical for effective AM, accurate financial forecasts, and informed decision-making. For this reason, it is important to know what the reliability of the information is for the State of Infrastructure analysis of the roads and bridges. **Table 2-6** provides a description for the data confidence grades used to classify the reliability of the asset data used in this data gap analysis.

Table 2-6: Data Confidence Grading Scale

Confidence Grades	Description
A - Highly reliable	Data is based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate ± 2%
B - Reliable	Data is based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10%
C - Uncertain	Data is based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated ± 25%
D - Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy ± 40%
E - Unknown	None or very little data held.

Through consultation with City staff during the Data Gap and State of Infrastructure Workshop, the asset attribute data for the roads, and bridges and culverts were assigned the grades outlined in **Table 2-7**.

Table 2-7: High-Level Asset Data Confidence Grades

Asset Category	Data Confidence Average Grade		
	Inventory	Age	Condition
Roads	A	--	A
Bridges and Culverts	A	A	A

2.3.3 Data Management Practice

The asset data lifecycle is a sequence of stages that data goes through from its initial creation (i.e., data capture and entry) to its eventual archival and/or deletion at the end of its useful life[1]. A clear definition and understanding of the organization's process for acquiring, storing, utilizing, assessing, improving, archiving, and deleting data (see **Figure 2-10**) will ensure good data management practices and help to sustain levels of data quality required to support AM activities.



Figure 2-10: Asset Information Lifecycle

[1] TechTarget Network, Definition: Data Life Cycle, 2020.

The seven key stages of the asset data lifecycle are described in more detail below:

- **Acquiring New Data**: The majority of new asset data arises from asset creation, refurbishment and overhaul activities. New data may also come by way of inheritance or transfers from other business units, organizations, or third parties. As such, it is important to have clearly defined processes in place not only to add or update asset data, but to migrate and merge data from other sources.
- **Storing Data**: The way asset data is stored is an important consideration for overall data quality. Having a planned approach to data storage will inevitably reduce the likelihood of duplication and inconsistencies across datasets within the organization. Depending on the needs of the organization, this stage may involve procuring a new software to adequately house the data, along with a data backup and recovery plan to ensure that the necessary data protection and privacy standards are met.
- **Utilizing / Analysing Data**: This aspect of the asset information lifecycle is where users encounter the data to support data-driven activities within the organization. Data can be viewed, processed, edited, and published to allow users to access the data outside the organization. Critical data that has been modified should be fully traceable to maintain the integrity of the data. As such, it is important to communicate to the users why asset data is so important, and how it is used to inform decisions within the organization.
- **Assessing Data**: Assessing the data quality helps to determine the level of confidence in the information and ensures that decision-makers are making informed decisions based on the quality of data available to them. Moreover, it is important to fully understand the availability and quality of the asset data before issuing information publicly. Some of the results of data degradation, due to improper or lack of assessment, may include:
    - Poor asset performance due to lack of information and understanding of asset behaviour.
    - Non-compliance with statutory regulations or safety requirements.
    - Safety incidents due to risks not being identified or reported.
    - Asset failure due to gaps in maintenance planning.
- **Improving Data**: Improving data quality involves establishing clear targets which are intended to be communicated widely across the organization. It is imperative that the organization understand the costs, benefits, and risks associated with any data improvements since the cost of the improvement may outweigh the overall benefit. It is also important to note that *more* data does not necessarily mean *better* data. It is very possible to collect data that does not add value to the organization. As such, it is critical that the organization aligns its data improvement targets with its AM objectives and considers the data-driven decisions staff need to make at the operational and strategic level, to ensure that the *right* data is being improved upon.
- **Archiving Data**: Archiving data is the process of storing data that is no longer active or required but is able to be retrieved in case it is needed again. Data that is archived is stored in a location where no usage or maintenance occurs. It is recommended that a data archive strategy exists within an organization in order to lay out the data archival requirements, which considers the following:
    - What data should be archived and why?
    - Are there any legal obligations for retaining data records?
    - How long should data records be retained?
    - What is the risk associated with not being able to retrieve data records?
    - Who should be able to access archived data records?
    - What is the expected timeframe to retrieve archived data records?

    Clearly communicating these requirements across the organization is key to ensuring staff are educated on why records are being archived, how they can access archived data records, and for how long archived data records can still be accessed.
- **Deleting Data:** The deletion of data is the final component of the asset information lifecycle. Typically, within organizations there is a resistance to permanently delete data, otherwise known as data “squirrelling”, due to

the overall capacity of storing data increasing and the cost decreasing. However, within the organization's data archive strategy, a retention period should be specified to indicate when data should be deleted, along with any processes to follow, such as obtaining prior authorization.

2.3.3.1 Current Data Management State

The City's roads, bridges, and culverts asset data is currently stored in a Geographical Information System (GIS), Road Management System (RMS), Excel spreadsheets, reports, and as-built drawings. The City's roads and bridges data is more robust compared to other core service areas.

Currently, the City utilizes an RMS to store field assessment results for roads. The system was greatly enhanced by GIS integration and maintained by the GIS/Asset Management Technician in the Engineering Department. The RMS data can be linked to GIS with unique road segment IDs.

The bridges and culverts condition data is biennially updated based on OSIM inspection findings. The consolidated inventory for bridges & culverts includes a structural level and element level inventories along with a recommended 10-year capital plan.

The City is following the mandate in records retention procedures for municipalities as per the Freedom of Information and Protection of Privacy Act ("FIPPA") and the Municipal Freedom of Information and Protection of Privacy Act ("MFIPPA").

2.3.3.2 Future Data Management State

The City will develop and implement a software strategy that helps streamline data management following this AMP. Eventually, the City anticipates having a clear and efficient data management process and comprehensive asset inventory to support their asset management decision-making. The implementation plan for data improvement is presented in **Section 6**.

3. Level of Service

3.1 Purpose

Level of Service (LoS) supports every aspect of the overall AM System. The objective of establishing clearly defined service levels is to help the City meet stakeholder values, achieve its strategic goals, make informed decisions, and implement effective asset lifecycle activities.

Documenting LoS is a proven practice that will enable the City to:

- Link corporate strategic objectives to customer expectations and technical operations.
- Balance customer needs and expectations while evaluating the effectiveness of operations and whether the right LoS is being provided at the right cost.
- Transition from an “Asset Stewardship” approach that focuses on making decisions based on maintaining assets in an acceptable condition to a “Serviceability” approach that is geared towards making decisions based on balancing the costs, risks, and goals for the LoS being provided by the City’s assets.
- Communicate the physical nature of infrastructure that the City owns and is financially responsible for while promoting the use of LoS to enable effective consultation with stakeholders regarding alternative funding options according to desired LoS outcomes.
- Make recommendations on strategies that the City can take now to minimize future renewal costs while ensuring that adequate LoS can be delivered without burdening future generations.
- Assess internal (e.g., program changes) and external (e.g., climate change) factors that have the potential to impact the City’s ability to deliver services and how these factors may impact the LoS being provided.
- Implement a corporate continuous improvement program to further optimize AM across all service areas.

O. Reg. 588/17 mandates that Ontario municipalities must report their current LoS by July 1, 2024. Additionally, the proposed LoS for all municipal assets including core and non-core assets should be reported by July 1, 2025 (see **Section 1.3**).

3.2 Objectives

Defining LoS objectives is important for drawing a line of sight between the City’s corporate objectives and the tangible asset performance outcomes. To do so, the LoS objectives must take into consideration stakeholder interests to develop asset performance measures that aim to meet the needs and expectations of the community. By doing this, the City will ensure that their assets are striving towards optimal performance, not only operationally, but economically, socially, and sustainably as well.

Every stakeholder has certain interests in the service being provided and in general. The City’s corporate objective is to lift up the community and build pride, and attract people (visitors, employers and employees). The City’s Comprehensive Background Report[2] for the New Official Plan outlined the overarching themes that reflect the City’s value, as shown in **Table 3-1**. Each overarching theme is also assigned a corporate service objective.

The development of level of service targets should be aligned with these corporate objectives which will be addressed in the next iteration of the AMP.

[2] City of Sault Ste Marie. 2021. Comprehensive Background Report.

Table 3-1: The City's Overarching Themes and Objectives

Overarching Themes	Corporate Objective
Healthy Community	Supports healthy living, active transportation, access to passive and active recreation, social interaction and the creation of spaces that are comfortable, safe and accessible for all ages and abilities (the "8 to 80 Cities" concept).
Environmental Sustainability	Supports energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions and climate change adaptation.
Integrated Mobility	Supports accessibility and choice of a diversity of transportation modes.
Sense of Place	Fosters a welcoming place for all that establishes connection and provides a memorable experience to visitors.
Sustainable Growth	Stimulates reinvigoration of neighbourhoods to provide a complete range of housing, services, employment and recreation.
Economic Resiliency	Supports the growth and diversification of the city's economy.
Social Equity	Contributes to creating a welcoming and inclusive community, focusing on the removal of systemic barriers so that everyone has access to an acceptable standard of living and can fully participate in all aspects of community life.
Cultural Vitality	Celebrates the Sault's history, diverse communities and natural and cultural heritage, with the Downtown as the Sault's core destination for arts and culture.

3.3 Stakeholder Identification

A stakeholder is any person or organization that can affect, be affected by, or perceive themselves to be affected by a decision or an activity. Stakeholder analysis is the process of understanding stakeholder needs, expectations, and perceptions relative to the stakeholder's level-of-interest and level-of-influence over the organization. The organization typically engages with their stakeholders to:

- Establish which activities or services matter most to them.
- Understand their risk appetite and risk threshold.
- Understand their willingness to pay for services.

Stakeholders can take many forms and may be internal (i.e., staff, Council) or external (i.e., the public, regulatory agencies, suppliers, neighbouring municipalities, etc.) to the organization. The following groups were identified as key stakeholders for roads, bridges and culverts at the LoS workshops. This is not intended to be an exhaustive list; however, the following groups provide a good starting point for the City to move forward to the next stage.

- Council.
- Residents.
- Regulatory Agencies (i.e., MTO and Department of Fisheries and Oceans Canada (DFO)).
- Neighbouring Municipalities or Downstream Municipalities (i.e., First Nations, the international bridge connected to the US).
- Environmental groups.
- Developers.
- Contractors and suppliers.
- Other city departments (i.e., fire & police service, planning department, and stormwater)

3.4 O. Reg. 588/17 Levels of Service Metrics

Based on currently understanding, O. Reg. 588/17 requires legislated community LoS. Community LoS use qualitative descriptions to describe the scope or quality of service delivered by an asset category. O. Reg. 588/17 also requires legislated technical LoS. Technical LoS use metrics to measure the scope or quality of service being delivered by an asset category.

Table 3-2 and **Table 3-3** present summaries of the City's roads, and bridges and culverts service level for O. Reg. 588/17 Metrics. References are provided to show where O. Reg. 588/17 requirement has been attained.

Table 3-2: O. Reg. 588/17 Levels of Service Metrics (Roads)

O. Reg 588/17 LoS Performance Measure	Unit	Community or Technical LoS	Current LoS Performance (2025)
Description, which may include maps, of the road network in the municipality and its level of connectivity.	Map	Community	• Road network connectivity map as shown in **Figure 3-1**.
Description or images that illustrate the different levels of road class pavement condition.	Text / Image	Technical	• Refer to **Figure 3-2**.
Number of lane kilometres of arterial roads, collector roads and local roads as a proportion of square kilometres of land area of the municipality.	#	Community	• Arterial: 0.63 Lane-km / km^2 • Collector: 0.64 Lane-km / km^2 • Local: 2.32 Lane-km / km^2 • Rural: 1.04 Lane-km / km^2
For paved roads in the municipality, the average pavement condition index value.	#	Technical	• Average PCI for Paved Roads is 53 − Average PCI for Arterial: 64 − Average PCI for Collector: 58 − Average PCI for Local: 50 − Average PCI for Rural: 42 These average PCI is weighted by replacement value.
For unpaved roads in the municipality, the average surface condition (e.g., excellent, good, fair or poor).	Text	Technical	• Fair condition.

Table 3-3: O. Reg. 588/17 Levels of Service Metrics (Bridges and Culverts)

O. Reg. 588/17 LoS Performance Measure	Unit	Community or Technical LoS	Current LoS Performance (2025)
Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists).	Text	Community	• The City's bridges and culverts have been designed in accordance with the standard and requirements of the Canadian Highway Bridge Design Code (CHBDC) at the time of construction. The bridges have been designed to carry heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, and cyclists.
% of bridges in the municipality with loading or dimensional restrictions.	%	Technical	• Two of the 49 bridges (i.e., 4% of bridges at the City) have loading or dimensional restrictions, as follows: ○ 19 - Town Line Road, 0.5km south of Base Line, over Big Carp River, 10t load limit; and ○ P10 - Fort Creek Hub Trail, approximately 900 m south of Third Line, 1000 lb (Point Load)
Description or images of the condition of bridges and how this would affect use of the bridges.	Text / Image	Community	• The City undertakes rehabilitation / replacement works according to OSIM recommended priorities. • Refer to **Figure 3-3** for images of the condition of bridges.
Description or images of the condition of culverts and how this would affect use of the culverts.	Text / Image	Community	• The City undertakes rehabilitation / replacement works according to OSIM recommended priorities. • Refer to **Figure 3-3** for images of the condition of several culverts.
For bridges in the municipality, the average bridge condition index value.	#	Technical	• Average BCI for bridges is 68 The average BCI is weighted by replacement value
For structural culverts in the municipality, the average bridge condition index value.	#	Technical	• Average BCI for culverts is 74 The average BCI is weighted by replacement value



Figure 3-1: City of Sault Ste Marie Road Network

Figure 3-2 and Figure 3-3 present different levels of condition images as required by O. Reg. 588/17.

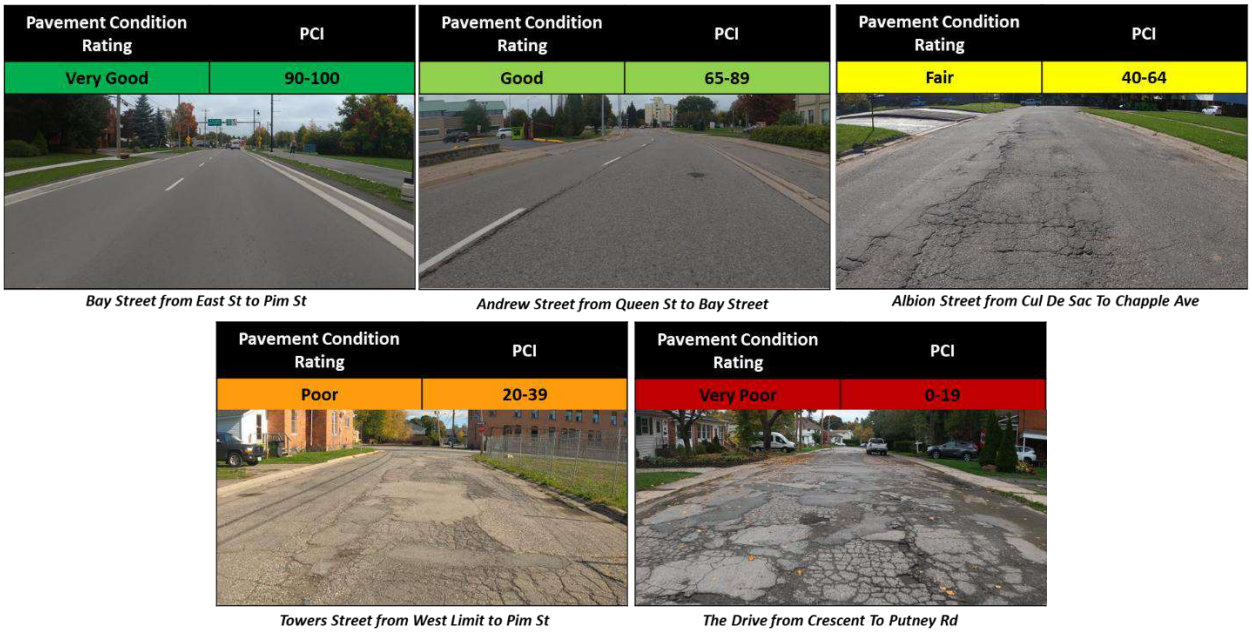


Figure 3-2: City of Sault Ste. Marie Roads Condition Images

	Bridges	Culverts
Condition Ratings Bridge Condition Index (BCI)	**Images of the condition of bridges and how this would affect use of the bridges.**	**Images of the condition of culverts and how this would affect use of the culverts.**
Very Good BCI Range 80-100	Bridge No. 14 BCI - 96 	Bridge No. 10 BCI - 88 
Good BCI Range 60-79	Bridge No. 1 BCI - 72 	Bridge No. 22 BCI - 66 
Fair BCI Range 40-59	Bridge No. 3 BCI - 52 	Bridge No. 41 BCI - 50 
Poor BCI Range 20-39	N/A	N/A
Very Poor BCI Range 0-19	N/A	N/A

Figure 3-3: Bridges and Culverts Condition Images

3.5 Proposed Levels of Service

Establishing LoS targets is an important part of continual improvement and performance management. Without performance targets, it is difficult to ascertain whether goals are being met, or the extent of the gap if they are not. Incorporating targets into the City's LoS Framework helps to ensure that targets are reasonable, aligned with customer expectations, and evaluated on an objective basis by considering cost-benefit trade-offs.

One of the key challenges in setting infrastructure performance targets in a municipal environment is that they can often become biased and/or politically motivated. Therefore, it is important to review LoS targets with internal and external stakeholders, especially the customers who will be impacted the most by changes in service delivery. An important aspect of evaluating LoS targets is determining how the user is willing to pay for the service. Regulatory requirements are an exception; however, they only provide the minimum service standard. Cost is still an important parameter to consider when assessing the merits of service improvements. To deal with the financial realities, it is necessary to:

- Calculate how much the service costs based on current LoS.
- Determine the lifecycle activities and cost associated with varying the LoS.
- Assess the customers' willingness to pay.

It is important that any targets set be realistic and achievable. O. Reg. 588/17 requires AMPs to include proposed levels of service by July 1, 2025.

The LoS trend legends are described in **Table 3-4**. With this, a summary of the City's Roads and Bridges service level metrics is presented in **Table 3-5**. Each metric was indicated with its current trend and proposed trend for the next 10 years, represented by legends, taking into account the nature of the measure, data availability, analysis feasibility, and whether the trend impacts positively or negatively on the proposed LoS.

Table 3-4: LoS Trend Legend

Symbol	Name	Description
	Positively Increasing	KPI is improving steadily over time, showing progress toward goals.
	Positively Stable	KPI is at a strong, desirable level and consistently maintained.
	Positively Decreasing	KPI is improving as lower values indicate better performance.
	Negatively Increasing	KPI is worsening over time, signaling a need for corrective action.
	Negatively Stable	KPI remains poor with no improvement or further decline.
	Negatively Decreasing	KPI is declining in a way that reflects worsening performance.

Table 3-5: Roads and Bridges Current and Proposed Levels of Service

Asset Category	#	LoS Measure	Unit of Measure	LoS Category	Current Performance	Current Trend	Proposed Trend (Next 10 years)	Lifecycle Activities to meet Proposed LoS	Budget Impact to Meet Proposed LoS	Risk of Not Meeting Proposed LoS
Roads	1	Description, which may include maps, of the road network in the municipality and its level of connectivity.	Map	Customer	See **Figure 3-1**				N/A	
Roads	2	Description or images that illustrate the different levels of road class pavement condition.	Text / Image	Customer	See **Figure 3-2**				N/A	
Roads	3	# of lane-kilometers of each of arterial roads, collector roads and local roads as a proportion of square kilometers of land area of the municipality.	#	Technical	In Lane-km / km2: • Arterial: 0.63 • Collector: 0.64 • Local: 2.32 • Rural: 1.04	→	→	• Maintain the existing and future new roads.	Low	• Increased congestion and delays. • Declining road conditions and safety.
Roads	4	For paved roads in the municipality, the average pavement condition index value.	#	Technical	In PCI: • Paved Roads: 53 • Arterial: 64 • Collector: 58 • Local: 50 • Rural: 42	→	→	• Regular condition assessments. • Annual resurfacing program with spring surface treatments, budget-dependent. • Annual crack sealing program. • Local road improvements aligned with sanitary sewer and watermain needs. • Engineering-led crack sealing operations. • Public Works conducts routine patching and pothole repairs.	Moderate	• Accelerated pavement deterioration and structural failures • Increased repair and rehabilitation costs over time • More frequent and severe potholes and surface defects • Higher risk of vehicle damage and safety incidents • Decreased public satisfaction and increased complaints • Reduced accessibility and mobility across the network • Negative impact on local economy and goods movement • Potential legal claims due to poor road conditions • Reduced effectiveness of routine maintenance activities • Increased greenhouse gas emissions from slower traffic flow
Roads	5	For unpaved roads in the municipality, the average surface condition.	Text	Technical	Fair	→	→	• Routine gravel road grading. • Adding gravel as required. • Drainage maintenance.	Low to Moderate if maintaining current conditions;	• Increased damage claims. • Higher dissatisfaction from high-tax properties (large, waterfront).

Asset Category	#	LoS Measure	Unit of Measure	LoS Category	Current Performance	Current Trend	Proposed Trend (Next 10 years)	Lifecycle Activities to meet Proposed LoS	Budget Impact to Meet Proposed LoS	Risk of Not Meeting Proposed LoS
								• Additional tasks as identified in council reports.	High if upgrading to asphalt road	• Negative public perception of service quality.
Roads	6	Percentage of Roads assets in Fair and Better Condition	%	Technical	67%	→	→	• Same as #4 and #5	Moderate to High	• Same as #4 and #5
Bridges	1	Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists).	Text	Customer	See Table 3-3				N/A	
Bridges	2	% of bridges in the municipality with loading or dimensional restrictions.	%	Technical	4% (two bridges): • 19-Town Line Road, 0.5km south of Base Line, over Big Carp River • P10-Fort Creek Hub Trail, Approximately 900 m south of Third Line	→	→	• OSIM inspections every two years. • Preventive maintenance (cleaning, sealing, minor repairs). • Regular load capacity assessments. • Dedicated bridge maintenance funding.	Low to Moderate	• Increased bridge deterioration and safety risks. • Higher frequency of load or dimensional restrictions. • Reduced network reliability and efficiency. • Elevated repair and replacement costs. • Potential liability and increased damage claims. • Negative public perception and reduced trust.
Bridges	3	Description or images of the condition of bridges and how this would affect use of the bridges.	Text / Image	Customer	See **Figure 3-3**				N/A	
Bridges	4	Description or images of the condition of culverts and how this would affect use of the culverts	Text / Image	Customer	See **Figure 3-3**				N/A	
Bridges	5	For bridges in the municipality, the average bridge condition index value.	#	Technical	68	→	→	• OSIM inspections every two years • Routine maintenance (cleaning, debris removal, joint flushing) • Concrete patching and crack sealing • Expansion joint and bearing replacement • Waterproofing and deck resurfacing • Structural steel painting • Load capacity evaluations	Low to Moderate	• Increased safety hazards and risk of structural failures • More frequent weight or dimensional restrictions • Higher long-term rehabilitation and replacement costs • Disruptions to transportation and emergency access • Negative impact on economic activity and goods movement

Asset Category	#	LoS Measure	Unit of Measure	LoS Category	Current Performance	Current Trend	Proposed Trend (Next 10 years)	Lifecycle Activities to meet Proposed LoS	Budget Impact to Meet Proposed LoS	Risk of Not Meeting Proposed LoS
								• Full bridge replacements (as last resort) • Bridge management system updates • Dedicated capital and O&M funding • Integration with asset management planning		• Increased public dissatisfaction and liability claims • Reduced network reliability and resilience • Greater environmental impact due to inefficient detours
Bridges	6	For structural culverts in the municipality, the average bridge condition index value.	#	Technical	74	↑	→	• Biennial OSIM inspections • Routine cleaning and debris removal • Vegetation control near inlets/outlets • Crack sealing and joint repairs • Minor patching and surface repairs • Structural relining (e.g., CIPP lining) • End treatment repairs or replacements • Roadway embankment stabilization • Hydraulic performance assessments • Full culvert replacements when needed • Erosion and sediment control work • Dedicated funding for critical culvert work • Integration with asset management plans	Low to Moderate	• Increased risk of structural collapse or washouts • Road closures and costly emergency repairs • Disrupted drainage causing flooding and road damage • Safety hazards for motorists and pedestrians • Higher long-term replacement and rehabilitation costs • Environmental damage from uncontrolled water flow • Impaired access for emergency and service vehicles • Public complaints and potential liability claims • Reduced lifespan of adjacent road infrastructure
Bridges	7	Percentage of Bridges & Culverts assets in Fair and Better Condition	%	Technical	92%	→	→	Same as #5 and #6	Moderate	Same as #5 and #6

Performance Trend Legend:

↑ Positively Increasing	→ Positively Stable	↓ Positively Decreasing	↑ Negatively Increasing	→ Negatively Stable	↓ Negatively Decreasing

3.6 2025-2034 10-Year Levels of Service Forecast

Considering the City's characteristics, growth projections, and strategic objectives, the proposed performance trend for each LoS metric for the next 10 years is projected and outlined in **Table 3-6**. This table indicates whether each measure is expected to trend upward, downward, or remain stable, taking into account the nature of the measure, data availability, analysis feasibility, and whether the projected trend impacts positively or negatively on the proposed level of service.

Table 3-6: 2025-2034 10-Year LoS Forecast

Asset Category	#	LoS Measure	Unit of Measure	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Proposed Trend	Basis for Forecast
Roads	1	Description, which may include maps, of the road network in the municipality and its level of connectivity.	Map								N/A				
Roads	2	Description or images that illustrate the different levels of road class pavement condition.	Text / Image								N/A				
Roads	3	# of lane-kilometers of each of arterial roads, collector roads and local roads as a proportion of square kilometers of land area of the municipality.	#				Arterial: 0.63 Lane-km / km^2 Collector: 0.64 Lane-km / km^2 Local: 2.32 Lane-km / km^2 Rural: 1.04 Lane-km / km^2							→	No substantial development planned within 10 years
Roads	4	For paved roads in the municipality, the average pavement condition index value.	#	53	54	54	54	54	53	53	53	53	52	→	Based on lifecycle modeling for current budget scenario, See **Section 5**
Roads	5	For unpaved roads in the municipality, the average surface condition.	Text					Fair						→	City subject matter expert opinion
Roads	6	Percentage of Roads assets in Fair and Better Condition	%	67%	67%	67%	64%	65%	63%	63%	64%	63%	63%	→	Based on lifecycle modeling for current budget scenario, See **Section 5**
Bridges	1	Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists).	Text								N/A				
Bridges	2	% of bridges in the municipality with loading or dimensional restrictions.	%	4% (two bridges: 19-Town Line Road, 0.5km south of Base Line, over Big Carp River and P10-Fort Creek Hub Trail, Approximately 900 m south of Third Line)										→	City subject matter expert opinion
Bridges	3	Description or images of the condition of bridges and how this would affect use of the bridges.	Text / Image								N/A				
Bridges	4	Description or images of the condition of culverts and how this would affect use of the culverts	Text / Image								N/A				
Bridges	5	For bridges in the municipality, the average bridge condition index value.	#	68	67	68	68	67	68	68	68	68	68	→	Based on lifecycle modeling for current budget scenario, See **Section 5**
Bridges	6	For structural culverts in the municipality, the average bridge condition index value.	#	74	72	71	70	69	68	68	66	68	67	→	Based on lifecycle modeling for current budget scenario, See **Section 5**
Bridges	7	Percentage of Bridges & Culverts assets in Fair and Better Condition	%	98%	98%	100%	100%	100%	100%	100%	100%	100%	100%	→	Based on lifecycle modeling for current budget scenario, See **Section 5**

Performance Trend Legend:

↑ Positively Increasing	→ Positively Maintain	↓ Positively Decreasing	↑ Negatively Increasing	→ Negatively Maintain	↓ Negatively Decreasing

3.7 Future Demand Drivers

Demand management is a critical component of managing the desired LoS in a sustainable manner, now and into the future. Understanding demand drivers enables the City to proactively develop effective, long-term strategies that are suitable for the City's unique political, environmental, social and technological landscape.

A summary of factors identified from the LoS workshop that would impact roads, and bridges and culverts service levels include, but are not limited to, the following:

- Staff availability.
- Funding level.
- Contractor availability.
- Succession Management.
- Supply Chains.
- Climate Change.

On November 2, 2021, the City of Sault Ste. Marie's Planning Division released the Comprehensive Background Report for updating the Official Plan[3]. The City's Official Plan guides the local decision-making on land use, development and public infrastructure over the next 20 years. The City's population is expected to roughly reach to 80,000 (by 2031), and 83,300 people by 2036. Employment is projected to grow by about 6,000 jobs, from approximately 31,000 jobs in 2016 to 36,900 jobs in 2036.

In 2015, the City updated the Transportation Master Plan for advancing the implementation of the various transportation improvements while considering the current and future conditions of the community. The City estimates that residential, industrial / commercial and retail development will occur in various areas of the City within the next 20 years. This new development will be spurred by the increase in population and by shifts and reallocation of the existing City residents. The master plan also includes traffic forecasts for the City's road network. AECOM recommends the City obtains a digital format of the future travel demand AADT information from the master plan and include the traffic data in the roads inventory to help better inform the roads asset management plan.

When additional assets to accommodate this population and employment growth are introduced to the City's portfolio, additional human resources, training and funding are required to maintain and operate and renew or replace those assets. O. Reg. 588/17 requires municipalities by July 1, 2025, to estimate capital expenditures and significant operating costs to achieve the proposed LoS and accommodate projected increases in demand caused by population and employment growth. This includes the estimated capital expenditures and significant operating costs related to new construction and / or to upgrade existing municipal infrastructure assets. This has been mentioned in **Section 5.3**.

[3] City of Sault Ste Marie. 1996. Official Plan

4. Asset Management Strategies

4.1 Asset Lifecycle Management Introduction

Asset lifecycle management focuses on the specific activities that should be undertaken during all phases of the asset lifecycle. Considering entire asset lifecycles can ensure that the City makes sound decisions that consider present and future service delivery needs.

The overarching goal of lifecycle management is to maximize the long-term benefits and services that our assets deliver while minimizing the associated costs and risks in the long run. Every asset has a lifecycle cost, which is the total cost of all the activities undertaken throughout its service life. Part of the purpose of the asset management planning process is to fully understand and predict the long-range financial requirements for the City's infrastructure to facilitate planning and resource management in the most cost-effective manner possible. **Figure 4-1** illustrates how costs typically accumulate over an asset's life. It is worth noting that the accumulation of the ongoing operations and maintenance, renewal & replacement and disposal costs is many multiples of the initial acquisition costs. As such, it is important to fully understand the entire lifecycle costs before proceeding with asset acquisition.

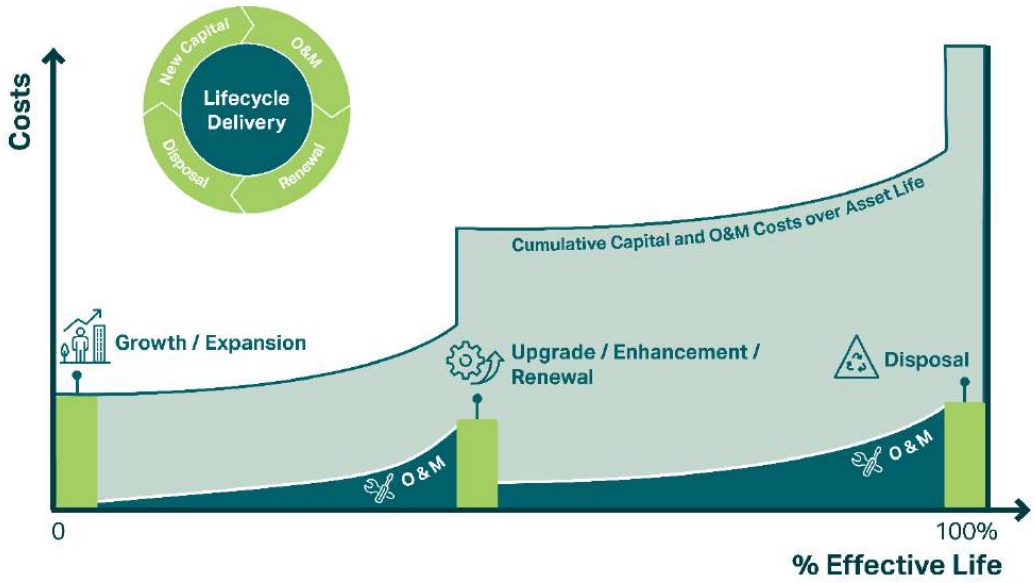


Figure 4-1: Lifecycle Cost Accumulation Over Asset Life

Asset lifecycle management strategies are typically organized into the following categories.

- **Asset Acquisition / Procurement / Construction**: Acquisition includes expansion activities and upgrading activities to extend services to previously unserved areas or expand services to meet growth demands and to meet functional requirements. When acquiring new assets, the City should evaluate credible alternative design solutions that consider how the asset is to be managed at each of its lifecycle stages. Asset management and full lifecycle considerations for the acquisition of new assets include, but are not limited to the following:



  - The asset's operability and maintainability.
  - Availability and management of detours.
  - Staff skill and availability to manage the asset.
  - The manner of the asset's eventual disposal.

- **Asset Operations and Maintenance (O&M)**: As new infrastructure is commissioned, the City accepts the responsibility of operating and maintaining the infrastructure according to O&M standards to ensure that the infrastructure is safe and reliable. Operations staff provide the day-to-day support required to operate the roads, bridges and culverts. Maintenance expenses include periodic preventive maintenance to ensure that the infrastructure can provide reliable service throughout the life of the asset and corrective maintenance that is required to repair defective assets as and when needed. Inadequate funding for O&M will have an adverse impact on the lifespan of assets. The number of O&M resources required in any period is a function of the current inventory of infrastructure and total O&M needs required for each asset. As the inventory of infrastructure grows, total O&M requirements will also grow.



- **Renewal and Replacement:** The third portion of full lifecycle costing relates to the renewal and replacement of roads, and bridges and culverts that have deteriorated to the point where they no longer provide the required service. Renewal or rehabilitation cost is sometimes incurred during the life of an asset where an investment is made to improve the condition and / or functionality of the asset e.g., resurfacing of a road section. Reconstruction activities are expected to occur once an asset has reached the end of its useful life and rehabilitation is no longer an option.



- **Decommissioning and Disposal:** There will inevitably come a point in time when an asset must be removed from service and, depending on the type of asset, there may be significant costs associated with its decommissioning and disposal. Factors that may influence the decision to remove an asset from service include changes to legislation that cause the asset to be in non-compliance, the inability of the asset to cope with increased service levels, technology advances that render the asset obsolete, the cost of retaining the asset is greater than the benefit gained, the current risk associated with the asset's failure is not tolerable, assets that have a negative impact on service delivery, the environment (e.g., roads which have persistent erosion problems, often located in areas of extremely erodible soils), or assets which can no longer be used for the purpose originally intended (e.g., roads and bridges constructed for temporary access such as designated temporary roads).



  Normally, major costs that may be incurred during disposal and decommissioning derive from the environmental impact of the disposal and, if required, the rehabilitation and decontamination of land. However, some cost savings may be achieved through the residual value of the asset or by exploring alternative uses for the asset. In all cases, it is important to consider disposal and decommissioning as the strategy employed has the potential to attract significant stakeholder attention. For that reason, the costs and risks associated with disposal and decommissioning should be equally considered in the City's capital investment decision-making process.

4.2 Current Asset Management Strategies

The asset management strategies that are currently employed by the City to manage the roads, and bridges and culverts throughout their lifecycle is summarized in **Table 4-1**.

Table 4-1: Lifecycle Management Strategies for Roads and Bridges

Asset Group	Lifecycle Activity	Description of Activities Practiced by the City	Benefit or Risk Associated with the Activities
Roads and Bridges	**Acquisition**	**Roads and Bridges** • Assumption of subdivisions, commercial and industrial extensions, local improvements, etc. • Council approved specific initiatives. • New roads through transportation planning.	• Extend services to previously unserved areas or expand services to accommodate asset enhancements. • Adequate planning and implementation of infrastructure projects help to manage existing and potential growth pressures and address other demand factors.
	Operations and Maintenance	**Roads O&M** • Road patrols. • Timely debris removal. • Annual retro-reflectivity assessment of signs and corrective action. • Bike lane summer maintenance. • Pavement paint markings. • Potholes repairs. • Pavement cracks. • Road illumination and visibility. • Street sweeping. • Curb and edge repairs. • Vegetation control. • Dust control. • Drainage improvement. • Traffic control signal systems.	• Ensure assets are operated and maintained in compliance with O. Reg. 239/02 – Minimum Maintenance Standards, which provides municipalities with a defense against liability from actions arising with regard to levels of care on roads and bridges. These standards set a minimum level of care for how roads are operated and maintained.
		Winter Control • Winter control standby. • Ice and snow removal. • Bike lane winter maintenance. • Sand and salt purchase and application. • Snow plowing. • Snow fencing. • Winter equipment fueling.	
		Bridges and Culverts O&M • Bridge cleaning. • Animal/pest control.	• Ensure assets are operated and maintained in compliance with O. Reg. 239/02 – Minimum Maintenance Standards and O. Reg. 104/97: Standards for Bridges and amendments: O. Reg. 160/02, O. Reg. 278/06, and O. Reg. 472/10 – OSIM

Asset Group	Lifecycle Activity	Description of Activities Practiced by the City	Benefit or Risk Associated with the Activities
		• Asphalt surface repair. • Vegetation and debris removal. • Concrete sealing. • Painting steel structures. • Works for drainage system.	
	Renewal and Replacement	**Roads** • Reconstruction and resurfacing of roads to address critical needs. – Preventive Maintenance: strategies like crack sealing and surface treatments to extend the road service life at an early stage – Minor rehabilitation: Non-structural repairs like overlay and mill and overlay to extend pavement life. – Major rehabilitation: Structural repairs such as thick overlays or milling to restore pavement strength. – Reconstruction: Full replacement of the pavement and base layers, often including utility upgrades. • Coordination of road reconstruction work with utility replacement.	• Renewal and reconstruction of roads with critical needs in a timely manner reduce the safety risk, avoid premature asset failure, and achieve cost effectiveness. • Coordination of road reconstruction with sewer works optimally manages a range of assets within a road right-of-way leading to reduced cost and limited disruption to businesses and residents.
		Bridges and Culverts • Reconstruction and rehabilitation of bridges and culverts is determined based on the biennial OSIM inspection results.	• The prioritized capital plans from the biennial OSIM inspections aim to address structural deficiencies and ensure safe service.
	Disposal	**Roads, Bridges and Culverts** • Stop-up and close the road and bridges.	• Ensure assets are disposed of in compliance with waste regulations in Ontario if applicable.
	Non-Infrastructure	**Roads and Bridges** • Regular road condition assessment. • Biennial bridge condition assessment program. • Road Management System (RMS). • Transportation Master Plans and Official Plan.	• Condition assessment programs help to identify and record asset conditions for a prioritized capital programs. • RMS is used to report the condition of roads and inform the coordination of the roads' capital work with adjacent utilities. • Transportation Master Plans and Official Plan include strategic planning / budgeting and project prioritization to inform long-term decision making.

4.3 Road Lifecycle Management Model

Condition assessment information for pavement is one of the important indicators that helps determine the reliability and serviceability of assets in their lifecycle. **Figure 4-2** illustrates the typical deterioration curves for pavements with and without rehabilitation interventions, and the near optimum pavement intervention strategies for the various condition states. For example, the design life for most asphalt pavements is 15 - 20 years and its expected operational life can be extended significantly even to 50 – 60 years if treated with proper approach at the proper time window.

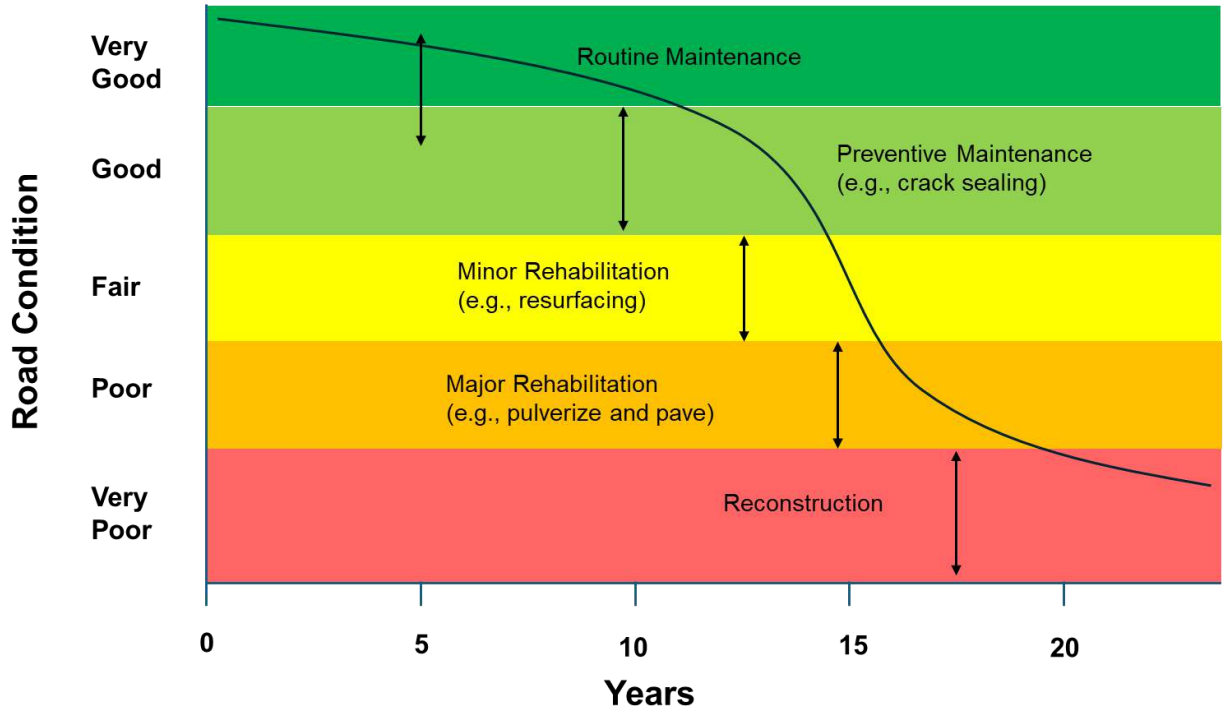


Figure 4-2: Sample Pavement Deterioration Curve and Intervention Approaches

In general, when pavement is in Very Good to Good condition, the intervention approach could be routine or preventive maintenance. If a pavement is in Fair condition, the recommended intervention is typically rehabilitation such as resurfacing. As pavements approach the Poor and Very Poor condition, structural enhancement and reconstruction is most likely warranted.

The proposed lifecycle management strategy for this AMP includes a pavement lifecycle interventions decision tree and a work prioritization model, which will be described in details in **Section 4.3.1** and **Section 4.3.2**, respectively.

4.3.1 Road Pavement Lifecycle Intervention Strategy

Intervention strategies for each road segment within the City's network were determined based on its condition state, which is one of the important indicators for the roads service level. Based on the current condition state, work categories are assigned to each road segment. Each work category / intervention approach includes several options of pavement treatment techniques, which the City could choose from when it comes to actual implementation. **Table 4-2** presents the pavement lifecycle intervention options and criteria.

Table 4-2: Pavement Lifecyle Intervention Strategy and Criteria

Treatment Category	Description	General Criteria in Terms of Road Condition Rating Category
Routine Maintenance	Routine maintenance that typically consists of relatively inexpensive treatment to immediately address specific problems such as localized potholes that may affect rideability. Refer to **Table 4-1** for the City's roads O&M activities.	Very Good
Preventive Maintenance	Pavement preservations are proactive activities, consisting of regularly scheduled treatments to preserve or hold the pavement condition. Conducting pavement preservation mitigates the need for invasive corrective action leading to reduced lifecycle costs, and extended service life. The City has a dedicated budget for annual crack sealing activities.	Good
Minor Rehabilitation	Minor rehabilitation interventions refer to road resurfacing such as overlay, or mill and overlay. It involves actions to partially remove asphalt layer and restore pavement surface condition.	Fair
Major Rehabilitation	Major Rehabilitation (e.g., pulverize and pave) involves structural and rideability enhancements that renew the service life and improve both operational condition and functional condition (load carrying capacity) of pavement structures.	Poor
Reconstruction	Reconstruction is the activity applied when the roadway has reached the end of expected service life and the above categories will not effectively restore the structural and rideability levels to provide sufficient functionality.	Very Poor

Figure 4-3 presents the detailed pavement lifecycle decision tree and the potential treatment options. The financial analysis (**Section 5**) in this AMP uses high level estimates of unit treatment cost per km assigned to these treatments.

The intervention approaches for road sections that are determined to be in the treatment category of maintenance and preservation should be reviewed and updated if needed every two years based on the next condition assessment results. It is recommended that all roads should be re-prioritized when updated condition observations, updated traffic demand, and treatment costs are available.

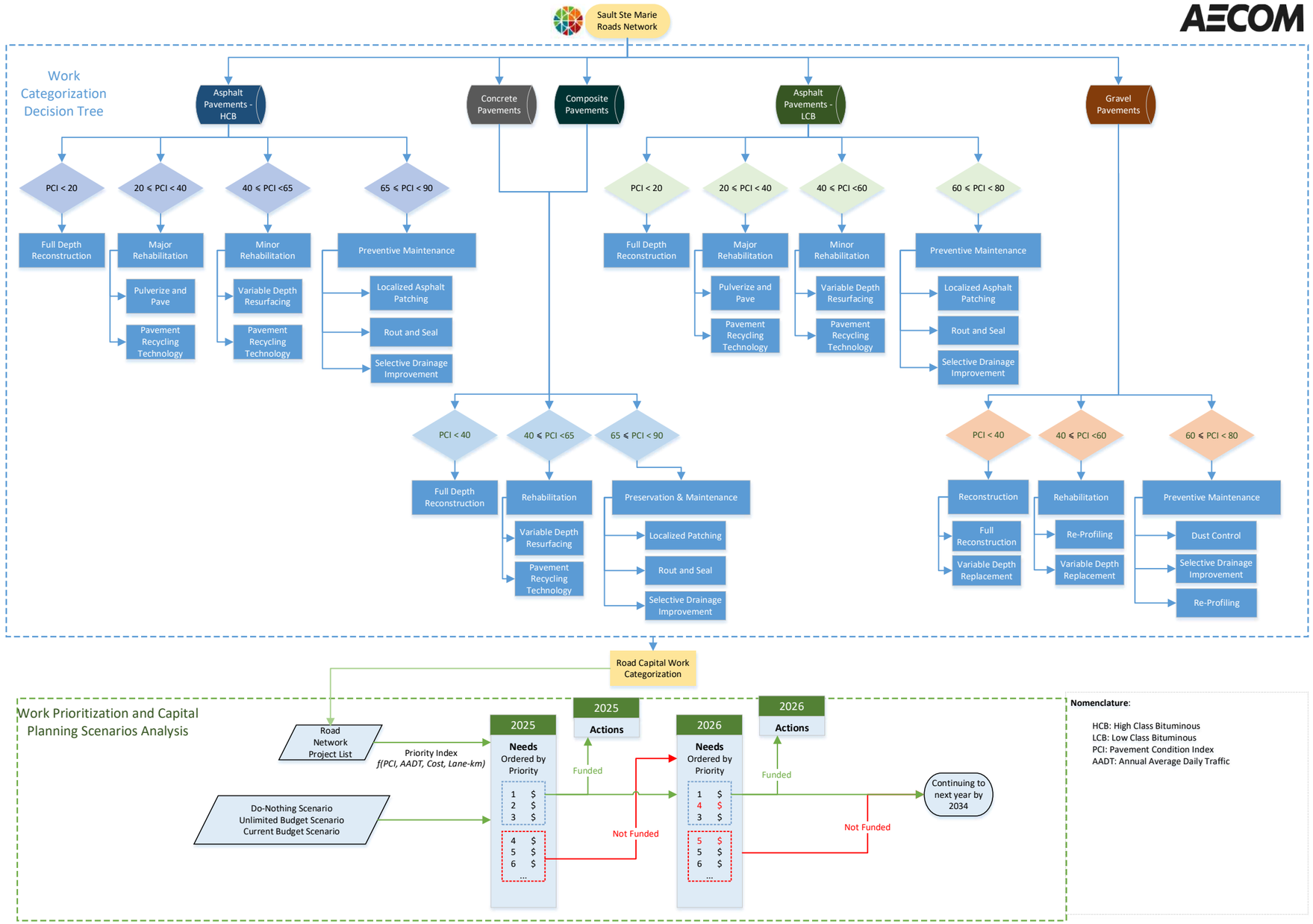


Figure 4-3: Road Lifecycle Management Decision Tree

4.3.2 Capital Work Prioritization Strategy

The work prioritization and capital planning scenarios (highlighted by green dashed box) in **Figure 4-3** which illustrates the logic to prioritize capital reinvestment work with defined funding level. The road capital reinvestment needs determined by the intervention decision tree (upper section in the figure highlighted by blue dashed line) for each pavement segment is an input for the work prioritization model.

All actions for the first year of the analysis are ranked according to Priority Index, which is a function of PCI, AADT, treatment cost, and lane-km, as shown below. The numerator is essentially the Priority Rating from the MTO Inventory Manual for Municipal Roads. Priority Index reflects the overall cost effectiveness of a road section implementing a certain treatment type.

$$Priority\ Index = \frac{0.2 \times (100 - PCI) \times (AADT + 40)^{1/4}}{Treatment\ Cost\ per\ Lane\ Km}$$

Needs are funded in this order until the budget constraint is reached for that year. Funded needs become actions for that year, but all unfunded needs are rolled over into the needs for the next year. This approach can be used to prioritize work considering various budget levels.

AECOM developed a Python-Power BI Road Lifecycle Model to implement the scenario analysis for any desired funding levels and visualize year-over-year required reinvestment activities & spending for each road segment for a 10-year period. Due to limited historical road condition data, the model assumes a deterioration rate of 2 PCI points per year. The LoS section in the financial dashboard of Power BI compares LoS metrics among various scenarios across the City's road classes. Refer to **Section 5.2** for roads scenario analysis results.

4.4 Bridge Lifecycle Management Model

The City undertakes bridge rehabilitation and replacement projects based on capital priorities recommended through OSIM. In line with the road model, the bridge asset management model is designed to prioritize rehabilitation and reconstruction primarily based on condition, measured using the Bridge Condition Index (BCI). When multiple candidate projects share similar condition ratings, prioritization is further refined using asset replacement values to ensure funding is directed toward higher-value infrastructure. To simulate future condition, the model assumes a linear deterioration rate of 1 BCI point per year for vehicular bridges, and 1.2 BCI points per year for culverts and pedestrian bridges.

5. Funding Need Analysis

5.1 Capital and Operating Budget

5.1.1 Capital Budget – Future Forecast

The City's average annual capital budget for roads from 2025 to 2029 is approximately $13.5 million. This includes $2.0 million allocated for engineering (15%), with the remaining $11.5 million used as the 2025 base budget for the financial analysis presented in a later section. The annual capital budget for bridges is estimated at $750,000 starting in 2025. From 2025 onward, a 2% annual inflation rate is applied to calculate the 10-year average capital budgets for both roads and bridges, as shown in **Table 5-1**.

Table 5-1: Capital Reinvestment Budget Forecast for Roads and Bridges

Asset Class	2025 Capital Budget	2025-2034 10-Year Average Annual Capital Budget (Inflation Considered)
Roads	$13,500,000, including a 15% engineering cost* ($2,025,000), with the remaining amount $11,475,000 containing a $75,000 budget for crack sealing as preventive maintenance	$14,782,000
Bridges	$750,000	$821,000
Total	**$14,250,000**	**$15,603,000**

* The engineering cost covers but is not limited to planning, design, and project management services.

In addition, the roads capital reinvestment costs do not include underground utility replacement costs, which are already covered in the wastewater AM plan and stormwater AM plan. Project cost and rehabilitation or reconstruction design should be further refined in advance of the actual implementation by conducting geotechnical investigations.

5.1.2 Operating Budget – Future Forecast

The City's 2025 Final Operating Budget Summary[4] outlines two operating budgets related to roads: Roadways and Winter Control – Roadways. As noted earlier, the City adheres to O. Reg. 239/02 – Minimum Maintenance Standards, with typical O&M activities including road patrol, pothole repairs, street sweeping, drainage improvements, road illumination, and visibility enhancements, among others.

As shown in **Table 5-2**, for bridges, approximately $10,000 is allocated in the 2025 operating budget. While additional funding may be sourced from other programs, it is not guaranteed and therefore excluded from this estimate. Similar to roads, a 2% annual inflation rate is applied to the 2025 bridge operating budget to calculate the 10-year average of $12.9 million.

Table 5-2: Operating Budget Forecast for Roads and Bridges

Asset Class	Budget Category	2025 Operating Budget	2025-2034 10-Year Average Annual Operating Budget (Inflation Considered)
Roads	Roadways	$4,206,000	$4,605,000
	Winter Control Roadways	$7,580,000	$8,300,000
Bridges		$10,000	$11,000
	Total	**$11,796,000**	**$12,916,000**

[4] 2025 Final Operating Budget Summary. *https://saultstemarie.ca/Cityweb/media/Finance/Budget/2025-Final-Operating-Budget-Summary-for-Website.pdf*

5.2 Capital Reinvestment Scenario Analysis

This section outlines the capital funding scenarios analyse approach, assumptions, and presents service level trends regarding asset condition under three budget scenarios:

- **S1 - Do-Nothing Scenario:** Assumes no intervention over the next 10 years. Serves as a reference to illustrate road network deterioration and emphasize the value of early intervention compared to other scenarios.
- **S2 - Unlimited Budget Scenario:** Implements all triggered work and represents the ideal scenario with the highest service level. Useful for identifying funding needs to achieve optimal performance.
- **S3 - Current Budget Scenario**: Reflects the City's current 10-year capital budget mentioned in **Section 5.1.1**.

5.2.1 Analysis Approach and Assumptions

The roads lifecycle analysis was implemented within a Python-Power BI Lifecycle Model. The first part of the analysis was performed in Python to optimize lifecycle interventions, including preventive maintenance, rehabilitation, and reconstruction. It began by utilizing the detailed road inventory and the most recent condition assessment results from 2024. This data was input into deterioration models to predict future pavement performance under various scenarios. Based on the conditions defined for each scenario, appropriate interventions were identified using established decision trees and ranked according to the Priority Index, as explained in **Section 4.3.2**. Finally, the selected projects are programmed for implementation. The second part of the analysis involved a financial dashboard developed in Power BI to present the lifecycle modeling results from Python. This Power BI dashboard offers several advantages, including enhanced data visualization, interactive filtering, and the ability to easily compare scenarios and key performance indicators.

The bridges & culverts lifecycle analysis was performed in a similar Python-Power BI Lifecycle Model. The prioritization of intervention projects were ranked based on assets condition and replacement cost.

The Road and Bridge models also use the following assumptions on inflations:

- The base year used is 2025. Any historic asset replacement values have been inflated using the experienced inflation rate from Non-Residential Building Construction Price Index (NRBCPI).
- Inflation rate: the inflation rates adopted for the financial model are presented in **Table 5-3**. The inflation for 2025 and later is determined based on the City's input.

Table 5-3: Inflation Rate[5]

Year	Inflation Rate
2022	7%
2023	7.1%
2024	6%
2025	2%
2026	2%
2027	2%
2028	2%
2029	2%
2030 - 2034	2%

[5] Past inflation data obtained from NRBCPI using the non-residential; yearly result taken from an average of quarterly results. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810027601

5.2.2 Road Assets Budget Scenarios & 10-Year Service Level Forecast

This section presents the budget scenario analysis and the 10-year service level forecast for roads.

5.2.2.1 Road Assets Funding Need

Based on the Unlimited Budget Scenario, the average annual reinvestment required for the City's road assets is estimated at approximately $33 million over the next 10 years, in inflated dollar values. This amounts to a total of roughly $331 million over the same period, as illustrated in **Table 5-4**.

Table 5-4: Road Assets 10-Year Total and Annual Average Capital Reinvestment Need

Road Class	Annual Average Need	10-Year Total
Arterial	$3,454,000	$34,538,000
Collector	$4,328,000	$43,281,000
Local	$17,787,000	$177,867,000
Rural	$7,559,000	$75,595,000
Total	**$33,128,000**	**$331,281,000**

It is important to note that there are substantial reinvestment backlogs, particularly for local and rural roads, many of which have exceeded their expected service lives or are currently rated below Fair condition. **Figure 5-1** highlights the reinvestment need spike in 2025, totaling approximately $253 million, primarily driven by these backlogs. Following this peak, the annual reinvestment needs drop significantly, ranging from $3.3 million in 2026 to $17 million by 2034, with the 10-year average $33 million represented by the green dashed line. This trend reflects a transition from addressing overdue needs to sustaining ongoing asset performance through regular reinvestment under the Unlimited Budget Scenario.

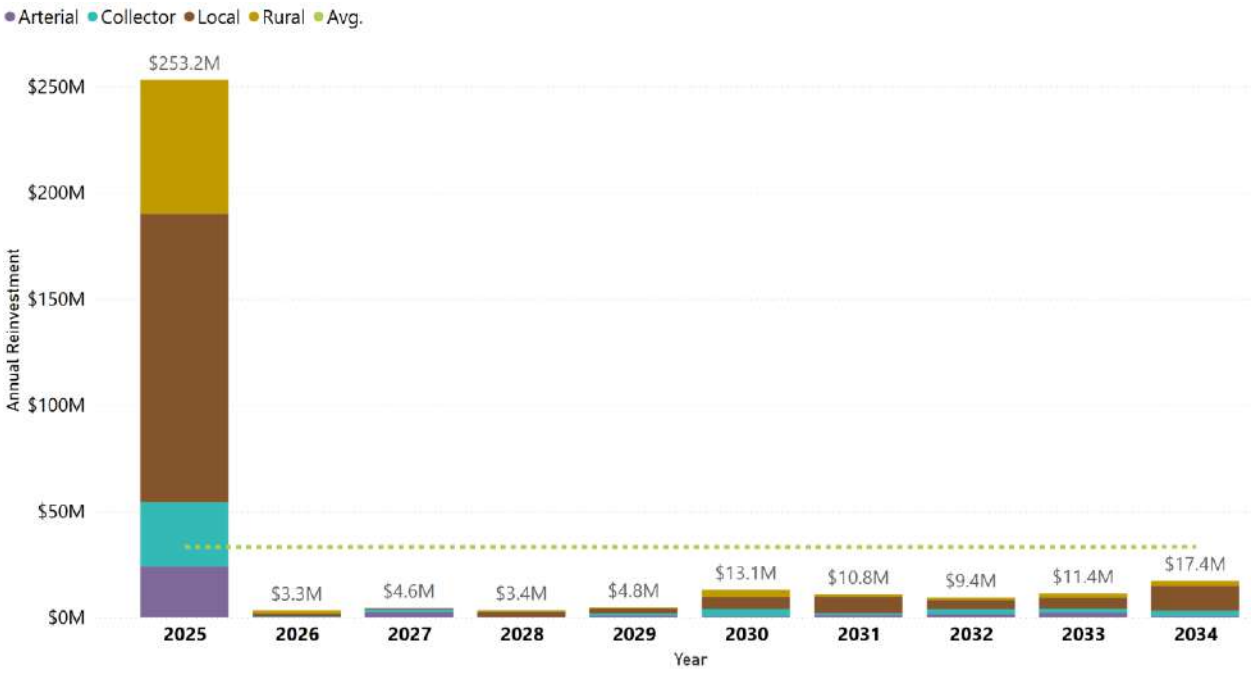


Figure 5-1: 10-Year Funding Need for Road Assets – Unlimited Budget Scenario

5.2.2.2 Road Assets 10-Year Service Level Trend Forecast

Figure 5-2 illustrates the projected Network Pavement Condition Index (PCI) from 2025 to 2034 under three funding scenarios. Without any reinvestment (Scenario 1), the PCI steadily declines from 53 to 36, reflecting significant deterioration. Under the current annual budget of $11.5 million (Scenario 3), the network condition remains relatively stable, with the PCI decreasing slightly from 53 to 52.

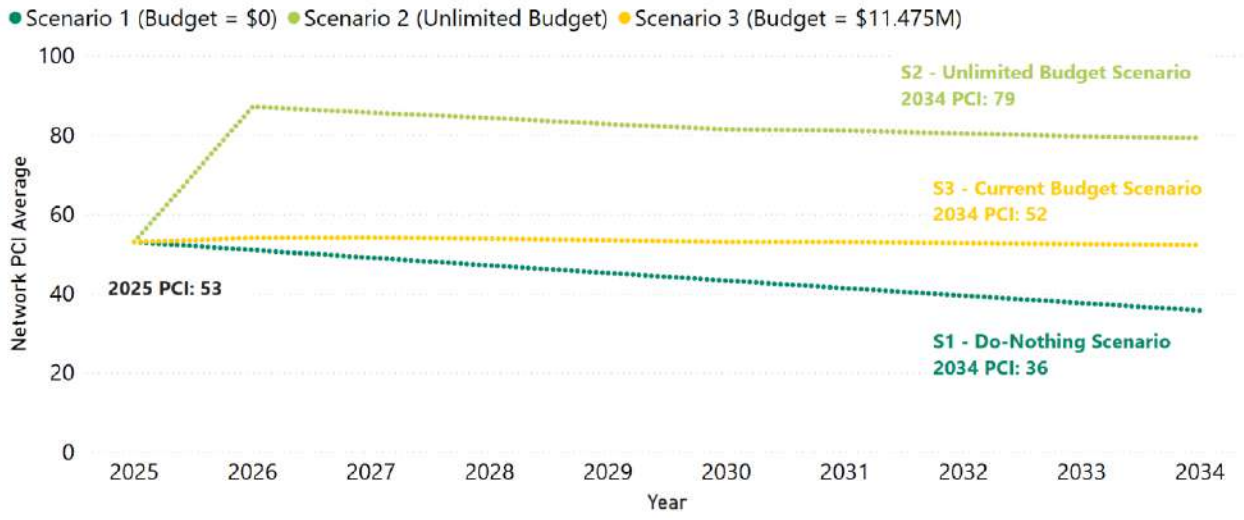


Figure 5-2: Assets Network PCI Trend in the Next 10-Year for All Budget Scenarios

Figure 5-3 presents the projected roads in Fair or better condition over a 10-year period under three funding scenarios. Currently, 67% of the road network is in Fair or better condition. Under Scenario 1 (Do Nothing), this percentage steadily declines to 41% by 2034, highlighting the deterioration that occurs without reinvestment. Scenario 3, which reflects the City's current funding level of $11.5 million annually, results in a slight decline, reaching a level of 63% of roads in Fair or better condition by 2034. In contrast, Scenario 2, which assumes an unlimited annual budget of approximately $33 million, leads to a significant improvement, achieving 100% of assets in fair or better condition by 2026, and maintaining that level through 2034.

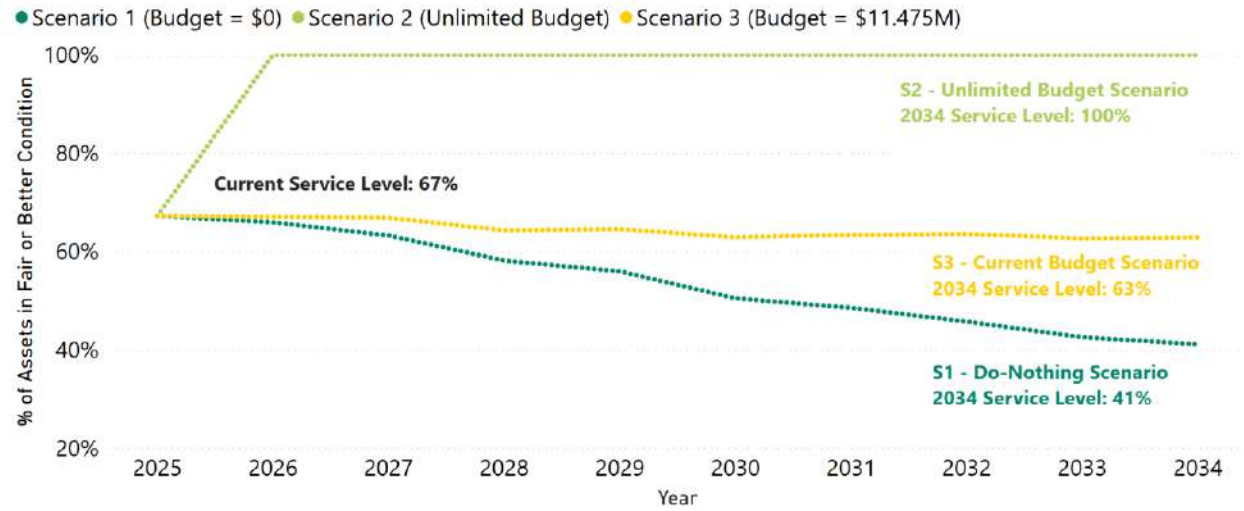


Figure 5-3: Road Assets Levels of Service Trend in the Next 10-Year for All Budget Scenarios

Moreover, Figure 5-4 illustrates the projected distribution of road asset conditions from 2025 to 2034, assuming the City maintains its current annual investment level of $11.5 million. As mentioned previously, the proportion of the network in Fair or better condition is expected to decline slightly by 4% over the 10-year period. However, a more significant concern is the increase in roads classified as Very Poor, which is projected to reach 23% by 2034, highlighting that the current budget level is insufficient to address all deteriorating assets.

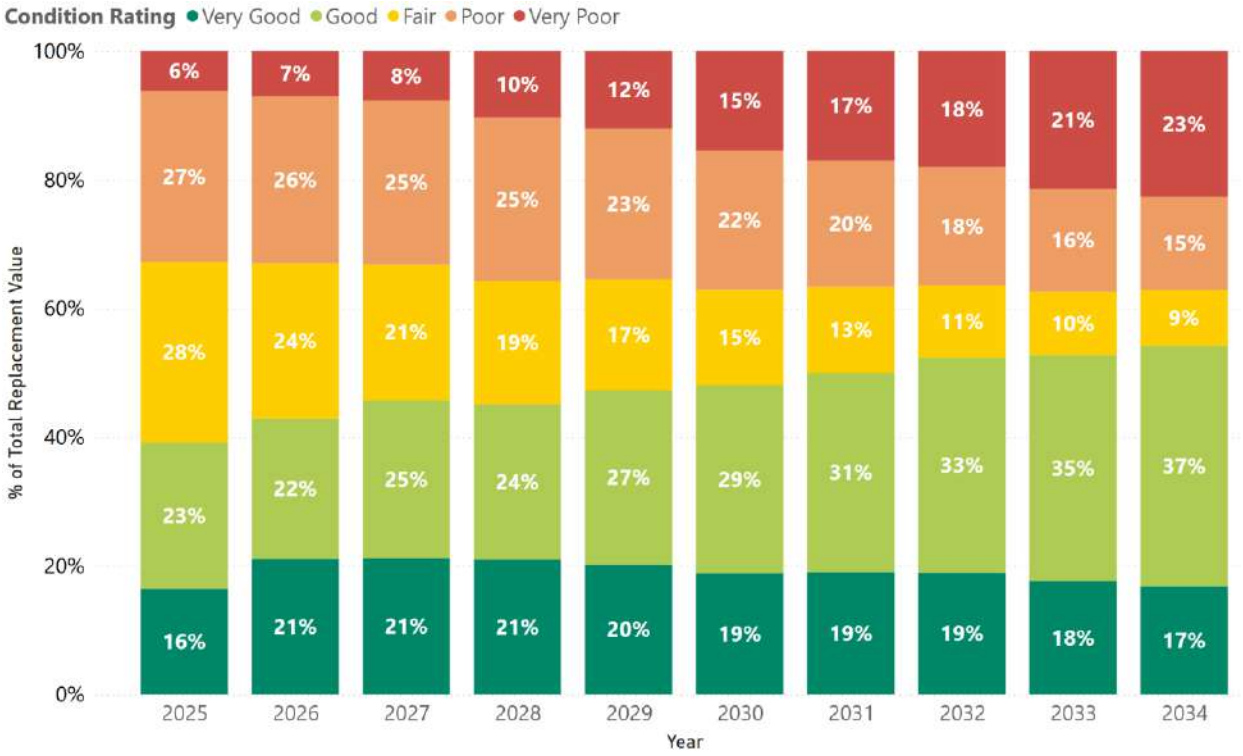


Figure 5-4: Road Assets Condition Projection Under Scenario 3 - City's Current Budget

Effective pavement management emphasizes preserving roads in Fair or better condition before significant deterioration occurs. Intervening early in the pavement distress cycle extends service life and helps avoid the substantially higher costs associated with major rehabilitation or full reconstruction. This proactive approach enables the City to stretch limited maintenance funds further, delivering quicker and more widespread improvements across the network.

While the City acknowledges the need to fully reconstruct roads in Poor or Very Poor condition, current funding levels make it impossible to address all such needs in the near term. As a result, investment decisions must take a broader, network-level view—balancing available budgets, rising construction costs, and potential coordination with underground utility works. Priority is given to treatments that deliver the greatest long-term value for the entire road system.

5.2.3 Bridge & Culvert Assets Budget Scenarios & 10-Year Service Level Forecast

This section presents the budget scenario analysis and the 10-year service level forecast for bridges & culverts.

5.2.3.1 Bridge & Culvert Assets Funding Need

Table 5-5 summarize the projected annual reinvestment needs under the Unlimited Budget Scenario for the City's bridge assets, including vehicular bridges, culverts, and pedestrian bridges, over a 10-year period. The total estimated reinvestment need across all asset types is approximately $10.7 million, with an annual average of $1.07 million. Bridges represent the largest share of this need, requiring $853,000 annually, followed by culverts at $188,000, and pedestrian bridges at $28,000.

Table 5-5: Bridge & Culvert Assets 10-Year Total and Annual Average Capital Reinvestment Need

Asset Category	Asset Type	Annual Average Need	10-Year Total
Vehicular Bridges	Bridges	$853,000	$8,528,000
	Culverts	$188,000	$1,882,000
Pedestrian Bridges	Pedestrian Bridges	$28,000	$285,000
Total		**$1,069,000**	**$10,695,000**

Furthermore, **Figure 5-5** shows annual reinvestment needs for bridges and culverts, with a $5.3 million peak in 2025 due to near-term rehabilitation and replacement needs to address existing backlog.

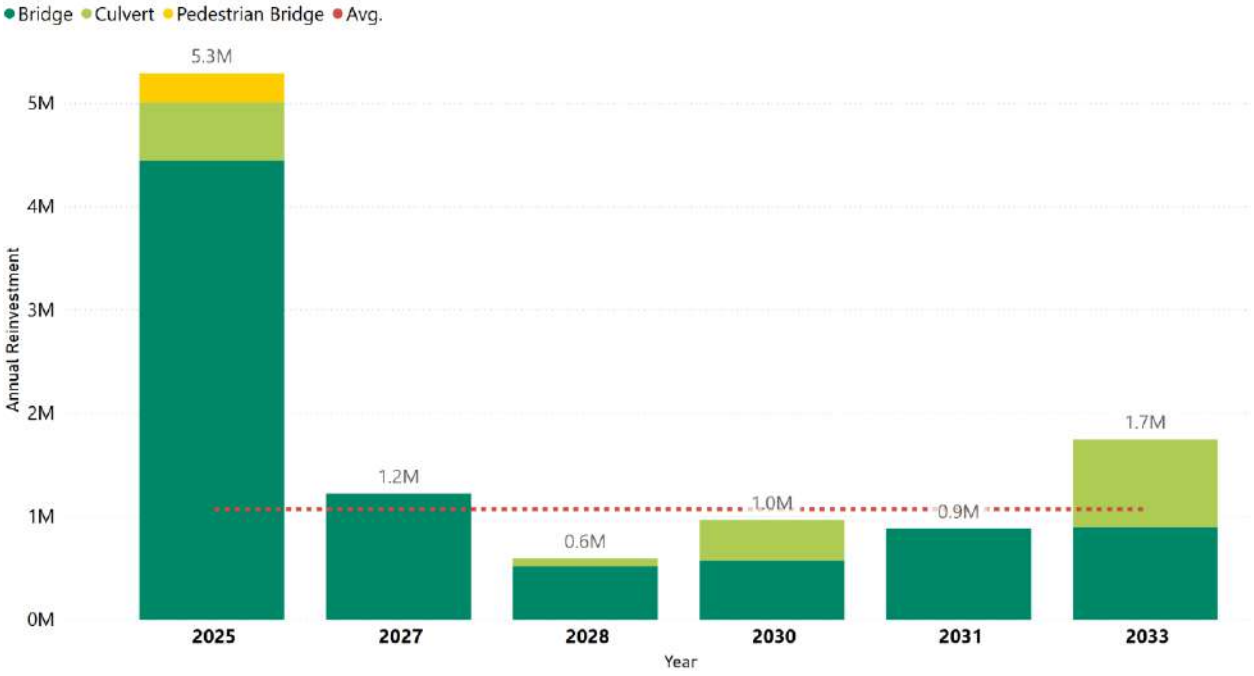


Figure 5-5: 10-Year Funding Need for Bridge Assets – Unlimited Budget Scenario

5.2.3.2 Bridge & Culvert Assets 10-Year Service Level Trend Forecast

Figure 5-6 illustrates the projected percentage of bridge & culvert assets in Fair or better condition over a 10-year period under three funding scenarios. The current service level is 94%, meaning the vast majority of bridges & culverts are in fair or better condition as of 2025.

Under Scenario 1 (Do-Nothing, Budget = $0), the service level remains relatively stable, declining to 94% by 2034, indicating that most assets will retain acceptable condition over the short to medium term. In contrast, Scenario 2 (Unlimited Budget) and Scenario 3 (Current Budget = $750,000 annually) both improve the network's condition to 100% of assets in Fair or better condition by 2027 and maintain that level through 2034. This shows that the current budget is sufficient to gradually bring the lower-condition assets into good condition and sustain a high service level over the planning horizon.

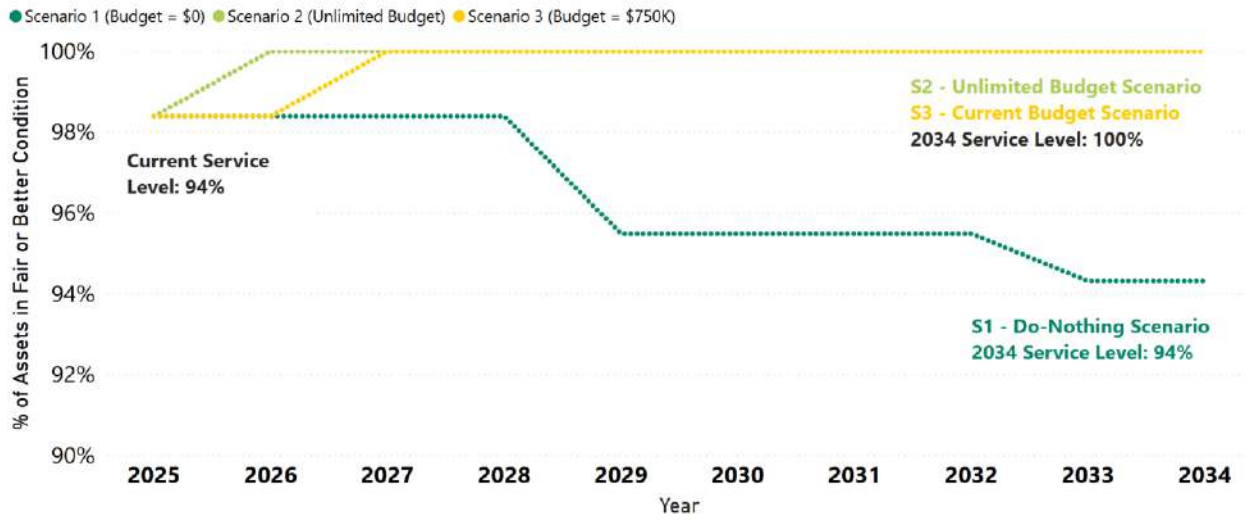


Figure 5-6: Bridge & Culvert Assets Levels of Service Trend in the Next 10-Year for All Budget Scenarios

Figure 5-7 presents the projected condition distribution of bridges & culverts over a 10-year period, assuming the City continues with its current annual investment level of $750,000.

In 2025, approximately 32% of the total replacement value of assets is rated Very Good, 49% is Good, 17% is Fair, and 2% is Poor. No bridge or culvert is in Very Poor. Over time, the condition distribution shifts toward better performance, with the percentage of assets rated Good increasing from 49% in 2025 to 63% by 2034. Meanwhile, Very Good condition assets gradually decline to 22% by 2034, reflecting the natural aging of assets despite reinvestment. Most notably, the portion of assets in Poor condition is effectively eliminated after 2026 and remains at 0% through 2034, while the Fair category also decreases from 17% to 15%, indicating a net improvement across the network.

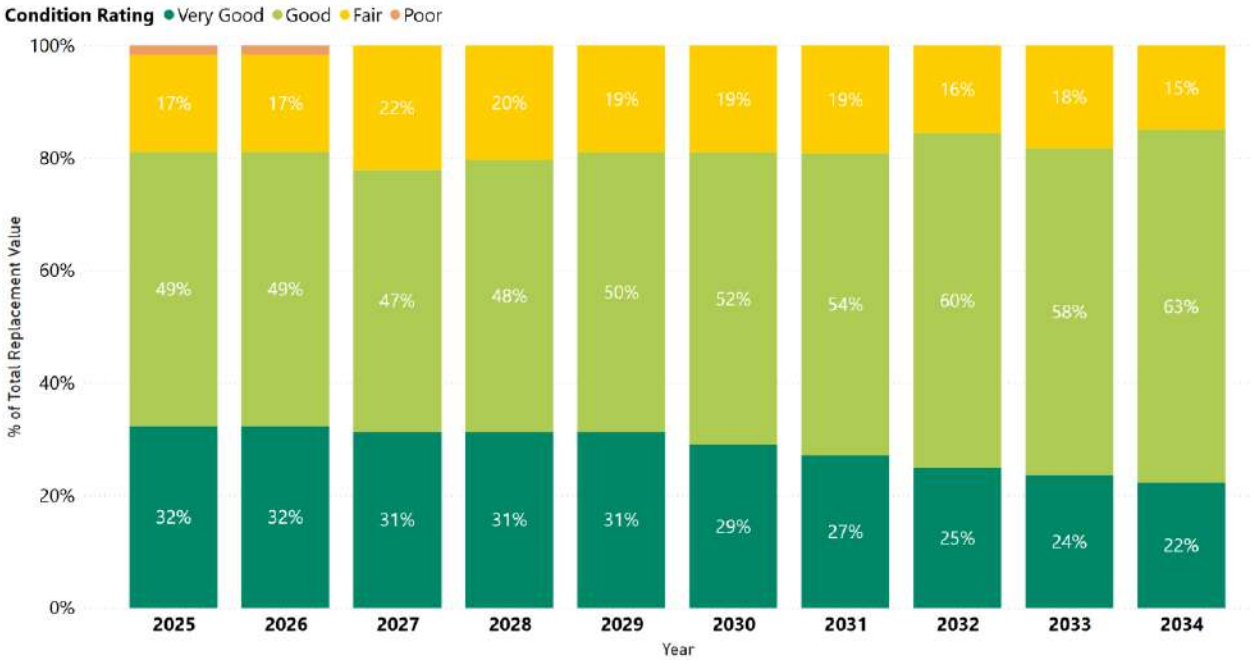


Figure 5-7: Bridge Assets Condition Projection under Scenario 3 - City's Current Budget

5.3 Growth Related Capital Funding Need

The growth-related capital funding identified for road services includes the Sackville Road Extension project, valued at $7.4 million, which covers both roadway and utility construction and is planned for implementation in 2026. As of now, no growth-related capital funding for bridges has been identified through 2029. Given the limited expansion of the road and bridge networks, it is assumed that no significant increase in the O&M budget will be required over the next 10-year period from 2025 to 2034.

5.4 Full Funding Profile

This section shows a full funding profile in inflated dollar value (growth related lifecycle cost not included) for the City's roads and bridges under the Current Budget Scenario for the next 10 years.

Figure 5-8 illustrates the roads full funding profile including reinvestment (including engineering, preventive maintenance, minor and major rehabilitation, and reconstruction) and O&M. The average annual roads full funding level is approximately $28 million (dotted orange line). The largest portion of funding is consistently allocated to O&M activities, followed by minor and major rehabilitation. Reconstruction and engineering portions are relatively smaller but remain critical components of long-term roads planning.

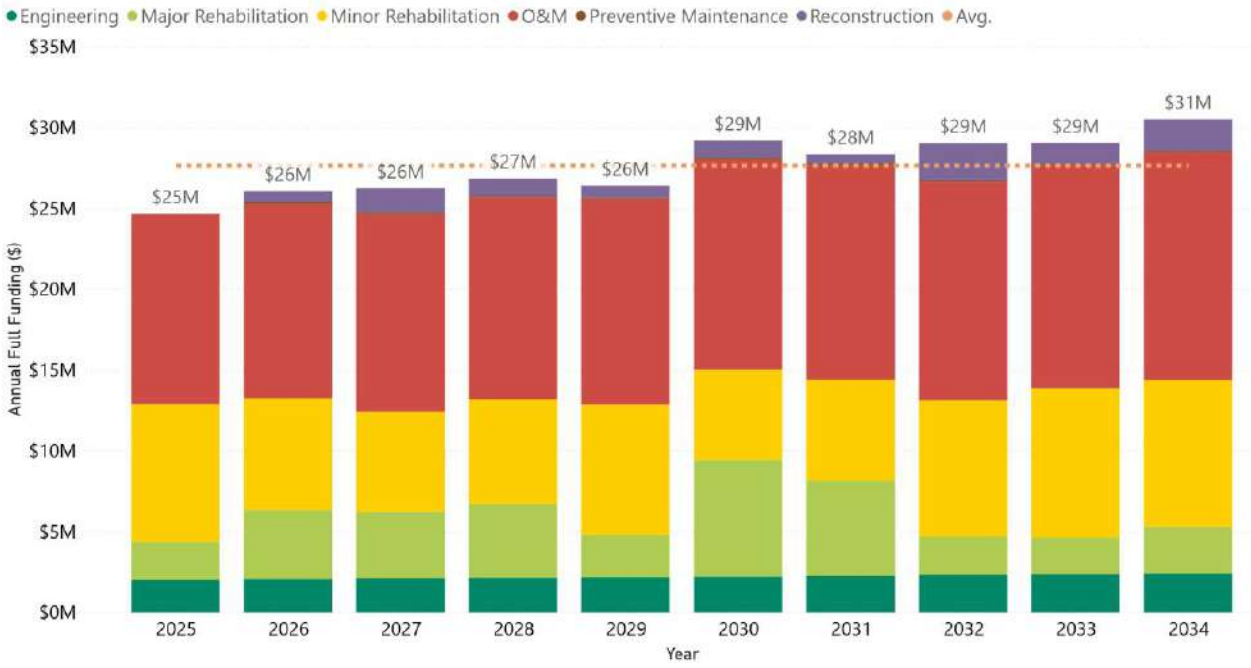


Figure 5-8: Roads Full Funding Profile Based on City's Current Capital Reinvestment Budget Scenario

Figure 5-9 shows the full funding profile for bridges & culverts, including O&M, rehabilitation, and reconstruction. The average annual full funding level is approximately $826,000. Rehabilitation makes up the vast majority of full funding, while O&M costs remain minimal.

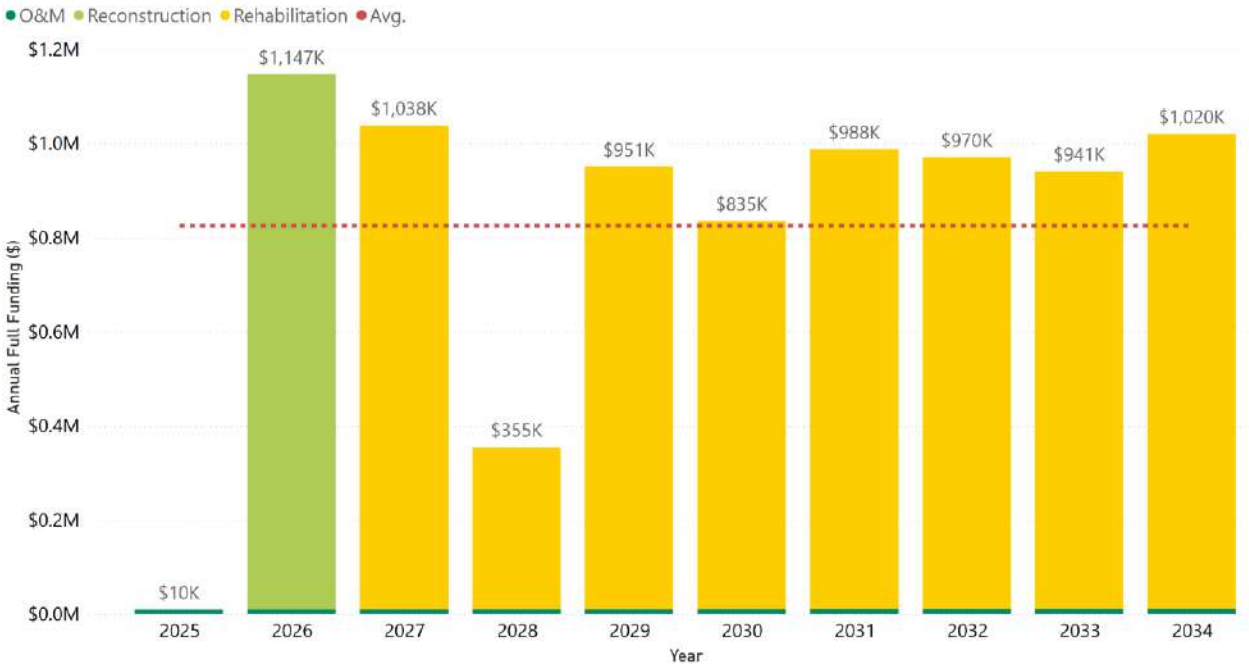


Figure 5-9: Bridges & Culverts Full Funding Profile Based on City's Current Capital Reinvestment Budget Scenario

5.5 Funding Gaps & Risks

The City intends to continue to invest in the growth and renewal of the road and bridge assets over the next 10 years. Table 5-6 compares the City current capital reinvestment budget against the capital reinvestment funding needs under the Unlimited Scenario. The difference between these two values is referred to as the "funding gap".

Table 5-6: Funding Gap – Capital Reinvestment Funding Needs vs. Budget Forecast

Asset Class	10-Year Need Total (Unlimited Scenario)	10-Year City Budget Total (Current Budget Scenario)	10-Year Gap Total
Roads	$331,281,000	$125,200,000	$206,081,000
Bridges & Culverts	$10,695,000	$8,146,000	$2,549,000
Total	**$341,976,000**	**$133,346,000**	**$208,630,000**

Table 5-7 provides a high-level overview of the key risks associated with delayed intervention due to funding gaps.

Table 5-7: Risk of Delayed Intervention for Roads, Bridge, and Culverts

Key Risk	Asset	Potential Consequences/Impacts
Inconsistent Service Level Expectations	Roads	Delayed intervention might lead to unclear service level expectations. **Impacts include:** • Inconsistent maintenance and investment decisions • Misalignment between public expectations and actual service • Inefficient use of limited budgets • Difficulty in prioritizing projects across the network • Reduced transparency and accountability in planning • Increased public dissatisfaction and complaints • Difficulty justifying funding requests or capital plans • Fragmented coordination with utility and development partners

Key Risk	Asset	Potential Consequences/Impacts
Inconsistent Service Level Expectations	Bridges & culverts	Delayed intervention might lead to unclear service level expectations. **Impacts include:** • Inconsistent inspection and maintenance cycles • Delayed interventions leading to accelerated deterioration • Increased safety risks and potential structural failures • Increased legal liability and higher insurance premiums • Increase environmental and regulatory non-compliance (e.g., erosion, sedimentation, and habitat damage by blocked culverts) • Unplanned load or access restrictions • Inefficient allocation of capital and maintenance funds • Difficulty prioritizing repairs and replacements • Limited ability to justify funding needs • Public dissatisfaction and potential liability claims
Deterioration Beyond Optimal Intervention Stage	Road, Bridges, and Culverts	Delayed or inadequate lifecycle interventions lead to asset deterioration beyond optimal intervention windows. **Impacts include:** • Accelerated deterioration of roads, bridges, and culverts • Significantly higher future rehabilitation or reconstruction costs • Shortened asset lifespan and reduced return on investment • Inability to meet performance targets and service level commitments
Insufficient Funding for O&M	Road, Bridges, and Culverts	Delayed capital reinvestment could result in higher funding needs for O&M. **Impacts include:** • More frequent repairs to address recurring issues (e.g., potholes, erosion) • Increased need for monitoring and inspections • Higher risk of emergency interventions and reactive maintenance • Reduced operational efficiency and increased reactive maintenance costs • Escalating future rehabilitation and capital costs • Decreased user safety, satisfaction, and mobility
Higher Vulnerability of Assets to Emergencies or Extreme Weather Events	Road, Bridges, and Culverts	Infrastructure may lack resilience to withstand climate-related or unforeseen events. **Impacts include:** • Increased frequency and severity of service disruptions during storm or flood events • Higher safety risks to the public and maintenance crews • Emergency repairs diverting funds from planned programs • Infrastructure failure causing damage to adjacent properties and the environment

5.6 Funding Sources & Alternative Strategies

The Funding Gap represents the shortfall between optimal and forecasted funding levels. Addressing this gap requires careful strategic consideration. Options may include increasing revenues (e.g., user rates, taxes), issuing debt, adjusting the LoS, or accepting elevated asset-related risks. Each of these choices involves trade-offs that must be weighed in light of financial sustainability, regulatory obligations, and community expectations.

The City's current internal funding and external funding source include, but not limited to:

- Carryover from the previous year.
- Ontario Community Infrastructure Funding (OCIF).
- Canada Community-Building Fund (CCBF), formerly known as the federal Gas Tax Fund.
- Connecting Link (CL) for roads.

- Northern Ontario Resource Development Stream (NORDS).
- Building Faster Fund (BFF).

Looking ahead, the City recognizes the need to explore both financial and non-financial strategies to support the long-term delivery of road and bridge services. On the financial front, the City will continue to pursue external grant opportunities and seek Council approval for project-specific co-funding when appropriate. There have also been internal discussions about the potential to fund road renewal components through sanitary infrastructure, which is sometimes the primary cost driver of a project.

Beyond financial tools, non-financial strategies offer valuable levers to manage service expectations within existing fiscal constraints. These include:

- **Prioritize high-use corridors and critical infrastructure**.
- **Strengthening asset management practices** to improve forecasting, risk-based prioritization, and evidence-based decision-making. Risk is considered by the City in the asset management decisions, but establishing a structured and consistent risk assessment process will enhance the transparency and repeatability of decision-making.
- **Leveraging inter-municipal partnerships** for shared procurement, joint infrastructure studies, or coordinated submissions for regional grant applications.
- **Engaging the public and Council early** to align expectations on affordable service levels and prioritize transparency in decision-making.
- **Integrating climate resilience and accessibility goals** into infrastructure planning, which can enhance eligibility for both provincial and federal funding programs.

One particularly impactful strategy is assigning **dedicated staff resources** to support infrastructure grant applications. This role provides focused attention on identifying and securing external funding, ensuring a deep understanding of eligibility requirements, submission processes, and deadlines—thereby reducing the risk of missed opportunities. Furthermore, a dedicated resource can build strong relationships with funding agencies, monitor emerging programs, and tailor applications for greater competitiveness.

6. Implementation Plan and Continuous Improvement

Continuous improvement to management of owner assets is an important component of any AM program and is achieved through the implementation of recommended improvement initiatives which support sustainable service delivery.

Based on the results of AECOM's analysis, a suite of improvement initiatives has been identified for the next phase of AM planning for the City's road and bridge assets, as outlined below:

- **Recommendation 1: Develop a Data Management Plan to provide a holistic and consistent approach to the City's data management practices for roads, bridges, and culverts**.

  A Data Management Plan outlines how data is collected, stored, maintained, shared, and used to support informed decision-making. Key components include data governance, data collection, data quality control, centralized databased, lifecycle tracking, interdepartmental coordination, security and access control, and data sharing protocols.

  As part of the plan, a Data Governance Framework includes developing an asset information and data standards strategy to clearly define what asset data exists, who is accountable for managing it, methods of data collection, and safeguarding data quality. The successful deployment of a Data Governance Framework aims to achieve the following benefits:

  - Enhanced data integrity to support reliable analysis.
  - Improved data management workflows and processes.
  - Improved AM reporting.
  - Clearly defined data management roles & responsibilities.

- **Recommendation 2: Refine asset data and fill data gaps to make more informed and defensible decisions.**

  Continue to collect data and fill gaps in the GIS inventory as identified in **Section 2.3** to have a more accurate representation of the current state of the roads and bridges. It is recommended that the City continues to merge asset data from various drawings, spreadsheets, and other databases through the process of digitizing, transforming, or georeferencing assets to capture the whole inventory.

  - Continue to update dynamic inventory attributes including condition rating, traffic counts, maintenance and rehabilitation activities, road classification from minimum maintenance standards, etc. by using the unique road asset ID.
  - Collect construction and rehabilitation date information to assist in projecting future pavement deterioration, which is one of the important components for informing pavement AM planning.
  - Updating road inventory after rehabilitation and reconstruction to reset service life and intervention history and reflect current pavement attributes and condition, supporting accurate lifecycle planning and improving budgeting and performance tracking.

- **Recommendation 3: Refine the Levels of Service Framework.**

  This AMP represents the City's Levels of Service in alignment with the requirements of O. Reg. 588/17 July 1, 2025, deadline. The City will continue its efforts to:

  – Regularly record LoS performance measures to monitor changes over time and identify emerging trends.

  – Review and update performance measures as needed to ensure they remain relevant and effective.

  - Periodically assess proposed LoS to confirm alignment with shifting community expectations, regulatory changes, City priorities, available resources, and observed performance trends—supporting adaptive and responsive service delivery.
  - Continuously enhance demand management by routinely evaluating future demand drivers that influence service delivery and asset use, integrating these insights into long-term capital planning to ensure LoS remains responsive to changing needs.

- **Recommendation 4: Develop a Risk Assessment Framework and use risk scores to drive financial needs forecasting.**

  The use of a risk-based approach to inform financial needs provides a clear direction in maintenance, rehabilitation, and replacement work in terms of balancing priorities. It also provides transparency to the public and other stakeholders to demonstrate that decisions are made in an impartial and consistent manner, without unreasonable bias, and in accordance with agreed upon policy and priorities.

- **Recommendations 5: Balance the funding needs with asset performance**

  For roads, at current funding levels, the overall road network LoS will decline only slightly—from an average PCI of 53 to 52, and from 67% to 64% of roads rated in Fair or better condition. However, the proportion of local and rural roads in Very Poor condition is expected to continue rising. To address all roads requiring preventive maintenance, rehabilitation, and reconstruction, the Unlimited Scenario estimates a total 10-year funding need of approximately **$332 million**—significantly higher than the current 10-year budget of $126 million, considering inflation. For bridges and culverts, the Unlimited Scenario estimates a total 10-year funding need of approximately **$11 million**, compared to the current 10-year budget of $8 million (inflation-adjusted). While there is a funding gap for bridges and culverts, it is not as significant as that for roads. The analysis indicates that the current funding level is sufficient to maintain all bridges and culverts in Fair or better condition by 2034.

  This budget shortfall, particularly in roads, underscores the urgent need for long-term financial planning and increased funding commitments to address the growing backlog, particularly on local and rural roads. Given the limited annual budget, the City is encouraged to assess funding needs based on different service levels, establish realistic short- and long-term LoS targets, and adopt both financial and non-financial strategies to gradually close the funding gap and maintain assets in a state of good repair.

- **Recommendation 6: Evaluate the use of a Computerized Maintenance Management System (CMMS) and Decision Support System (DSS) for Coordinated Capital Planning and O&M Management**

  The implementation of a CMMS and DSS would enable the City to optimize capital planning and consistently manage and track asset operations and maintenance activities across all asset classes. These systems support data-driven decision-making, improve coordination between departments, and enhance the ability to prioritize investments based on condition, risk, and service levels. It is recommended that the City conduct an AM Software Assessment to identify future system requirements that may include enhancing existing software, adding-on, or replacing.

- **Recommendation 7: Refine the lifecycle model and update the model periodically as new information becomes available.**

  The roads lifecycle model is based on a wide range of data inputs, currently available information, and a number of assumptions, and is therefore at best a high-level estimate of future needs.

  - Review and update lifecycle model parameters, such as priority index, replacement values, unit treatment cost, treatment trigger conditions (decision trees) and reset values, and deterioration models.
  - Rerun the model with latest information as it becomes available.
  - When there is a new iteration of pavement asset condition information, it is recommended the City to use the updated pavement condition in the model and refresh the capital reinvestment forecast to better inform asset reinvestment needs.

- **Recommendation 8: Continue to find ways to improve AM initiatives across the City by maintaining a high level of AM awareness through training, AM buy-in, communication, and knowledge sharing.**

ISO 55010[6] identifies that the financial and non-financial functions of AM within organizations are generally inadequately aligned. The lack of alignment between financial and non-financial functions can be attributed to silos in an organization, including reporting structures, functional / operational business processes, and related technical data. Financial and non-financial alignment needs to work both “vertically” and “horizontally”, as follows:

- Vertical Alignment: financial and non-financial asset-related directives by management are informed by accurate upward information flows, effectively implemented across the appropriate levels of the organization.
- Horizontal alignment: financial and non-financial information that flows between departments conducting functions such as operations, engineering, maintenance, financial accounting, and management, etc. should use the same terminology and refer to the assets identified in the same way.

- **Recommendation 9: Develop a Knowledge Retention Strategy to document staff AM knowledge and experience for succession planning purposes.**

  Communicate AM improvement initiatives and enhance AM awareness through internal communication.

- **Recommendation 10: Develop a Change Management & Communications Plan.**

  AM buy-in and support are needed from all levels of the City to ensure that AM standards, practices, and tools are properly adopted and incorporated into day-to-day work activities. A successful Change Management & Communications Plan will depend on the following factors:

  – AM buy-in from Council, senior management, staff, and departments.
  – AM objectives are realistic and achievable.
  – AM improvement initiatives are appropriately resourced.
  – A network of AM champions is developed and empowered across the City.

- **Recommendation 11: Establish a Public and Council Engagement Framework**

  Establish a structured approach to public and Council engagement to ensure the AMP aligns with community expectations, supports informed decision-making, and enhances transparency, the City is committed to establishing a structured approach to public and Council engagement. While several engagement activities have already been undertaken, these efforts lay the foundation for a more consistent and strategic approach moving forward.

  For Council engagement, the City has held presentations and conducted media events to share key project updates. It is recommended the development of Councillor Tool Kits could equip elected officials with clear and consistent messaging, including project overviews and frequently asked questions, to help them confidently respond to inquiries from residents. Suggested content for the tool kits includes:

  – Overview of the City’s Infrastructure Network
  – Unique Conditions and Localized Challenges
  – Investment in Infrastructure: Past, Present, and Future
  – How the City Plans and Delivers Maintenance
  – Why Continued Investment in Infrastructure Is Critical
  – Asset Types and How They Guide Investment Priorities
  – Introduction to Asset Management Principles
  – Service Levels: What Residents Can Expect
  – How Climate Change Impacts Infrastructure and their Maintenance

[6] International Organization for Standardization (2019): ISO 55010 - Asset management — Guidance on the alignment of financial and non-financial functions in asset management

- Leveraging Technology to Improve Infrastructure Management
- Funding Sources and Budget Allocation
- How Infrastructure Are Prioritized and Selected for Maintenance

On the public engagement side, the City has shared information through existing channels, and this could be enhanced through a dedicated project webpage. This webpage would serve as a central hub for infrastructure planning updates, offering frequently asked questions, downloadable resources, project timelines, contact information, and an interactive feature to encourage two-way communication. A targeted social media strategy is also recommended to further broaden outreach—leveraging platforms such as Facebook and Instagram, including the use of sponsored posts to promote project milestones and public input opportunities.

The recommended engagement strategies would help foster public trust, define customer-focused performance targets, and ensure that the AMP reflects the evolving priorities of both Council and the broader community.

APPENDIX A

Roads MS Excel Inventory

A



Appendix A - Roads MS Excel Inventory

The City's roads inventory is presented as a separate MS Excel file.

APPENDIX B

Bridges and Culverts MS Excel Inventory

B



Appendix B - Bridges and Culverts MS Excel Inventory

The City's bridges and culverts inventory is presented as a separate MS Excel file.

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SAULT STE. MARIE

CITY OF SAULT STE. MARIE

ACTIVE TRANSPORTATION ASSET MANAGEMENT PLAN

FINAL | 60735219 | June 2025



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List of Abbreviations

Abbreviation	Description
AM	Asset Management
AMP	Asset Management Plan
CCBF	Canada Community-Building Fund
CEPA	Canadian Environmental Protection Act
CVOR	Commercial Vehicle Operating Registration
EAF	Enabling Accessibility Fund
ESL	Expected Service Life
GIS	Geographic Information System
ICI	Industrial, Commercial & institutional
LoS	Level of Service
MAMP	Municipal Asset Management Program
MMS	Minimum Maintenance Standards
NOHFC	Northern Ontario Heritage Fund Corporation
NRBCPI	Non-Residential Building Construction Price Index
O&M	Operations and Maintenance
O. Reg.	Ontario Regulation
OCIF	Ontario Community Infrastructure Funding
OMCC	Ontario Municipal Commuter Cycling Program
RSL	Remaining Service Life
SME	Subject Matter Expert

1. Introduction

AECOM Canada ULC. (AECOM) was retained by The City of Sault Ste. Marie (the "City") to update an asset management plan (AMP) developed in 2024 to comply with the third phase (Phase III) of the Ontario Regulation 588/17 (O. Reg. 588/17) in respect to its non-core municipal infrastructure assets. The scope of work for this investigation is outlined in AECOM's proposal dated September 20, 2024, and subsequent project correspondence.

1.1 Background

Sault Ste. Marie is a city located on the St. Mary's River, north of the United States of America, bordering three of the Great Lakes with an estimated population of 72,051 (2021). The City provides a wide range of public services to their constituents, with the public expectation that these services function efficiently at a certain level. The provision of these services requires the management of the physical assets to meet desired service levels, manage risks, and provide long-term financial sustainability. These assets include, but are not limited to roads, bridges, sidewalks, wastewater assets, stormwater management assets, landfill, fleets, buildings, and parks.

In accordance with the terms of reference for this assignment, it is understood that the City is proceeding with an AMP to comply with the second phase of the regulatory requirements in respect to its non-core municipal infrastructure assets, in accordance with O. Reg. 588/17, by July 1st, 2025. The non-core assets to be covered in the scope, as defined by the regulation, include the City's protection services, solid waste, parks and cemetery, facilities, fleet, roadway appurtenances, and active transportation.

1.2 Objectives

The objective of this AMP is to deliver a financial and technical roadmap for managing the City's Active Transportation (AT) assets and to provide the means for the City to maximize value from its assets, at the lowest overall expense, while at the same time enhancing service levels for its residents. Furthermore, the objective of this AMP is to align with the guidelines laid out in the City's Strategic AM Policy and Section 5 of Ontario Regulation (O. Reg.) 588/17.

Organizations that implement good asset management (AM) practices will benefit from improved business and financial performance, effective investment decisions, and better risk management. Stakeholders can expect lower total asset life cycle costs, higher asset performance, and confidence in sustained future performance.

1.3 Asset Management Provincial Requirements

The O. Reg. 588/17 came into effect in 2018 and stipulates specific AM requirements to be in place within Ontario municipalities by certain key dates (**Table 1-1**). The development of this AMP is one of the steps to guide the City towards meeting the July 1st, 2025 deadline.

Table 1-1: O. Reg. 588/17: AM Planning for Municipal Infrastructure

Deadline Date	Regulatory Requirement
July 1st, 2019	All municipalities are required to prepare their first Strategic AM Policy.
July 1st, 2022	All municipalities are required to have an AM Plan for its entire core municipal infrastructure (i.e., water, wastewater, stormwater, roads, and bridges & culverts).
July 1st, 2024	All municipalities are required to have an AM Plan for infrastructure assets not included under their core assets.
July 1st, 2025	All AM Plans must include information about the LoS that the municipality proposes to provide, the lifecycle activities and associated costs needed to achieve those LoS, available funding, any funding shortfalls, and the risk of failing to meet the proposed LoS..

1.4 Scope

The following elements are included within the scope of this AMP:

- A summary of the asset inventory, including the replacement cost of the assets, the average age of the assets, the condition of the assets, and data gap analysis (**Section 2**).
- The City's level of service objectives, stakeholder identification, current levels of service (LoS) determined in accordance with the qualitative descriptions and technical metrics outlined in O. Reg 588/17, proposed service levels, LoS forecast, and future demand drivers (**Section 3**).
- Asset lifecycle management strategies, lifecycle activities and funding needs to achieve proposed LoS, risk of not meeting proposed LoS, available funding and funding gap, and alternative (non-financial) strategies to manage funding shortfall (**Section 4** and **5**).

1.5 Relationship to Other Corporate Documents

This AMP is a tactical plan which links "top-down" strategic objectives with "bottom-up" operational activities. **Figure 1-1** demonstrates the line-of-sight between AM strategic objectives and tactical and operational AM elements, including the relationship this AMP has to the other plans in the City's hierarchy of documents.

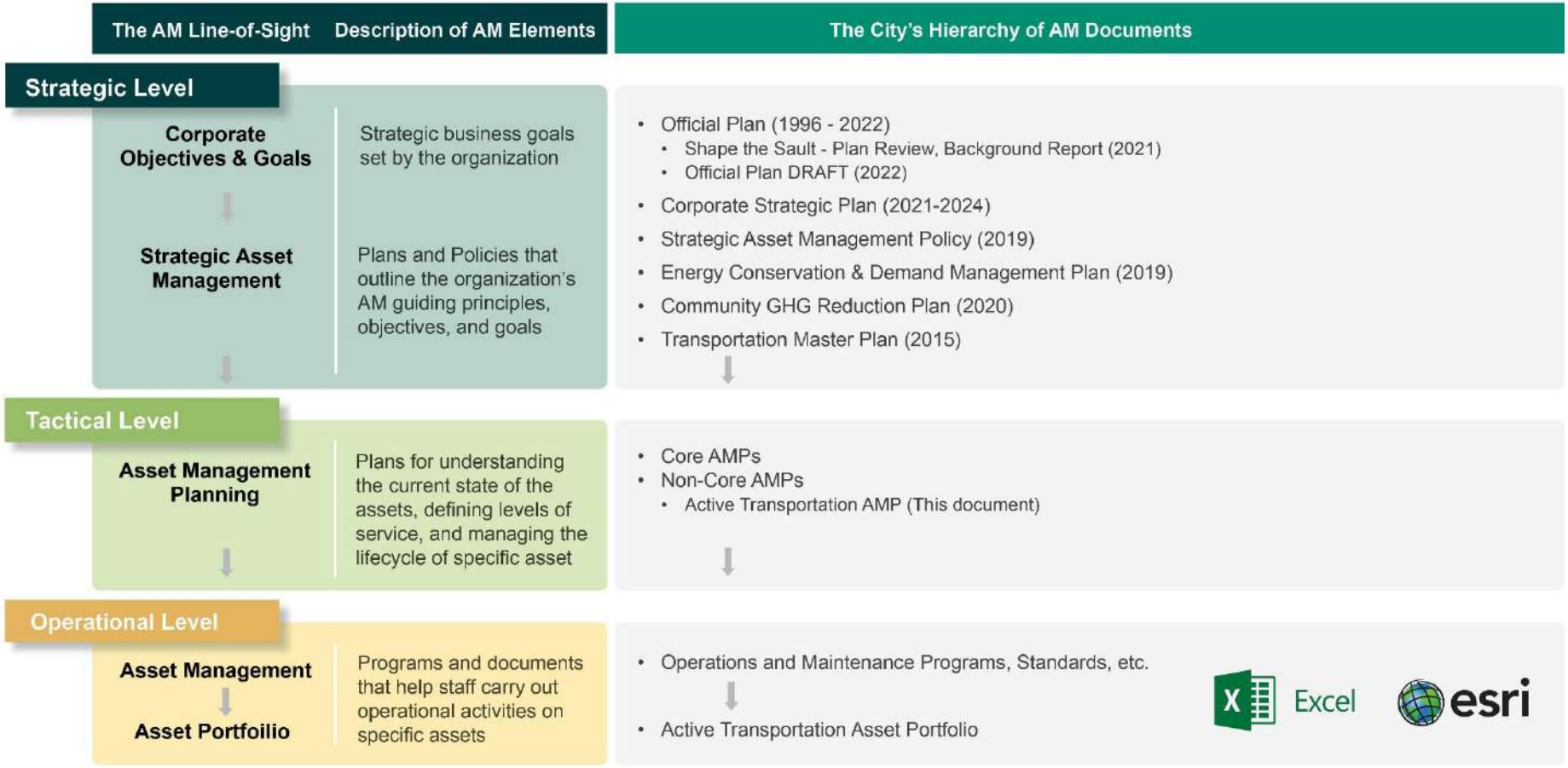


Figure 1-1: The City's Asset Management Line of Sight

2. State of Infrastructure

Active transportation assets encompass a variety of infrastructure and amenities designed to support non-motorized modes of transportation, such as walking and cycling. The City's active transportation system includes the pedestrian route network, the bicycle route network, and the multi-use path network. The components of these networks form a comprehensive inventory, detailing the quantity, condition, and specifications. By analyzing the inventory and assessing the data gaps, this section facilitates informed decision-making and strategic resource allocation, providing essential insights into maintenance needs and financial requirements.

2.1 Asset Hierarchy

To fulfill the requirements of O. Reg. 588/17 and to pave the way for robust long-range AM planning, the City necessitates a logically segmented asset breakdown structure (hierarchy) within the ambit of this AMP. Achieving this requires a sufficiently granular classification of active transportation assets, enabling the identification of individual assets due for renewal. Striking the right balance is also crucial, as there is a fine trade-off between ensuring adequate granularity to provide essential information and avoiding excessive granularity that could make the effort to collect and manage information more burdensome than the usefulness derived from it.

In **Figure 2-1**, the hierarchy of active transportation is illustrated, showcasing three main categories: pedestrian route network, bicycle route network, and multi-use path network. Each category is further broken down into subcategories. This asset hierarchy establishes a logical indexing of the City's active transportation assets, categorizing them into primary (parent) and secondary (child- and grandchild) assets. Such a structure forms the foundational framework for subsequent discussions and analysis, enabling the drill-down to a specific asset within the hierarchy to support maintenance planning or costs tracking at the asset or higher levels.

It is important to mention that pedestrian bridges are not encompassed within this hierarchy, as they have been addressed in the Roads AMP. Additionally, the steel sheet pilings supporting the waterfront walkway provide stormwater protection for the seawalls and will be included in the Stormwater AMP in the next iteration. Therefore, they are excluded from the waterfront walkway asset components and further analysis in this AMP.

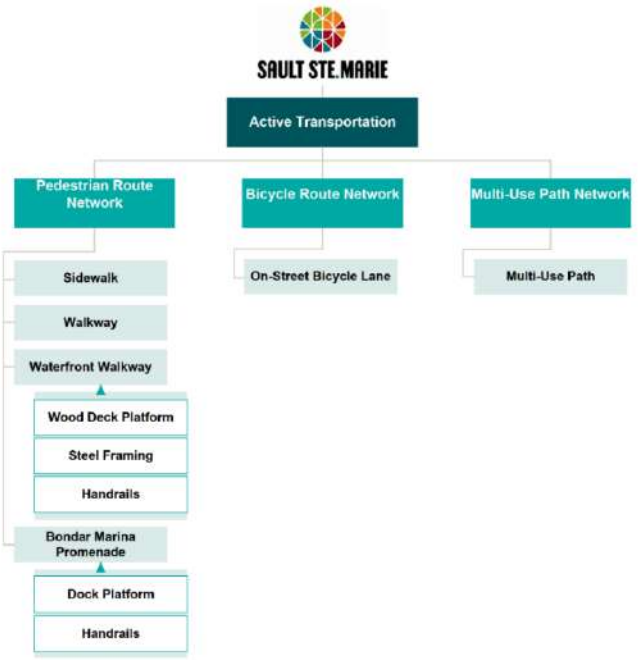


Figure 2-1: Active Transportation Asset Hierarchy

2.2 Current State of the Assets

2.2.1 Asset Inventory

A complete active transportation inventory is compiled based on the raw data provided by the City during the data gathering stage of the project, and is obtained from the following sources:

- ArcGIS Shapefile – Public Sidewalks (November, 2023)
- ArcGIS Shapefile – Bike Lanes (November, 2023)
- ArcGIS Shapefile – Hub Trails (January, 2024)
- .csv File from City's Road Management System – Sidewalks and Walkways Installation Year (March, 2025)

Table 2-1 presents the summary of the City's active transportation inventory.

Table 2-1: Active Transportation Inventory Summary

Asset Group	Asset Category	Asset Sub-Category	Asset Type	Quantity	Unit
Active Transportation	Pedestrian Route Network	Sidewalk	Sidewalk	344	km
		Walkway	Walkway	8	km
		Waterfront Walkway	Waterfront Deck Platform - Wood Deck Platform	1	km
			Waterfront Deck Platform - Steel Framing	2,745	m^2
			Waterfront Deck Platform - Handrails	1	km
		Bondar Marina Promenade	Bondar Marina Promenade - Handrails	0.13	km
			Bondar Marina Promenade - Dock Platform	199	m^2
	Bicycle Route Network	On-Street Bicycle Lane	On-Street Bicycle Lane	35	km
	Multi-Use Path Network	Multi-Use Path	Multi-Use Path	26	km
		Hub Trail Signage	Hub Trail Signage - Large	45	Ea.
			Hub Trail Signage - Small	89	Ea.

2.2.2 Current Asset Replacement Value

The asset replacement value is the estimated cost that would be incurred to replace an existing asset with a new one of similar functionality, at current market prices or construction costs. This value represents the monetary amount required to reproduce or procure an asset equivalent to the one being assessed. Examining the distribution of asset replacement values allows the City to comprehend which asset categories hold the highest value for both the City and the public.

Table 2-2 presents the total replacement value for active transportation asset categories within the City. It is worth noting that the cost valuations for the bicycle route network have already been included in the City's Roads AMP. Aside from that, the combined replacement value for the remaining categories amounts to approximately $167 million, with the pedestrian route network accounting for the majority portion (87%).

Table 2-2: Current Replacement Value

Asset Group	Asset Category	Asset Sub-Category	Unit Replacement Cost ($/Unit) (2024)	Total Replacement Value (2025)
Active Transportation	Pedestrian Route Network	Sidewalk	$250 / m	$132,347,000
		Walkway	$250 / m	$2,846,000
		Waterfront Walkway	$485 – $1,894 / m and m^2	$9,622,000
		Bondar Marina Promenade	$353 – $1,228 / m and m^2	$448,000
	Bicycle Route Network*	On-Street Bicycle Lane	-	-
	Multi-Use Path Network	Multi-Use Path	$555 / m	$21,500,000
		Hub Trail Signage	$468 – $707 / each	$114,000
Total				**$166,877,000**

** Included within Roads AMP*

It is noted that the replacement costs are estimated based on a Class 4[1] cost estimation approach. These estimates are typically prepared with limited information, resulting in wide accuracy ranges. Class 4 estimates serve various purposes, including project screening, feasibility assessment, concept evaluation, and preliminary budget approval. They are utilized for detailed strategic planning, business development, project screening at more advanced stages, alternative scheme analysis, confirmation of economic and technical feasibility, and approval to proceed to the next stage. Typically, depending on the construction complexity of the project, relevant reference information, and other associated risks, the accuracy ranges for Class 4 estimates fall within the following bounds (could exceed based on various criteria):

- On the lower side, -10% to -20%
- On the higher side, +20% to +30%

It is also worth noting that the total replacement values are presented in inflated dollars in 2025 and have been marked up by 45%, out of which 15% accounts for engineering and project management cost and 30% for contingency cost.

2.2.3 Age and Remaining Service Life

The asset age is based on the install year of the assets and the remaining service life (RSL) is estimated by considering both the age and the expected service life (ESL) in years. In practice, different assets will deteriorate at varying rates, and their deterioration may not necessarily follow a linear pattern over time. However, it is crucial to consider the level of effort required to predict failure in relation to the asset value. For highly valuable assets, more sophisticated deterioration modeling may be justified. Conversely, for low-value assets, the cost of deterioration modeling might surpass the replacement cost of the asset. Moreover, the actual service life can vary significantly from the ESL. ESL is defined as the period over which an asset is available for use and able to provide the required LoS at an acceptable risk and serviceability (i.e., without unforeseen costs of disruption for maintenance and repair). In some instances, a variation in expected vs. actual service life is evident due to the following factors:

- **Operating Conditions and Demands:** Some assets are operated intermittently or even infrequently or are being operated at a lower demand than their designed capacity. Thus, the actual operating “age” of the asset is reduced.
- **Environment:** Some assets are exposed to very aggressive environmental conditions (e.g., corrosive chemicals), while other assets are in relatively benign conditions; thus, the deterioration of assets is affected differently.

[1] Association for the Advancement of Cost Engineering (AACE) International Recommended Practice No. 18R-97. Cost Estimate Classification System - As Applied In Engineering, Procurement, and Construction for the Building and General Construction Industries, 2020, Retrieved in February 2024

- **Maintenance:** Assets are maintained through renewal or replacement of components, which prolongs the service life of the asset.
- **Technological Obsolescence:** Some assets can theoretically be maintained indefinitely, although considerations such as cost to maintain the asset, its energy efficiency, and the cost to upgrade to an updated technology that would result in cost savings are likely to render this approach uneconomical.

Table 2-3 and **Figure 2-2** shows the weighted average asset age and RSL as a proportion of average ESL for sidewalks, walkways, waterfront deck platform, Bondar Marina promenade, and multi-use paths. The weighted average age of assets ranges from 2 to 51 years, with ESLs spanning from 25 to 50 years. Sidewalks are the oldest asset type, averaging 51 years, and have already exceeded their ESL of 50 years, resulting in no RSL. Similarly, the waterfront deck platform, with an average age of 36 years and a weighted 39-year ESL, has also reached the end of its useful life. Walkways, while also relatively aged at 44 years, still retain 6 years of RSL. In contrast, the Bondar Marina Promenade is the newest among the pedestrian route assets, with an average age of only 2 years and 38 years of RSL. The multi-use path is also relatively new, with an average age of 12 years and 13 years of RSL.

Table 2-3: Active Transportation Average Age, ESL, and Remaining Service Life

Asset Group	Asset Category	Asset Type	Asset	Weighted Average Age	Weighted Average Expected Service Life (Years)	Remaining Service life
Active Transportation	Pedestrian Route Network	Sidewalk	Sidewalk	51	50	0
		Walkway	Walkway	44	50	6
		Waterfront Deck Platform	Wood Deck Platform	36	30	0
			Steel Framing	36	40	4
			Handrails	36	40	4
		Bondar Marina Promenade	Dock Platform	2	40	38
			Handrails	2	40	38
	Bicycle Route Network*	On-Street Bicycle Lane	On-Street Bicycle Lane		-	
	Multi-Use Path Network	Multi-Use Path	Multi-Use Path	12	25	13

** Included within Roads AMP*

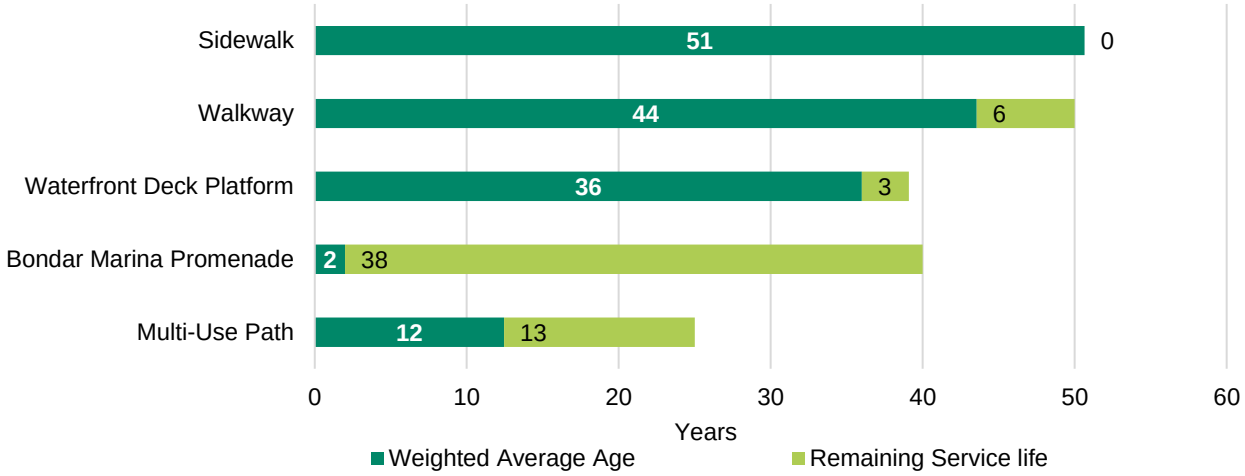


Figure 2-2: Active Transportation Asset Weighted Average Age and Remaining Service Life

Figure 2-3 illustrate the installation profile of Active Transportation assets. Sidewalks are the oldest and most extensive asset type, with over $51 million installed before 1969 and continued investments through the 1980s. Walkways also saw the majority of installations before 1980. The Waterfront Deck Platform was installed entirely in the 1980s, valued at $9.6 million. More recent assets include the Bondar Marina Promenade and multi-use paths, with most installations occurring after 2000. Hub Trail Signage has a small replacement value, with all assets recorded under unknown installation years.

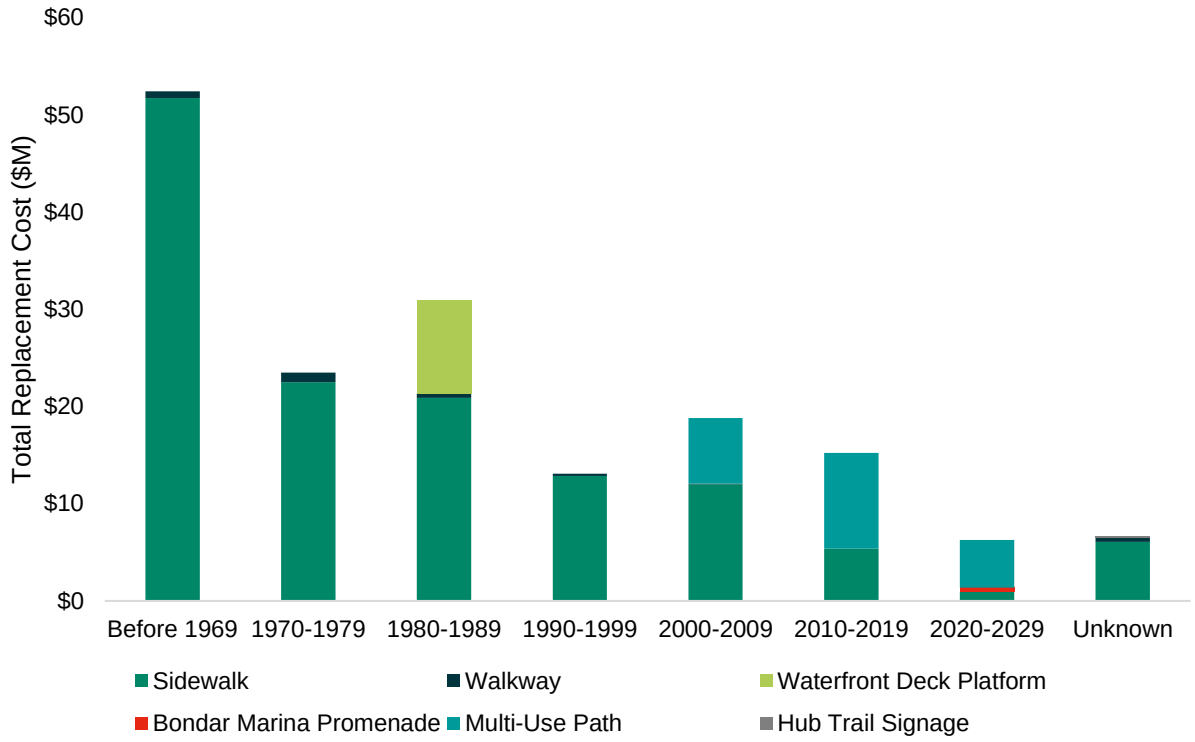


Figure 2-3: Active Transportation Installation Profile

2.2.4 Asset Condition

There are no regular field condition assessments for active transportation assets that produce reliable condition gradings for AM purposes. In some instances, this gap can be addressed by applying the two-parameter Weibull distribution function, a statistical method commonly used in reliability studies and lifetime prediction models.

The underlying premise of the Weibull-shaped deterioration is that while some assets fail prematurely due to severe conditions or improper installation, other assets are very long-lived and function well beyond their theoretical ESL. To perform a high order network-level analysis, it was assumed that assets would fail (and require replacement) within a deterioration envelope / curve approximated by a Weibull probability distribution. The two-parameter Weibull cumulative distribution has two parameters for scale and shape, as set out in Equation [1]:

$$f(x;\alpha,\beta) = e^{-\left(\frac{x}{\beta}\right)^{\alpha}} \quad [1]$$

Where: x = Age
α = Shape parameter (or slope)
β = Scale parameter

A set of Weibull cumulative distribution functions were leveraged to simulate a set of deterioration curves for assets with different ESLs as shown in **Figure 2-4**.

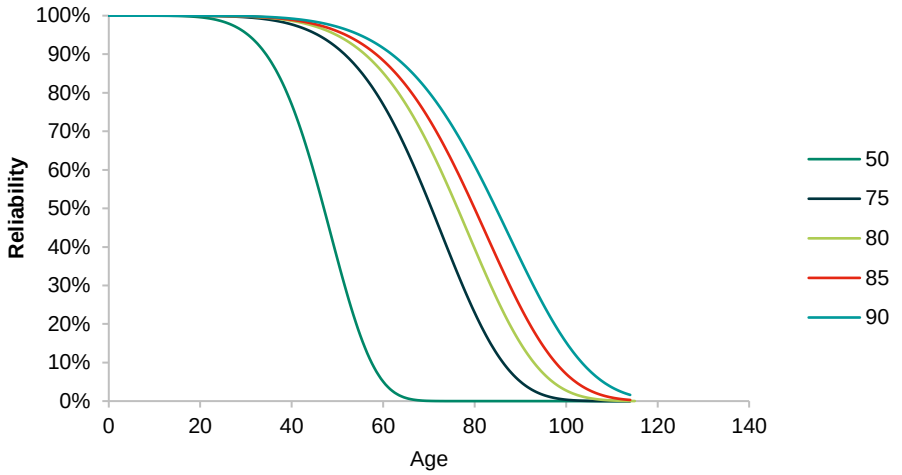


Figure 2-4: Asset Deterioration Curve Samples

Table 2-4 summarizes the condition rating of the City's active transportation assets by replacement value. Nearly half of the assets (46%) are in very poor condition, representing approximately $76.5 million in replacement value. Assets in very good condition account for 32% of the total, valued at $53.4 million. Good and fair condition assets represent 8% and 5% of the portfolio, respectively. Similarly, assets rated in poor condition account for 5%. The remaining 4% of assets have an unknown condition rating with no installation date available.

Table 2-4: Active Transportation Condition Summary

Rank	Condition Rating	Total Replacement Value (2025)	% of Replacement Value
1	Very Good	$53,395,000	32%
2	Good	$12,564,000	8%
3	Fair	$8,758,000	5%
4	Poor	$9,044,000	5%
5	Very Poor	$76,487,000	46%
-	Unknown	$6,625,000	4%
Total		**$166,873,000**	**100%**

Additionally, **Figure 2-5** and **Table 2-5** provides a breakdown of asset condition across the active transportation network by asset type and associated replacement value. Sidewalks represent the majority of the portfolio, with approximately $66 million (50%) in very poor condition and $31 million in very good condition. Walkways also show a concentration of value in lower condition ratings, with nearly $1.3 million in very poor condition. The Waterfront Deck Platform, valued at $9.6 million, is entirely in very poor condition. In contrast, newer assets such as the Bondar Marina Promenade and multi-use paths are in very good condition, valued at $0.45 and $21.5 million, respectively. A small portion of assets, including some sidewalks, walkways, and hub trail signage, fall under unknown condition.

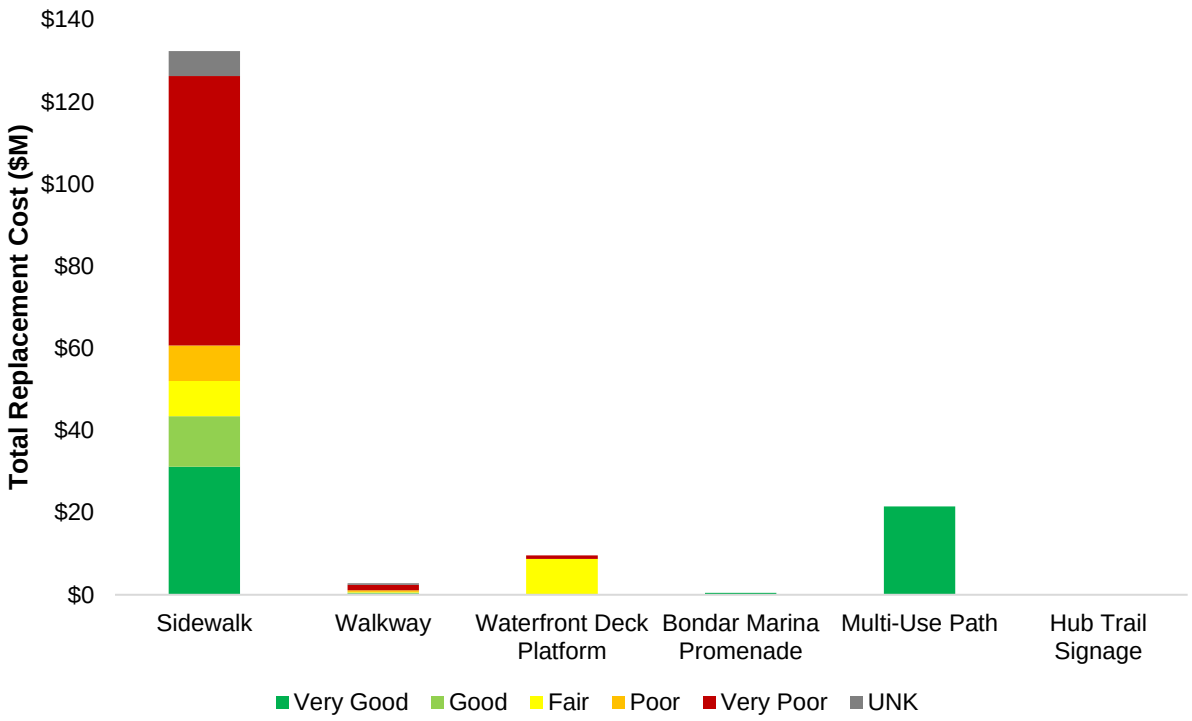


Figure 2-5: Active Transportation Condition Summary

Table 2-5: Distribution of Condition for Active Transportation Assets

Condition Rating	Sidewalk	Walkway	Waterfront Deck Platform	Bondar Marina Promenade	Multi-Use Path	Hub Trail Signage
Very Good	24%	10%	0%	100%	100%	0%
Good	9%	9%	0%	0%	0%	0%
Fair	6%	6%	91%	0%	0%	0%
Poor	7%	15%	0%	0%	0%	0%
Very Poor	50%	44%	9%	0%	0%	0%
Unknown	5%	16%	0%	0%	0%	100%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

2.3 Asset Data Gap Analysis

This section summarizes the current state of the City's asset data by assessing the quality of the asset inventory. Specifically, this section identifies existing data gaps, determines the overall confidence in the current asset data, and introduces good practices of data management.

2.3.1 Data Gap Observations

The City's active transportation assets were not previously stored in a single inventory. A significant amount of asset information was extracted from GIS databases, supplemented by spreadsheets and documents. Efforts have been made to address and fill gaps in key data where available, such as expected service life and replacement costs, based upon the City's own experience. This has been enhanced by additional data sources such as RS Means and AECOM's prior experience from other active transportation AM projects.

Table 2-6 provides a summary of data completeness levels in the compiled active transportation inventory across key data attributes. It is recommended that the City continue to work on filling any remaining gaps, ensuring a comprehensive and up-to-date database.

Table 2-6: Asset Data Completeness

Asset Group	Inventory Completeness (%)					
	Asset ID	Location	Install Date	Condition	Expected Service Life	Replacement Cost
Active Transportation	100%	100%	96%	0%	100%	100%

Improvement activities that support continuous improvement of the asset inventory are:

1. Asset ID: Currently, asset IDs created in individual ArcGIS shapefiles are not unique to other asset classes. It is recommended to add unique asset ID to new assets identified in the asset inventory.
2. Installation year: It is recommended to collect accurate installation date information for all assets and include it in the next iteration of the AMP.
3. Rehabilitation/Replacement Records: Maintaining a comprehensive record of rehabilitation and replacement activities will help track asset history and support future investment planning.
4. Condition Assessment: Consider a routine condition assessment program.

2.3.2 Data Confidence

The quality of asset data is critical to effective AM, accurate financial forecasts, and informed decision-making. For this reason, it is important to know what the reliability of the information is for the State of Infrastructure analysis of the active transportation assets. **Table 2-7** provides a description for the data confidence grades used to classify the reliability of the asset data. This can serve as a reference for the City to assess the quality of their asset data.

Table 2-7: Data Confidence Grading Scale

Confidence Grades	Description
A - Highly reliable	Data is based on sound records, procedures, investigations, and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate ± 2%
B - Reliable	Data is based on sound records, procedures, investigations, and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10%
C - Uncertain	Data is based on sound records, procedures, investigations, and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy is estimated ± 25%
D - Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy ± 40%
E - Unknown	None or very little data held.

2.3.3 Data Management Practice

The asset data lifecycle is a sequence of stages that data goes through from its initial build (i.e., data capture and entry) to its eventual archival and/or deletion at the end of its useful life[2]. A clear definition and understanding of the organization's process for acquiring, storing, utilizing, assessing, improving, archiving, and deleting data (see **Figure**

[2] TechTarget Network, Definition: Data Life Cycle, 2020.

2-6) will ensure good data management practices and help to sustain levels of data quality required to support AM activities.

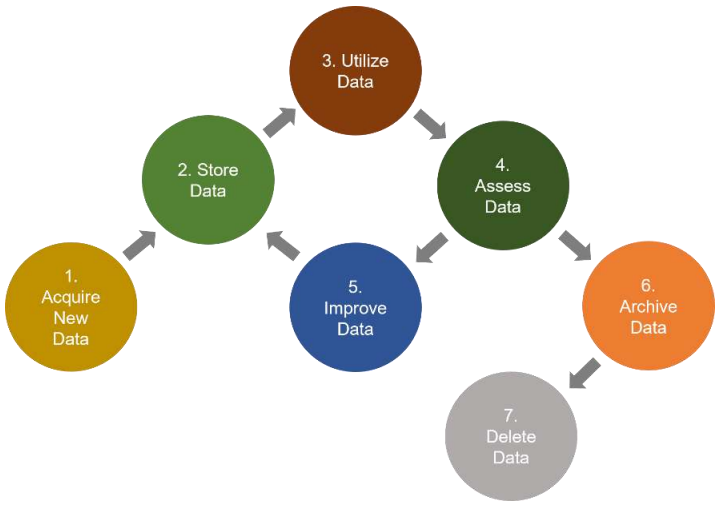


Figure 2-6: Asset Information Lifecycle

The seven key stages of the asset data lifecycle are described in more detail below:

- **Acquiring New Data**: The majority of new asset data arises from asset creation, refurbishment and overhaul activities. New data may also come by way of inheritance or transfers from other business units, organizations, or third parties. As such, it is important to have clearly defined processes in place not only to add or update asset data, but to migrate and merge data from other sources.
- **Storing Data**: The way asset data is stored is an important consideration for overall data quality. Having a planned approach to data storage will inevitably reduce the likelihood of duplication and inconsistencies across datasets within the organization. Depending on the needs of the organization, this stage may involve procuring a new software to adequately house the data, along with a data backup and recovery plan to ensure that the necessary data protection and privacy standards are met.
- **Utilizing / Analysing Data**: This aspect of the asset information lifecycle is where users encounter the data to support data-driven activities within the organization. Data can be viewed, processed, edited, and published to allow users to access the data outside the organization. Critical data that has been modified should be fully traceable to maintain the integrity of the data. As such, it is important to communicate to the users why asset data is so important, and how it is used to inform decisions within the organization.
- **Assessing Data**: Assessing the data quality helps to determine the level of confidence in the information and ensures that decision-makers are making informed decisions based on the quality of data available to them. Moreover, it is important to fully understand the availability and quality of the asset data before issuing information publicly. Some of the results of data degradation, due to improper or lack of assessment, may include:
  - Poor asset performance due to lack of information and understanding of asset behaviour.
  - Non-compliance with statutory regulations or safety requirements.
  - Safety incidents due to risks not being identified or reported.
  - Asset failure due to gaps in maintenance planning.
- **Improving Data**: Improving data quality involves establishing clear targets which are intended to be communicated widely across the organization. It is imperative that the organization understands the costs, benefits, and risks associated with any data improvements since the cost of the improvement may outweigh the overall benefit. It is also important to note that *more* data does not necessarily mean *better* data. It is very possible to collect data that does not add value to the organization. As such, it is critical that the organization aligns its data improvement targets with its AM objectives and considers the data-driven decisions staff need to make at the operational and strategic level, to ensure that the *right* data is being improved upon.

- **Archiving Data**: Archiving data is the process of storing data that is no longer active or required but is able to be retrieved in case it is needed again. Data that is archived is stored in a location where no usage or maintenance occurs. It is recommended that a data archive strategy exists within an organization in order to lay out the data archival requirements, which includes the following factors:
  - Consider what data should be archived and articulate the reasons behind the archival decisions.
  - Examine any legal obligations pertaining to the retention of data records.
  - Determine the appropriate duration for retaining different categories of data records.
  - Evaluate the risks associated with the inability to retrieve specific data records.
  - Specify the authorized individuals or entities who should have access to archived data records.
  - Establish the expected timeframe for retrieving archived data records.
  - Communicate these requirements across the organization to ensure staff understand why records are being archived, how they can access archived data records, and for how long archived data records can still be accessed.
- **Deleting Data:** The deletion of data is the final component of the asset information lifecycle. Typically, within organizations there is a resistance to permanently delete data, otherwise known as data “squirrelling”, due to the overall capacity of storing data increasing and the cost decreasing. However, within the organization’s data archive strategy, a retention period should be specified to indicate when data should be deleted, along with any processes to follow, such as obtaining prior authorization.

3. Levels of Service

3.1 Purpose

Level of Service (LoS) supports every aspect of the overall AM System. The objective of establishing clearly defined service levels is to help the City meet stakeholder values, achieve its strategic goals, make informed decisions, and implement effective asset lifecycle activities.

Documenting LoS is a proven practice that will enable the City to:

- Link corporate strategic objectives to customer expectations and technical operations.
- Balance customer needs and expectations while evaluating the effectiveness of operations and whether the right LoS is being provided at the right cost.
- Transition from an “Asset Stewardship” approach that focuses on making decisions based on maintaining assets in an acceptable condition to a “Serviceability” approach that is geared towards making decisions based on balancing the costs, risks, and goals for the LoS being provided by the City’s assets.
- Communicate the physical nature of infrastructure that the City owns and is financially responsible for while promoting the use of LoS to enable effective consultation with stakeholders regarding alternative funding options according to desired LoS outcomes.
- Make recommendations on strategies that the City can take now to minimize future renewal costs while ensuring that adequate LoS can be delivered without burdening future generations.
- Assess internal (e.g., program changes) and external (e.g., climate change) factors that have the potential to impact the City’s ability to deliver services and how these factors may impact the LoS being provided.
- Implement a corporate continuous improvement program to further optimize AM across all service areas.

O. Reg. 588/17 mandates that Ontario municipalities must report their current LoS by July 1, 2024. Additionally, the proposed LoS for all municipal assets including core and non-core assets should be reported by July 1, 2025.

3.2 Objectives

Defining LoS objectives is important for drawing a line of sight between the City’s corporate objectives and the tangible asset performance outcomes. To do so, the LoS objectives must take into consideration stakeholder interests to develop asset performance measures that aim to meet the needs and expectations of the community. By doing this, the City will ensure that their assets are striving towards optimal performance, not only operationally, but economically, socially, and sustainably as well.

Every stakeholder has certain interests in the service being provided and in general. The City’s corporate objective is to lift up the community and build pride, and attract people (visitors, employers, and employees). The City’s Comprehensive Background Report[3] for the New Official Plan outlined the overarching themes that reflect the City’s value, as shown in **Table 3-1.** Each overarching theme is also assigned a corporate service objective.

The development of level of service targets should be aligned with these corporate objectives which will be addressed in the next iteration of the AMP.

[3] City of Sault Ste Marie. 2021. Comprehensive Background Report.

Table 3-1: The City's Overarching Themes and Objectives

Overarching Themes	Corporate Objective
Healthy Community	Supports healthy living, active transportation, access to passive and active recreation, social interaction and the creation of spaces that are comfortable, safe and accessible for all ages and abilities (the "8 to 80 Cities" concept).
Environmental Sustainability	Supports energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions and climate change adaptation.
Integrated Mobility	Supports accessibility and choice of a diversity of transportation modes.
Sense of Place	Fosters a welcoming place for all that establishes connection and provides a memorable experience to visitors.
Sustainable Growth	Stimulates reinvigoration of neighbourhoods to provide a complete range of housing, services, employment, and recreation.
Economic Resiliency	Supports the growth and diversification of the City's economy.
Social Equity	Contributes to creating a welcoming and inclusive community, focusing on the removal of systemic barriers so that everyone has access to an acceptable standard of living and can fully participate in all aspects of community life.
Cultural Vitality	Celebrates the City's history, diverse communities, and natural and cultural heritage, with the Downtown as the City's core destination for arts and culture.

3.3 Stakeholder Identification

A stakeholder is any person or organization that can affect, be affected by, or perceive themselves to be affected by a decision or an activity. Stakeholder analysis is the process of understanding stakeholder needs, expectations, and perceptions relative to the stakeholder's level-of-interest and level-of-influence over the organization. The organization typically engages with their stakeholders to:

- Establish which activities or services matter most to them.
- Understand their risk appetite and risk threshold.
- Understand their willingness to pay for services.

Stakeholders can take many forms and may be internal (i.e., staff, Council) or external (i.e., the public, regulatory agencies, suppliers, neighbouring municipalities, etc.) to the organization. The following groups were identified as key stakeholders during the LoS workshops held with City staff. This is not intended to be an exhaustive list; however, the following groups provide a good starting point for the City to move forward to the next stage. The City's key stakeholder groups are identified below.

- Residential Customers
- Industrial, Commercial & institutional (ICI) Customers
- Regulatory Agencies
- Neighbouring Municipalities
- Environmental Groups
- Internal City Departments
- Disability Groups
- Sault Cycling Club

3.3.1 Legislated and Regulatory Requirements

Active Transportation assets are critical to the City's ability to provide essential services to the community, and for protecting the health and safety of the public. As such, key legislative requirements exist for the City's infrastructure assets, which ensure that minimum requirements are met and standards are in place that promote a high quality of

life (i.e., clean drinking water and safe roads, etc.). A sample of key Federal and Provincial legislated requirements are outlined below in **Table 3-2**. Monitoring and development programs relevant to active transportation assets are also listed.

Table 3-2: Legislated and Regulatory Requirements

Federal	Provincial / Local
• National Trails Act • National Active Transportation Strategy • Public Health Agency of Canada: Community Design Linked with Physical Activity	• Highway Traffic Act • Municipal Act • Ontario Regulation 239/02 (Minimum Maintenance Standards for Municipal Highways) • Ontario Trails Act • Ontario Regulation 615 (Traffic Signs) • Ontario's Cycling Strategy • Ontario Pedestrian Charter • Ontario Traffic Manual Book 18: Bicycle Facilities • Ontario's Complete Streets Guidelines • Accessibility for Ontarians with Disabilities Act

3.4 O. Reg. 588/17 Levels of Service Metrics

Currently, O. Reg 588/17 only identifies levels of service metrics for core assets. A number of key LoS performance measures for active transportation assets have been identified in consultation with City staff through workshops, are detailed in **Section 3.5**.

3.5 Levels of Service Performance Targets

Establishing LoS targets is an important part of continual improvement and performance management. Without performance targets, it is difficult to ascertain whether goals are being met, or the extent of the gap if they are not. Incorporating targets into the City's LoS framework helps to ensure that targets are reasonable, aligned with customer expectations, and evaluated on an objective basis by considering cost-benefit trade-offs.

One of the key challenges in setting infrastructure performance targets in a municipal environment is that they can often become biased and/or politically motivated. Therefore, it is important to review LoS targets with internal and external stakeholders, especially the customers who will be impacted the most by changes in service delivery. An important aspect of evaluating LoS targets is determining how the user is willing to pay for the service. Regulatory requirements are an exception; however, they only provide the minimum service standard. Cost is still an important parameter to consider when assessing the merits of service improvements. To deal with the financial realities, it is necessary to:

- Calculate how much the service costs based on current LoS.
- Determine the cost associated with varying the LoS.
- Assess the customers' willingness to pay.

It is important that any targets set be realistic and achievable. Therefore, it is not advisable that the City sets any firm targets until their current performance has been fully assessed. O. Reg. 588/17 requires AMPs to include proposed levels of service and a formalized financial strategy by July 1, 2025.

A summary of the City's active transportation service level metrics are presented in **Table 3-4**. Each metric was indicated with its current trend and target trend for the next 10 years, represented by legends, taking into account the nature of the measure, data availability, and whether the trend impacts positively or negatively on the proposed LoS. The LoS trend legends are described in **Table 3-3**.

Table 3-3: LoS Trend Legend

Symbol	Name	Description
	Positively Increasing	KPI is improving steadily over time, showing progress toward goals.
	Positively Stable	KPI is at a strong, desirable level and consistently maintained.
	Positively Decreasing	KPI is improving as lower values indicate better performance.
	Negatively Increasing	KPI is worsening over time, signaling a need for corrective action.
	Negatively Stable	KPI remains poor with no improvement or further decline.
	Negatively Decreasing	KPI is declining in a way that reflects worsening performance.

Table 3-4: Active Transportation Current and Proposed Levels of Service

LoS #	Service Area	LoS Measure	Unit of Measure	LoS Category	Current Performance	Trend		Target LoS	Lifecycle Activities to Meet Target LoS	Budget Impact to Meet Target LoS	Risk of Not Meeting Proposed LoS	Note
						Current	Target					
1	Active Transportation	Walking, Cycling and Transit Volumes on Key Corridors	#	Technical	N/A	→	→	N/A	• Improving Active Transportation infrastructure in safety and connectivity	Low	• Medium level of risks. • Inadequate infrastructure could increase safety concerns involving pedestrians, cyclists, and transit users. • Insufficient facilities may discourage active and sustainable transportation modes, increasing reliance on cars. • Lower walking, cycling, and transit volumes lead to higher vehicle emissions and air pollution. • With fewer alternatives, congestion on key corridors worsens.	• The City's Transit services collect passenger count data. The City's Engineering Department has the capability to collect passenger count data. • The City aims to develop a program targeting specific areas to enhance active-transportation accessibility and appeal.
2	Active Transportation	Non-auto Mode Share	%	Technical	2021: 5.5	↓	↑	~6%	• Expand and improve the Active Transportation network. • Conduct educational events. • Enhance and replace safety-related assets (e.g., signage, road markings).	Medium	• Medium level of risks. • Greater reliance on vehicles exacerbates traffic congestion. • Higher vehicular traffic contributes to emissions, reducing air quality and harming public health. • Lack of active transportation reduces physical activity, leading to increased health issues. • Poor infrastructure for non-auto modes heightens the risk of collisions and injuries. • Economic Inefficiencies: Over-reliance on cars reduces productivity and increases costs related to delays and fuel consumption.	• Statistics Canada Census. Data is collected in 5-year intervals. • This KPI is mainly influenced by factors such as the influx of newcomers and international students.
3	Active Transportation	Proportion of Budget Dedicated to Capital of Active Transportation Infrastructure	%	Technical	N/A	N/A	↑	N/A	• Establish public support for Active Transportation initiatives. • Develop new capital programming. • Expand the AT network.	High	• Medium level of risks. • Insufficient investment in active transportation infrastructure could delay essential projects. • Degraded infrastructure will require higher rehabilitation or replacement costs in the future. • Limited funding could disproportionately impact areas with lower accessibility, reducing mobility options for vulnerable populations. • Fewer active transportation facilities discourage healthy lifestyles and reduce environmental benefits.	• The City will propose an active transportation master plan with a significant capital budget, integrated with other projects to Council. Conditional, non-recurring funding will be requested to support implementation.
4	Active Transportation	Active Transportation Network Growth	km	Technical	N/A	↑	↑	0.5 km to 1 km per year	• Continue expansion of the Active Transportation network	Medium	• Lack of integrated AT infrastructure or incomplete networks hinder connectivity. • Incomplete networks force pedestrians and cyclists onto unsafe routes, heightening accident risks. • Limited AT growth leads to higher emissions and reduced physical activity levels. • Fewer safe and accessible AT options reduce physical activity levels, leading to increased public health concerns. • Failure to meet AT network growth targets can erode public trust in transportation planning and decision-making processes.	• The Active Transportation network growth reflects the City's commitment to expanding safe, connected, and accessible active transportation options. • Performance on this LoS has been trending upward and is expected to continue improving as network investments and planning efforts gain momentum.
5	Active Transportation	User Comfort for the Multi-Use Trail	Letter Grade	Customer	N/A	↑	↑	N/A	• Conduct continuous maintenance activities.	Low	• Adverse Social Impacts: Poor user comfort may discourage community interaction and inclusivity on the trail. • Safety Concerns: Inadequate design or maintenance could lead to accidents and perceived safety risks. • Declining Usage: Reduced comfort can result in lower trail usage, underutilizing the asset and its potential benefits.	• User comfort data is not formally collected; anecdotal feedback from social media serves as the primary source, with generally positive responses. • The scale of this KPI is to be determined.
6	Active Transportation	Percentage of assets in Fair and Better Condition	%	Technical	N/A	N/A	↓	N/A	• Condition Assessment • Replace	High	• Increased maintenance and rehabilitation costs, straining future budgets. • Deteriorating infrastructure may cause disruptions in transportation services, reducing accessibility and causing delays. • Poor asset condition increases the likelihood of asset failure, which could impact safety and cause costly emergency repairs. • Assets in suboptimal condition may hinder the ability to meet service level expectations, reducing overall system reliability and user satisfaction.	• The Percentage of Assets in Fair and Better Condition LoS tracks the overall health of the City's Active Transportation infrastructure; while performance on this KPI is expected to trend downward due to aging assets and funding pressures, it highlights growing risks to service reliability, safety, and long-term financial sustainability.

Performance Trend Legend:

↑ Positively Increasing	→ Positively Stable	↓ Positively Decreasing	↑ Negatively Increasing	→ Negatively Stable	↓ Negatively Decreasing

3.6 2025-2034 10-Year Levels of Service Forecast

Considering the City's characteristics, growth projections, and strategic objectives, the anticipated performance for each level of service outlined in **Table 3-4** has been projected for the next 10 years and summarized in **Table 3-5**. This table indicates whether each measure is expected to trend upward, downward, or remain stable, taking into account the nature of the measure, data availability, and whether the projected trend impacts positively or negatively on the proposed level of service

Table 3-5: 2025-2034 10-Year Levels of Service Forecast

LoS #	Service Area	LoS Measure	Unit of Measure	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Target Trend	Basics for Forecast
1	Active Transportation	Walking, Cycling and Transit Volumes on Key Corridors	#	Positively Maintain										→	SME (Subject Matter Expert) opinion
2	Active Transportation	Non-auto Mode Share	%	~6%										↑	SME opinion
3	Active Transportation	Proportion of Budget Dedicated to Capital of Active Transportation Infrastructure	%	Positively Increasing										↑	SME opinion
4	Active Transportation	Active Transportation Network Growth	km	0.5 km to 1 km growth per year										↑	SME opinion
5	Active Transportation	User Comfort for the Multi-Use Trail	Letter Grade	Positively Increasing										↑	SME opinion
6	Active Transportation	Percentage of assets in Fair and Better Condition	%	50%	43%	43%	42%	43%	43%	40%	39%	35%	36%	↓	Lifecycle Modeling (City's Forecasted Budget Scenario, See **Figure 5-3**)

Performance Trend Legend:

↑ Positively Increasing	→ Positively Maintain	↓ Positively Decreasing	↑ Negatively Increasing	→ Negatively Maintain	↓ Negatively Decreasing

3.7 Future Demand Drivers

Demand management is a critical component of managing the desired LoS in a sustainable manner, now and into the future. Understanding demand drivers enables the City to proactively develop effective, long-term strategies that are suitable for the City's unique political, environmental, social and technological landscape.

A summary of factors identified from the LoS workshop that would impact active transportation LoS include, but are not limited to, the following:

- Technology.
- Electrification.
- Energy and Demand Management.
    - Increased Use of Electric Micro-Mobility Devices.
- Funding level.
- Growth.
- Climate Change.
- Cold Climate
    - Creates operational issues in snow removal.
    - Staffing availability is limited for cold weather maintenance.
    - Staffing qualifications limited.

On November 2, 2021, the City had released the Comprehensive Background Report for updating the Official Plan[4]. The City's Official Plan guides local decision-making on land use, development, and public infrastructure over the next 20 years. The City's population is expected to reach to 80,000 by 2031, and 83,300 people by 2036. Employment is projected to grow by approximately 6,000 jobs, from 31,000 jobs in 2016 to 36,900 jobs in 2036.

When additional assets to accommodate this population and employment growth are introduced to the City's portfolio, additional human resources, training and funding are required to maintain and operate, and renew or replace those assets. O. Reg. 588/17 requires municipalities by July 1, 2025, to estimate capital expenditures and significant operating costs to achieve the proposed LoS and accommodate projected increases in demand caused by population and employment growth. This includes the estimated capital expenditures and significant operating costs related to new construction and / or to upgrade existing municipal infrastructure assets. This is further detailed in **Section 5.4**.

[4] City of Sault Ste Marie. 1996. Official Plan

4. Asset Management Strategies

4.1 Asset Lifecycle Management Introduction

Asset lifecycle management focuses on the specific activities that should be undertaken during all phases of the asset lifecycle. Considering the entire asset lifecycle ensures that the City makes sound decisions that take into account present and future service delivery needs.

The overarching goal of lifecycle management is to maximize the long-term benefits and services that the City's assets deliver while minimizing the associated costs and risks in the long run. Every asset has a lifecycle cost, which is the total cost of all activities undertaken throughout its service life. Part of the purpose of the AM planning process is to fully understand and predict the long-range financial requirements for the City's infrastructure, facilitating planning and resource management in the most cost-effective manner possible. **Figure 4-1** illustrates how costs typically accumulate over an asset's life. It is worth noting that the ongoing operations and maintenance, renewal & replacement, and disposal costs accumulate up to many multiples of the initial acquisition costs. As such, it is important to fully understand the entire lifecycle costs before proceeding with asset acquisition.

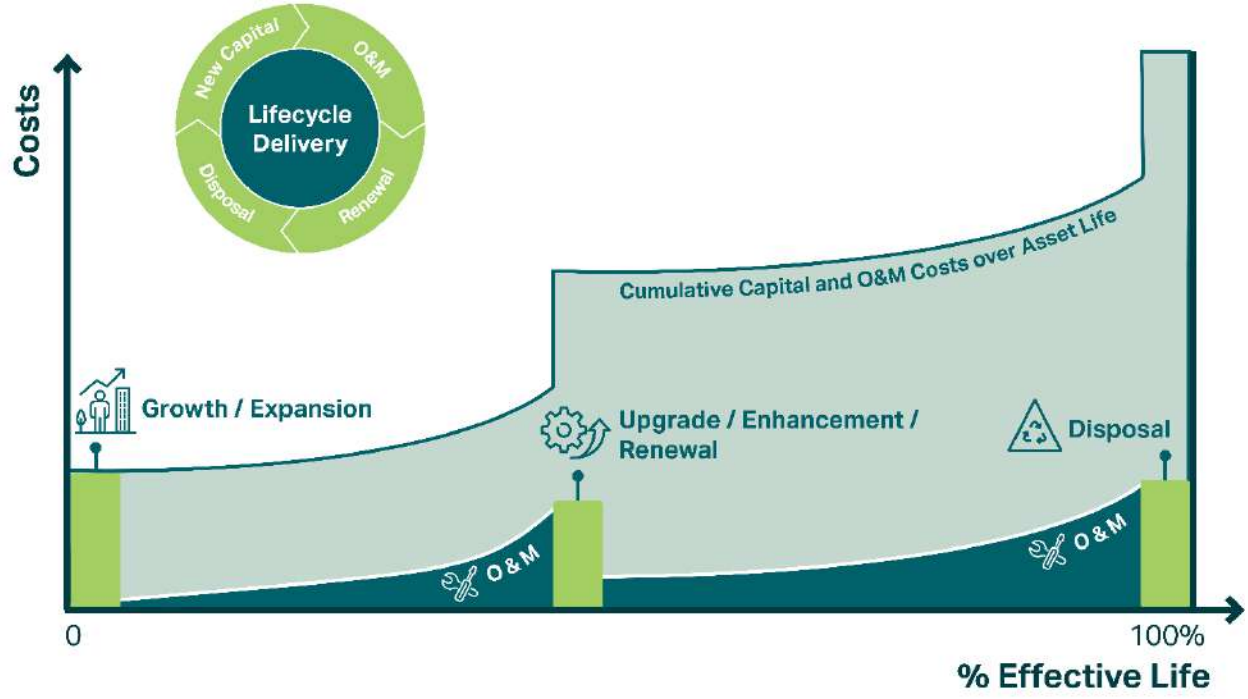


Figure 4-1: Lifecycle Cost Accumulation Over Asset Life

Asset lifecycle management strategies are typically organized into the following categories.



1. **Asset Acquisition / Procurement / Construction**: Acquisition includes expansion activities and upgrading activities to extend services to previously unserved areas or meet the demands of growth and functional requirements. When acquiring new assets, the City should evaluate credible alternative design solutions, considering how the asset will be managed at each of its lifecycle stages. AM and full lifecycle considerations for the acquisition of new assets include, but are not limited to, the following:
    - The asset's operability and maintainability.
    - Supply chain considerations.

- Availability and management of detours.
- Staff skill and availability to manage the asset.
- The manner of the asset's eventual disposal.

2. **Asset Operations and Maintenance (O&M)**: As new infrastructure is commissioned, the City assumes the responsibility of operating and maintaining the infrastructure according to O&M standards to ensure its safety and reliability. The operations staff provides the necessary day-to-day support for operating the assets. Maintenance expenses include periodic preventive maintenance to ensure that the infrastructure can provide reliable service throughout the life of the asset and corrective maintenance that is required to repair defective assets as needed. Inadequate funding for O&M will adversely impact the lifespan of assets. The number of O&M resources required in any period is a function of the current inventory of infrastructure and the total O&M needs for each asset. As the inventory of infrastructure grows, total O&M requirements will also increase.



3. **Renewal and Replacement:** The third aspect of full lifecycle costing pertains to the renewal and replacement of assets that have deteriorated to the point where they no longer provide the required service. Renewal or rehabilitation costs may be incurred during the life of an asset where an investment is made to improve its condition and/or functionality. Replacement activities are expected to occur once an asset has reached the end of its useful life, and renewal is no longer a viable option.



4. **Decommissioning and Disposal:** There will inevitably come to a point in time when an asset must be removed from service, and depending on the type of asset, there may be significant costs associated with its decommissioning and disposal. Factors that may influence the decision to retire an asset include changes to leading to non-compliance, the inability of the asset to handle increased LoS, technological advances rendering the asset obsolete, the cost of retaining the asset exceeding the benefits gained, the current risk associated with the asset's failure becoming intolerable, assets negatively impacting service delivery or negative impacts on the environment.



Normally, major costs that may be incurred during disposal and decommissioning derive from the environmental impact of the disposal and, if required, the rehabilitation and decontamination of land. However, some cost savings may be achieved through the residual value of the asset or by exploring alternative uses for the asset. In all cases, it is important to consider disposal and decommissioning as the strategy employed has the potential to attract significant stakeholder attention. For that reason, the costs and risks associated with disposal and decommissioning should be equally considered in the City's capital investment decision-making process.

4.2 Asset Acquisition Strategies

The City's pursuit of active transportation assets is driven by growth, primarily guided by the Official Plan and Transportation Master Plan. Additionally, the City considers other guiding documents, including the Cycling Master Plan, Corporate Strategic Plan, Energy Conservation & Demand Management Plan, Community GHG Reduction Plan, Strategic Asset Management Policy, and the Active Transportation Plan which is currently under development.

4.3 Asset Operations and Maintenance Strategies

Effective O&M of assets is crucial for sustainable performance and longevity. Managing O&M costs involves developing comprehensive strategies that optimize resource utilization while ensuring asset reliability. Proactive maintenance schedules and condition monitoring can help identify potential issues before they escalate, reducing unplanned downtime and minimizing repair costs. Implementing energy-efficient technologies and best practices in active transportation AM also contribute to cost-effectiveness over the asset's lifecycle. **Table 4-1** summarizes the O&M activities associated with the City's active transportation assets.

Table 4-1: O&M Activities for Active Transportation Assets

Asset Group	Asset Category	Activities Undertaken by the City	Notes
Active Transportation	Pedestrian Route Network	• Inspect and repair. • Snow removal. • Inspect the condition of the frame/railing for the waterfront walkway section. • Inspect or replace wood planks on the boardwalk on a complaint basis. • Assess the structural framework and integrity with external engineering consultants. • Replace a certain number of boards annually.	• It is the City's responsibility to perform snow removal on 1/3 to 1/2 of the overall network. However, snow removal is not mandated by Ontario's Minimum Maintenance Standards (MMS), and there are no clear definitions for these requirements. Despite this, the City does not want to transfer this responsibility to the residents, considering the demographic, which primarily consists of an aging population. • The City has initiated the benchmarking of snow removal O&M, sending surveys to participants to learn about the methodologies employed for snow clearing in the network. • The City's sidewalks O&M cost includes concrete maintenance and summer/winter maintenance programs.
	Bicycle Route Network	• Inspect and repair. • Snow removal. • Street sweeping and cleaning.	• The on-street bike lane network is currently closed seasonally, but cycling residents desire it to be open year-round.
	Multi-Use Path Network	• Inspect and repair. • Snow removal.	NA

4.4 Renewal and Replacement Strategies

Renewal often involves upgrading or refurbishing existing assets to extend their lifespan, while replacement entails acquiring new assets. The costs associated with these activities include not only the direct expenses of acquisition but also indirect costs such as downtime during the transition, training for new technologies, and potential disposal or recycling costs. **Table 4-2** summarizes the renewal and replacement activities associated with the City's active transportation assets.

Table 4-2: Renewal and Replacement Activities for Active Transportation Assets

Asset Group	Asset Category	Activities Undertaken by the City	Notes
Active Transportation	Pedestrian Route Network	• Resurface. • Replace at end of life. • Re-deck the boardwalk.	• 3% of sidewalk network (by length) is replaced annually. • Some sidewalks are replaced in conjunction with road reconstruction, and the associated costs are covered under roadway projects.

Asset Group	Asset Category	Activities Undertaken by the City	Notes
		• Replace the frame/railing for the waterfront walkway section as needed.	Sidewalk evaluation is included as a smaller component of the roadway resurfacing program.
	Bicycle Route Network	• Resurface. • Replace at end of life.	• The City allocates approximately $180,000 for replacement costs on a 5-year cycle. • Bike lane condition assessments and inspections are conducted by road crews. • Considerations of separated bike lanes may create additional efforts for snow removal and other maintenance activities
	Multi-Use Path Network	• Resurface. • Replace at end of life.	• The City's maintenance expenditure for multi-use path network is approximately $50,000, while asphalt works are not included in this budget. • While tree roots may cause issues necessitating replacement, the City's budget is inadequate to address such concerns.

4.5 Decommissioning and Disposal Strategies

Effective asset decommissioning and disposal are integral components of strategic AM. As the City's active transportation assets approach the end of their lifecycle or become obsolete, a systematic methodology to their removal and decommissioning is essential. This process involves careful planning, environmental considerations, and adherence to the City's regulatory requirements. **Table 4-3** summarizes the decommissioning and disposal activities associated with the City's active transportation assets.

Table 4-3: Decommissioning and Disposal Activities for Active Transportation Assets

Asset Group	Activities Undertaken by the City
Active Transportation	• Sidewalk panels are separated and disposed of in an unofficial concrete dump. • The City has an asphalt recycler to store asphalt material. • The City has a budget for crushing the concrete and reuse in applicable projects, amounting to approximately $80,000 in reserve.

4.6 Risk Associated with Lifecyle Activities

In the context of AM, risk is defined as the consequence or impact of uncertainties on AM objectives. These uncertainties span a spectrum of events, including financial market fluctuations, unexpected asset failures, changes in regulatory environments, and other factors capable of influencing the performance or condition of assets. Risk management, developed to handle uncertainties in a systematic and timely manner, is a practical framework that ensures thoughtful decision-making and protects the achievement of goals. The risk management process generally follows a series of steps, as outlined in **Table 4-4**. To support a consistent and integrated approach, risks related to service level achievement are discussed throughout this report. **Section 3.5** identifies and qualitatively assesses risks specific to each performance measure, highlighting potential service disruptions and associated likelihoods. In addition, **Section 5.6** further elaborates on risks linked to funding gaps and quantifies the potential consequences of not meeting the proposed levels of service. Collectively, these sections provide a comprehensive view of the City's risk exposure and support prioritization of actions that align with performance, financial, and operational goals.

Table 4-4: Key Steps in the Risk Management Process

Step	Description
1. Establish the context	• Define the scope of the risk management process and the objectives that the City seeks to achieve through effective risk management.

Step	Description
	• Consider the City's internal and external factors and understand stakeholder expectations.
2. Risk identification	• Identify potential risks that could impact the City's AM objectives.
3. Risk analysis	• Utilize qualitative or quantitative analysis methods to assess risks.
4. Risk evaluation	• Evaluate the likelihood and impact of identified risks. • Prioritize risks based on their criticality.
5. Risk treatment	• Develop strategies to reduce the likelihood and impact of identified risks. • Implement preventive measures to address potential issues proactively. • Establish contingency plans for managing risks that cannot be eliminated.
6. Monitor and review	• Regularly update risk assessments to reflect evolving circumstances. • Develop KPIs and monitoring tools to track the effectiveness of risk treatment strategies. • Learn from the City's past experiences and continuously improve risk management strategies.

Over the course of an asset's service life, the accelerating rate of deterioration with age poses inherent risks, inevitably leading to a corresponding increase in maintenance costs. **Figure 4-2** illustrates a general asset deterioration curve. This trend becomes particularly pronounced in the final phase of the asset's service life, where the cost of maintenance experiences a rapid escalation, highlighting the financial risks associated with prolonged neglect. This phenomenon underscores the critical importance of preventive maintenance in the early stages of an asset's service life. By addressing risks proactively during these initial periods, the potential financial burden tied to accelerated deterioration in later stages can be effectively mitigated.

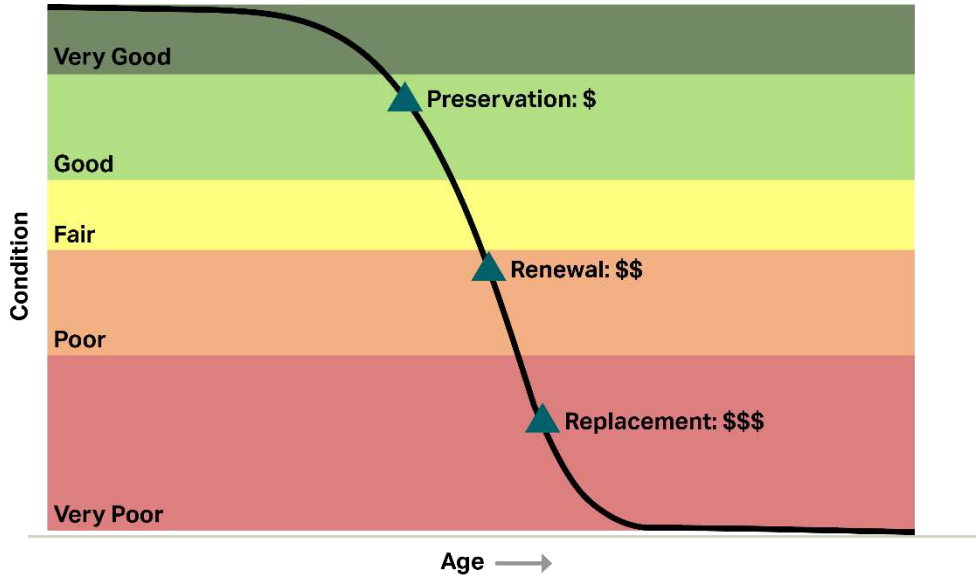


Figure 4-2: Asset Deterioration Curve and Renewal Costs

Beyond the general guidance, the City's approach to risk management should be tailored to their overarching goals, financial resources, and willingness to tolerate uncertainties. Key considerations include:

1. Safety

The City faces challenges in managing active transportation assets, especially concerning slip, trip, and fall incidents among residents, which could potentially result in insurance claims. The exposure to such risk is heightened due to the dynamic nature of outdoor pathways and public spaces. Uneven surfaces, weather-related hazards, and varying traffic conditions all contribute to difficulties in mitigating pedestrian safety incidents. To minimize this risk, the City should prioritize regular maintenance, promptly address potential tripping hazards, and implement preventive measures such as anti-slip surfaces.

2. Accessibility in Active Transportation Infrastructure

As the demand for active transportation options increases, the City faces a growing need to ensure that their active transportation infrastructure caters to diverse accessibility requirements, accommodating the evolving demand of pedestrians, cyclists, and other users. However, the City's existing infrastructure may present challenges due to aging facilities and outdated amenities, potentially hindering accessibility for active transportation users. To address these challenges effectively, the City should implement innovative solutions and revise strategies to enhance accessibility and promote the use of active transportation methods.

5. Funding Need Analysis

5.1 Capital and Operating Budget

5.1.1 Capital Budget - Historical Expenditure and Future Forecast

Historical capital expenditures for active transportation have primarily focused on maintaining and renewing existing infrastructure to keep assets in good working order. **Table 5-1** present the capital reinvestment budget forecast. At present, the City does not have a dedicated annual capital budget for active transportation projects. Instead, capital funding is typically secured through external grant programs, with project-specific co-funding approvals sought from Council. Active transportation infrastructure is also frequently delivered as part of larger road reconstruction projects. As such, the current capital reinvestment forecast is based on the proportion of the roads capital budget historically allocated to active transportation. Currently, the City allocates approximately 10% of its annual road budget to active transportation, resulting in a ten-year average reinvestment budget of $1.6 million for the 2025–2034 period in inflated dollars. The City is currently developing an Active Transportation Master Plan, which, once approved by Council, will provide a strategic framework for future investments and support a formal budget request for ongoing capital funding. It should also be noted that Council has already approved $150,000 for replacing hub trail signage; therefore, this capital reinvestment is not included in the funding need analysis.

Table 5-1: Capital Reinvestment Budget Forecast

Asset Class	Asset Category	Asset Type	2025-2034 10-Year Average Reinvestment Budget
Active Transportation	Pedestrian Route Network	Sidewalk	$1,643,000*
		Walkway	
		Waterfront Walkway	
		Bondar Marina Promenade	
	Multi-Use Path Network	Multi-Use Path	
		Hub Trail Signage**	$15,000
	Bicycle Route Network	On-Street Bicycle Lane***	-
		Total	**$1,658,000**

** 10% of the annual road capital reinvestment budget allocated for Active Transportation assets*

*** The Council has already approved $150,000 for replacing hub trail signage.*

**** Included within Roads AMP*

5.1.2 Operating Budget - Historical Expenditure and Future Forecast

The City's historical operating expenditures for active transportation have focused on the routine maintenance and upkeep of pedestrian and cycling infrastructure to ensure safety, accessibility, and usability. As shown in the operating budget forecast for 2025–2034, the City is forecasted to have an average of $1.7 million annually to support ongoing operations. The majority of this funding—approximately $1.6 million—is directed toward sidewalks under the pedestrian route network, while $70,000 is allocated for multi-use path maintenance. No dedicated operating budget has been identified for walkways in this forecast. These expenditures support day-to-day service delivery, promote user safety, and contribute to the longevity of the assets through regular maintenance activities.

Table 5-2: Operating Budget Forecast

Asset Class	Asset Category	Asset Type	2025-2034 10-Year Average O&M Budget
Active Transportation	Pedestrian Route Network*	Sidewalk	$1,597,000
		Walkway	
	Multi-Use Path Network	Multi-Use Path	$70,000
		Total	**$1,667,000**

**Include winter control*

5.2 Capital Reinvestment Funding Needs Analysis

This section outlines the capital funding scenarios analyse approach, assumptions, and presents service level trends regarding asset condition under various budget scenarios.

5.2.1 Lifecycle Model Approach and Assumptions

The lifecycle analysis was implemented within a Power BI Model. The analysis involves integrating key asset attribute information including asset inventory, age, ESL, replacement values, and condition to create a theoretical asset replacement cycle for each asset. A financial dashboard was developed to present the lifecycle modeling results. The annual reinvestment needs were analyzed in inflated dollar values, incorporating the following assumptions on inflations:

- Currently, all active transportation asset condition ratings are based solely on asset age, and detailed replacement or rehabilitation records are not available. As a result, some assets that may have been recently renewed are not accurately reflected in the condition assessment. This limitation may affect the accuracy of the funding need analysis by potentially overstating the extent of required reinvestment.
- The base year used is 2025. Any historic asset replacement values have been inflated using the experienced inflation rate from Non-Residential Building Construction Price Index (NRBCPI).
- Inflation rate: the inflation rates adopted for the financial model are presented in **Table 5-3**. The inflation for 2025 and later is 2% determined based on the City's input.
- Markup: The project management and engineering, and contingency mark ups are 15% and 30% respectively.
- Disposal Rate: 1% of the annual capital budget is used as an allocation for disposal costs.

Table 5-3: Inflation Rate[5]

Year	Inflation Rate
2024	6%
2025	2%
2026	2%
2027	2%
2028	2%
2029	2%
2030 - 2034	2%

Table 5-4 presents the proposed reinvestment targets for active transportation infrastructure from 2025 to 2034. It outlines the renewal measures and the resulting average annual reinvestment rates over the 10-year period. Note that the Bondar Marina Promenade is illustrated in the full funding profile in **Figure 5-5**.

Table 5-4: Active Transportation Asset Capital Reinvestment Assumptions

Asset Type	Asset	Reinvestment Strategy	Annual Average Reinvestment Rate (2025- 2034)
Sidewalk	Sidewalk	Replace assets for a life cycle of 50 years	6.6%
Walkway	Walkway	Replace assets for a life cycle of 50 years	
Waterfront Walkway	Wood Deck Platform	Replace assets for a life cycle of 30 years	
	Steel Framing	Replace assets for a life cycle of 40 years	
	Handrails	Replace assets for a life cycle of 40 years	
Bondar Marina Promenade	Dock Platform	2% annual funding allocation for Bondar Marina Promenade renewal beginning 10 years after installation (2032)	
	Handrails	2% annual funding allocation for Bondar Marina Promenade renewal beginning 10 years after installation (2032)	
Multi-Use Path	Multi-Use Path	Replace assets for a life cycle of 25 years	

5.2.2 Active Transportation Budget Scenarios & 10-Year Service Level Forecast

This section presents the budget scenario analysis and the 10-year service level forecast for active transportation assets.

5.2.2.1 Budget Scenarios Setting

Table 5-5 budget scenarios setting for active transportation assets. Scenario 1 (S1) is a “Do Nothing” approach with zero expenditure; S2 assumes an ideal, unconstrained budget enabling asset replacement at end-of-life; and S3 reflects the City’s defined budget at $1.5 million annually.

[5] Past inflation data obtained from NRBCPI using the non-residential; yearly result taken from an average of quarterly results. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810027601

Table 5-5: Active Transportation Assets Budget Scenarios

Scenario		Description	Budgets
S1	Do Nothing	Spend Nothing	$0 million
S2	Unconstrained Budget	Replace assets at end of life	Unlimited
S3	City's Planned Budget	City's Current Planned Budget	$1.6 million annual budget

5.2.2.2 Active Transportation Funding Need

The average annual reinvestment estimates for the City's active transportation assets is $11 million over the next 10 years in inflated dollar values. This is equivalent to a total of approximately $109 million over the next 10-year period, as presented in **Figure 5-3**. The City should note that there are significant backlogs for reinvestment on the sidewalks, walkways, and waterfront walkways, many of which have exceeded or are approaching the end of their ESLs. This theoretical expenditure spike is presented in the year 2025 and 2029 in **Figure 5-3.**

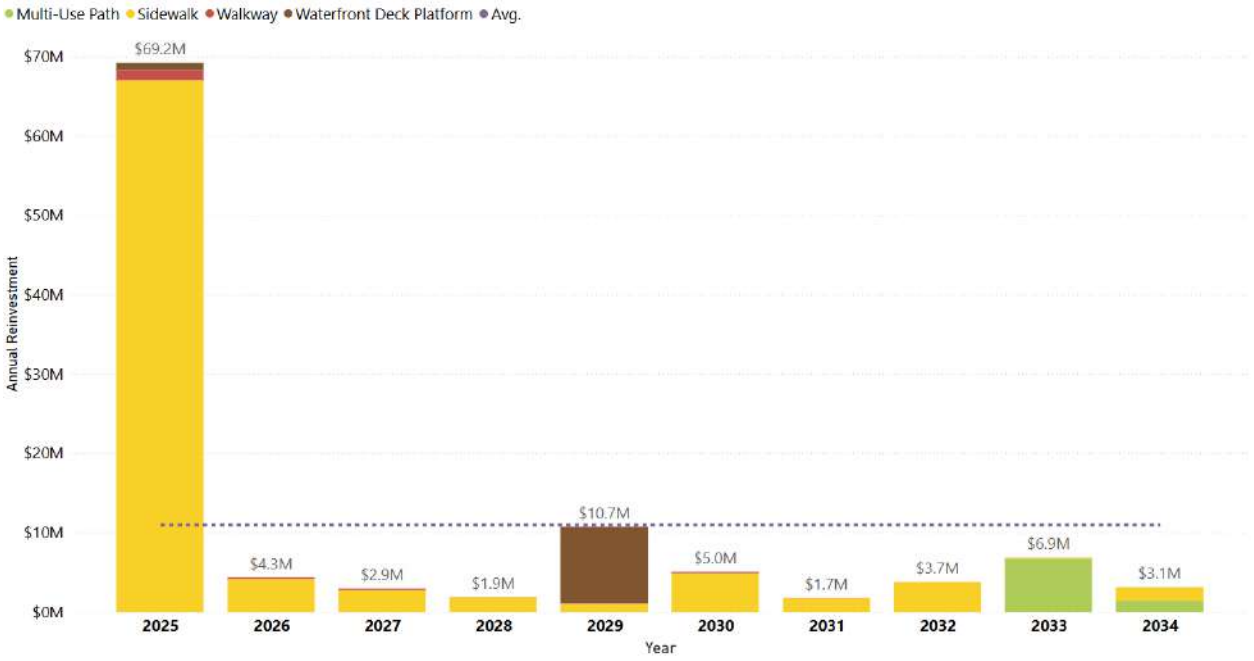


Figure 5-1: 10-Year Funding Need for Active Transportation Assets – Unlimited Budget Scenario

The detailed 10-year reinvestment needs for active transportation assets are presented in **Table 5-6** in inflated dollar values.

Table 5-6: Active Transportation 10-Year Total and Annual Average Capital Reinvestment Need

Asset Type	Annual Average Need	10-Year Total
Sidewalk	$8,879,000	$88,794,000
Walkway	$202,000	$2,023,000
Waterfront Walkway	$1,055,000	$10,547,000
Bondar Marina Promenade*	$3,000	$31,000
Multi-Use Path	$809,000	$8,089,000
Total	**$10,948,000**	**$109,485,000**

**As shown in Full Funding Profile*

5.2.2.3 Active Transportation 10-Year Service Level Trend Forecast

Figure 5-2 presents the projected condition of active transportation assets over a 10-year period under three funding scenarios. Currently, 50% of assets are in fair or better condition. Under Scenario 1 (Do Nothing), this proportion steadily declines to 28% by 2034. Scenario 3, which reflects the City's current funding level of $1.6 million annually, results in a more gradual decline, reaching a service level of 36% by 2034. In contrast, Scenario 2 assumes an unlimited budget of approximately $11 million annually, leading to a substantial improvement in asset condition, with 88% of assets in fair or better condition by 2034.

These results indicate that the current level of investment is insufficient to maintain existing service levels over the long term. Without additional funding or supporting strategies, a growing portion of the active transportation network will continue to deteriorate, increasing future reinvestment needs and potential risks to users.

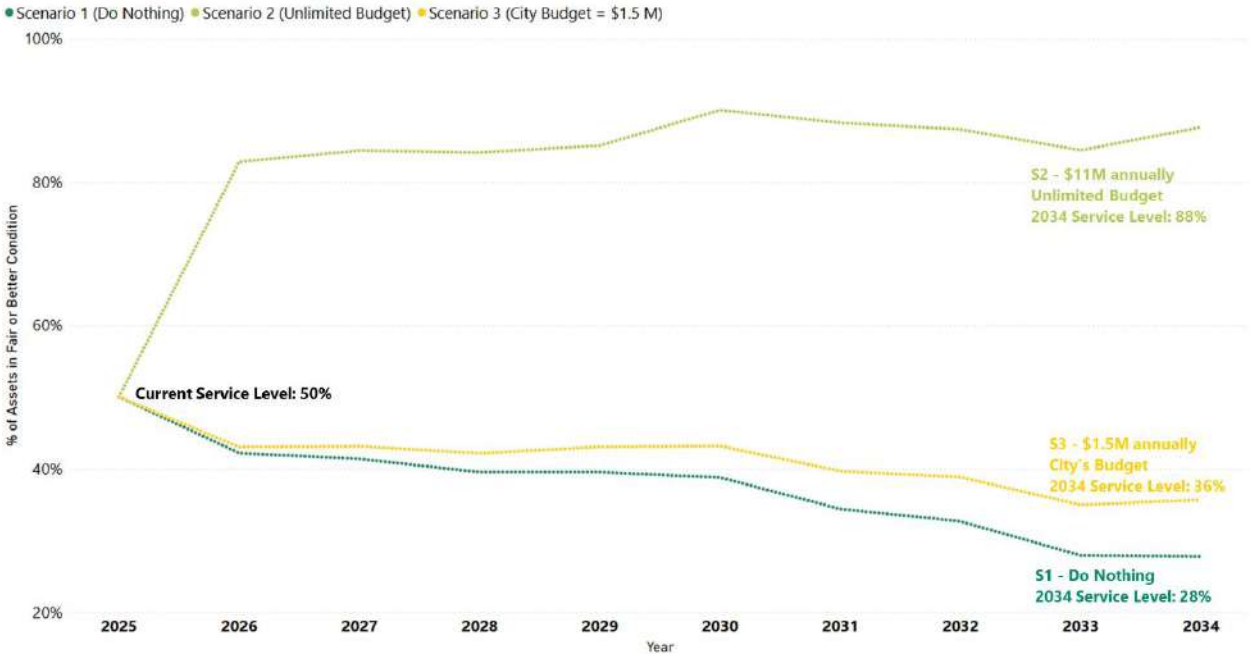


Figure 5-2: Active Transportation Levels of Service Trend in the Next 10-Year for All Budget Scenarios

Figure 5-3 illustrates the projected condition distribution of active transportation assets from 2025 to 2034, assuming the City continues with its current annual investment of $1.5 million. As of 2025, 32% of assets are in very good condition, while 41% are already in very poor condition. Over time, the overall asset condition is expected to deteriorate. By 2034, only 22% of assets are projected to remain in very good condition, while the proportion in very poor condition rises to 53%.

This trend reflects the limitations of the current funding level in addressing aging infrastructure and backlog needs. Without increased investment or proactive renewal strategies, a growing share of assets will shift into lower condition categories, potentially impacting service levels and increasing future rehabilitation costs.

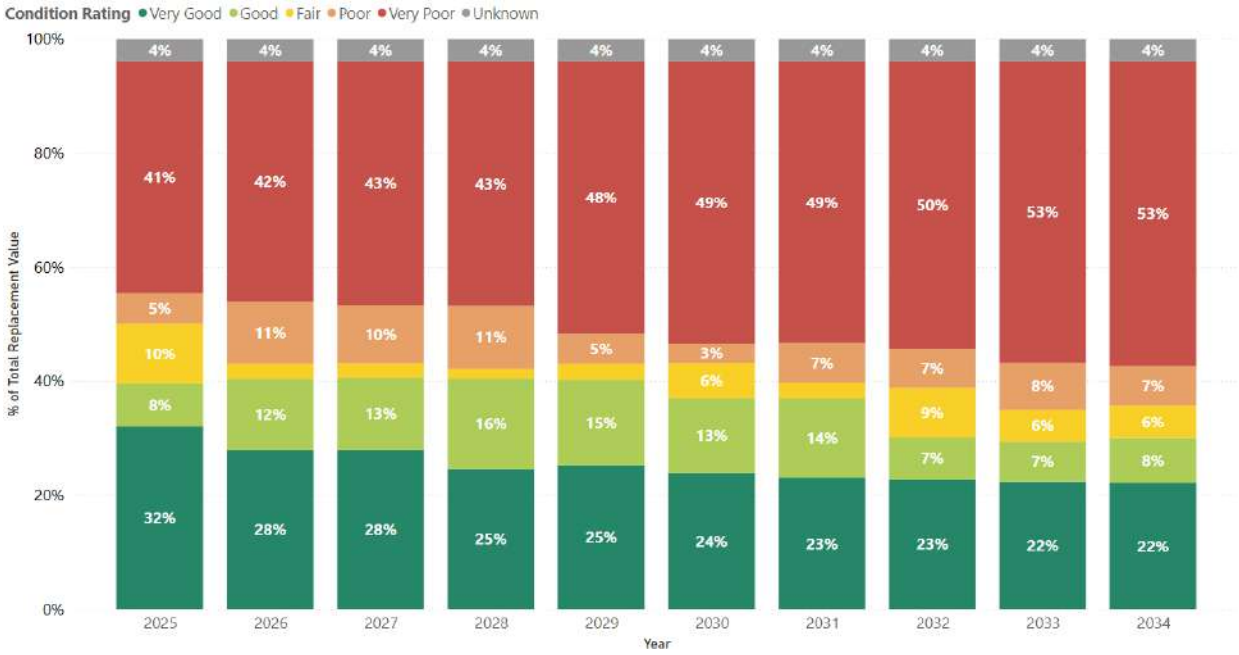


Figure 5-3: Active Transportation Condition Projection Under Scenario 3 - City's Planned Budget

5.3 20-Year Reinvestment Need

A 20-year forecast is provided to offer better line-of-sight into Active Transportation's long-term funding needs, as a 10-year view may mask emerging trends in LoS and asset condition that become more apparent over a longer planning horizon. The City's active transportation assets require an average annual reinvestment of $7.1 million over the period 2025-2044 in inflated dollar values, as presented in **Figure 5-4**. This is equivalent to a total of approximately $142 million over the next 20-year period. Notably, the reinvestment funding needs for sidewalks comprise the largest portion in most years, with a few exceptions, such as 2029, 2033, and 2035. In 2029, the waterfront walkway requires a reinvestment need of approximately $9 million, mainly because the steel framing of the waterfront deck platform has exceeded its ESL and necessitates replacement. Additionally, the multi-use paths play a significant role in the reinvestment needs in 2033 and 2035.

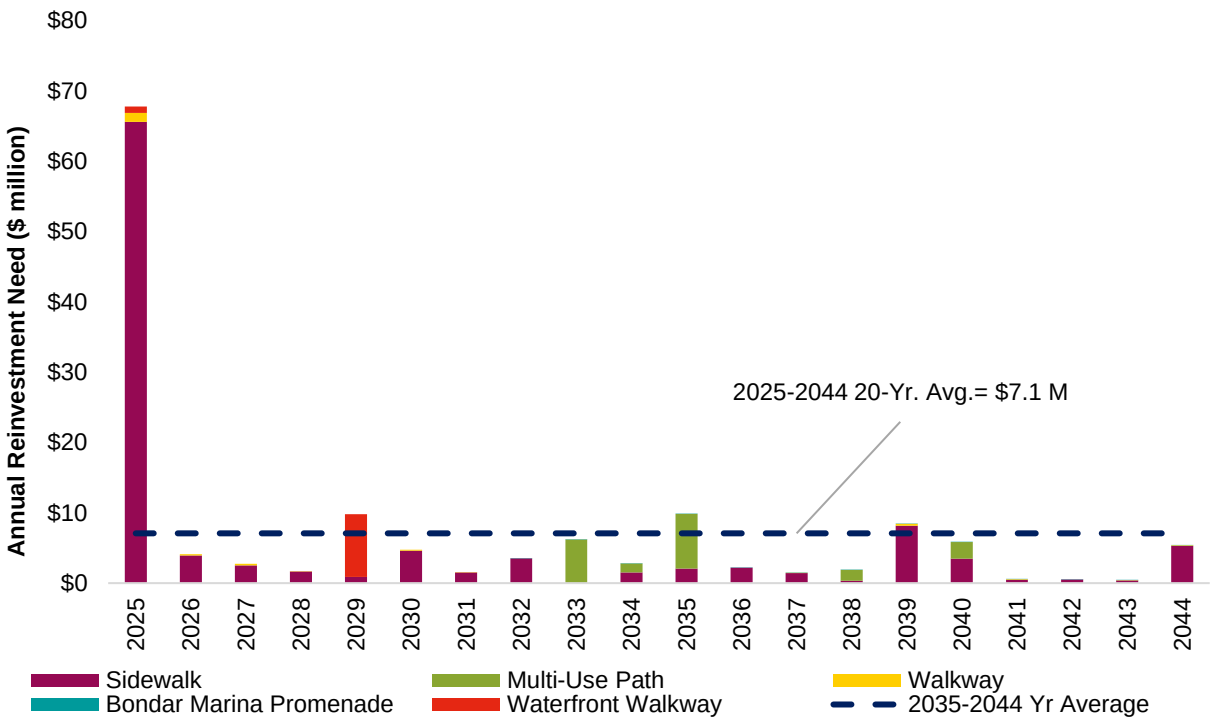


Figure 5-4: Active Transportation 20-Year Reinvestment Need – Unlimited Budget Scenario

5.4 Growth Related Capital Funding Need

As mentioned, the City is currently in the process of developing an Active Transportation Master Plan, which is anticipated to be brought forward for Council approval in the near future. Once approved, the Plan will provide a strategic framework for expanding the active transportation network to support population growth, enhance connectivity, and promote sustainable mobility. As part of the implementation, the City plans to bring forward a corresponding budget request to secure ongoing capital funding for growth-related active transportation infrastructure investments. This future funding will be critical to accommodating increased demand and supporting long-term active transportation objectives.

5.5 Full Funding Profile

Figure 5-5 shows a full picture of the City's active transportation funding need forecast over the next 10 years, which provides the City the full funding requirements in order to perform effective financial planning activities. The total annual reinvestment cost from **Figure 5-1** has been overlaid with the City's annual average active transportation O&M cost. In addition, 1% of the annual reinvestment is used as an allocation for asset disposal costs.

The City's active transportation full funding requirement increases to approximately $33 million over the next 10 years with additional funding requirement, and O&M, disposal for all assets, equivalent to $3.3 million per year in inflated dollar value (growth related lifecycle cost not included).

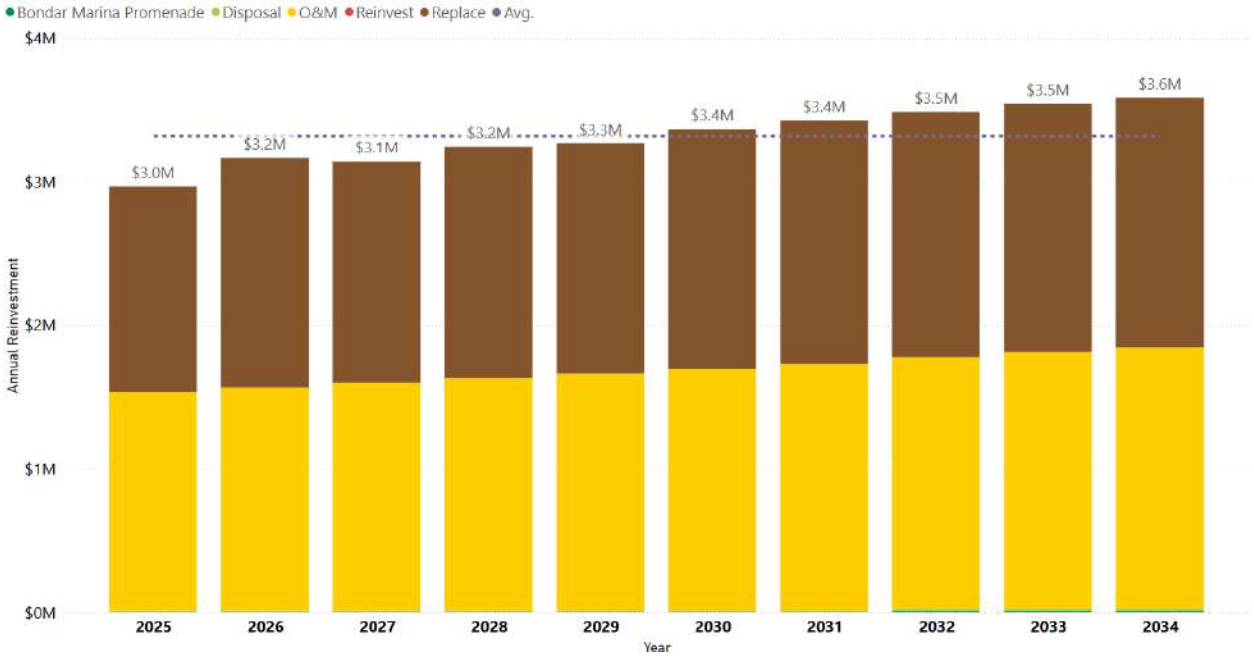


Figure 5-5: Full Funding Profile (City's Planned Capital Reinvestment Budget Scenario Included)

5.6 Funding Gaps & Risk

The City intends to continue to invest in the growth and renewal of the active transportation assets over the next 10 years. **Table 5-7** compares the City planned capital reinvestment budget against the capital reinvestment funding needs. The shortfall between the City planned capital reinvestment budget against the capital reinvestment funding needs is referred to as the "funding gap".

Table 5-7: Funding Gap – Capital Reinvestment Funding Needs vs. Budget Forecast

Asset Class	10-Year Need Total ($ million)	10-Year City Budget Total ($ million)	10-Year Gap Total ($ million)
Active Transportation	$126	$33	$93

As described in **Section 3.5**, risks are identified for each service level performance measure. **Table 5-8** provides a high-level overview of the key risks associated with funding gaps, as well as the potential consequences and impacts of not meeting the proposed service levels.

Table 5-8: Risk of Delayed Intervention for Active Transportation

Key Risk	Asset	Potential Consequences/Impacts
Inadequate infrastructure to support active transportation modes	All Active Transportation assets	• Increased safety risks for pedestrians, cyclists, and transit users • Reduced comfort and accessibility, discouraging use • Higher risk of collisions and injuries on incomplete or poorly maintained routes • Underutilization of infrastructure, leading to inefficiencies
Insufficient funding for infrastructure renewal and expansion	All Active Transportation assets	• Delay in essential renewal projects, leading to further deterioration Increased future rehabilitation and replacement costs Strained future capital budgets due to reactive maintenance Limited accessibility and mobility for vulnerable populations
Failure to meet service level expectations and connectivity targets	Multi-Use Paths, Sidewalk, Walkway	• Disruption in network continuity, forcing users onto unsafe routes • Reduced user satisfaction and trust in the City's transportation planning • Lower trail and network usage due to discomfort and lack of safety • Declining physical activity levels and associated public health impacts

Key Risk	Asset	Potential Consequences/Impacts
Over-reliance on private vehicles due to limited AT options	All Active Transportation assets	• Increased traffic congestion on major corridors • Higher vehicle emissions, leading to air pollution and public health concerns • Reduced progress toward sustainability and climate goals • Economic inefficiencies from increased fuel consumption and travel delays
Lack of data to support accurate condition assessments and funding needs	All Active Transportation assets	• Incomplete or outdated condition data leading to misinformed reinvestment planning • Recently replaced assets may still appear in poor condition due to age-based assessments • Potential under- or overestimation of funding needs • Reduced reliability of AM decisions

5.7 Funding Sources & Alternative Strategies

The Funding Gap represents the shortfall between optimal and forecasted funding levels. Addressing this gap requires careful strategic consideration. Options may include increasing revenues (e.g., user rates, taxes), issuing debt, adjusting the LoS, or accepting elevated asset-related risks. Each of these choices involves trade-offs that must be weighed in light of financial sustainability, regulatory obligations, and community expectations.

The City relies primarily on the property tax levy to fund their active transportation assets. Additionally, they receive funding from sources such as the Canada Community-Building Fund (CCBF), the Ontario Community Infrastructure Funding (OCIF), and the Ontario Municipal Commuter Cycling Program (OMCC). These diverse funding streams enable the City to allocate investments that exceed the capacity achievable through tax levies alone.

The City has acknowledged a growing funding gap in its active transportation program, particularly in delivering and maintaining infrastructure to meet evolving service level expectations. While approximately 10% of the annual road budget is currently allocated to active transportation, this amount is largely directed toward the renewal of existing assets, with limited funding available to support system growth or expanded service coverage. As a result, key infrastructure such as multi-use trails—often in competition with vehicular infrastructure for capital investment—remain particularly vulnerable to underfunding.

To manage this funding gap, the City has adopted several cost-saving practices. A key approach involves deferring active transportation projects to align with planned road reconstruction or other infrastructure works, allowing the City to reduce costs through coordination and bundling. This strategy not only minimizes surface disruption but also supports the integration of active transportation elements into broader capital projects.

Looking ahead, the City recognizes the importance of exploring both financial and non-financial strategies to support long-term service delivery. A dedicated capital funding stream for active transportation is anticipated following the approval of the City's Active Transportation Master Plan. In the interim, the City continues to rely on external grants and seeks Council approval for project-specific co-funding as opportunities arise.

In addition to financial tools, non-financial strategies offer important levers to help manage service expectations within existing fiscal constraints. These include refining service levels to prioritize high-use areas, strategically reducing coverage in less-utilized zones, and improving internal coordination to enhance funding applications. Assigning dedicated staff resources to support grant funding efforts has also been identified as a practical step to improve access to external funding.

Having dedicated staff resources focused on writing infrastructure grant applications offers significant strategic and financial benefits for the City. This role ensures consistent attention to identifying and pursuing funding opportunities, with a deep understanding of application processes, eligibility requirements, and critical deadlines—helping to avoid missed opportunities. A dedicated resource can also build and maintain strong relationships with Canadian grant funding agencies, fostering better communication, increased awareness of upcoming programs, and the ability to tailor applications to align with funding priorities. Over time, this focus enhances the quality and competitiveness of applications, improves the success rate in securing funds, and positions the organization to strategically leverage external funding to advance infrastructure priorities and reduce reliance on local budgets.

Moreover, fostering partnerships with local groups and maintaining open communication can help manage public expectations and build broader support for active transportation initiatives. **Table 5-9** outlines key non-financial strategies that can be leveraged to address the funding gap for active transportation infrastructure.

Table 5-9: Non-Financial Strategies to Address Funding Gaps for Active Transportation Service

Category	Strategy	Description / Actions
Planning & Coordination	Project Alignment and Bundling	Defer and align AT projects with road reconstruction or other capital works to reduce cost and disruption.
Service Optimization	Adjust Level of Service	Prioritize investment in high-demand areas and reduce coverage in lower-use zones to optimize service delivery.
Staffing & Capacity	Dedicated Grant Support	Assign staff resources to identify and pursue external funding opportunities more effectively.
Community Engagement	Collaboration with Local Groups	Maintain communication with community organizations to manage expectations and build public support.
Strategic Planning	Active Transportation Master Plan	Use the approved plan as a framework to guide future funding requests and implementation priorities.

Moreover, AECOM suggests exploring the following options, acknowledging that the City's eligibility for these funds is subject to certain criteria:

- Investing in Canada Infrastructure Program
- Municipal Asset Management Program (MAMP)
- Enabling Accessibility Fund (EAF)
- Northern Ontario Heritage Fund Corporation (NOHFC)
- Active Transportation Fund

5.7.1 Investing in Canada Infrastructure Program

Administered by the Government of Canada, the Investing in Canada Infrastructure Program delivers long-term and stable funding to communities with the aim of addressing environmental challenges, fostering clean growth, and enhancing resilience to climate change. Through bilateral agreements, over $33 billion in funding is allocated to provinces and territories, supporting a diverse range of infrastructure projects nationwide[6].

The program encompasses investments across four targeted funding streams: the public transit stream, the green infrastructure stream, the community, culture, and recreation infrastructure stream, and the rural and northern communities' infrastructure stream. The public transit stream allocates funds for the construction, expansion, and enhancement of public transit infrastructure. The focus of these investments is on projects that aim to increase the capacity of public transit systems, enhance the quality and safety of existing or future transit infrastructure, and improve overall access to public transit systems. In pursuit of funding through this stream, the City has actively submitted proposals for the following projects[7]:

- Electrification of Transit System
- Transit Facility and Equipment Upgrades
- Purchase of Rolling Stock Assets
- Relocation of the Downtown Transit Terminal Construction and Renovation
- Transit Facility and Equipment Upgrades

[6] Investing in Canada Infrastructure Program. (2023). Infrastructure Canada. Infrastructure Canada - Investing in Canada Infrastructure Program. Retrieved on February 14th, 2024.
[7] Investing in Canada Infrastructure Program: Projects Under Review. (2022). Infrastructure Canada. Infrastructure Canada - Investing in Canada Infrastructure Program: Projects Under Review. Retrieved on February 14th, 2024.

- Purchase of Transit Ticket Vending Machines
- Purchase and Installation of Transit Bus Shelter

5.7.2 Municipal Asset Management Program (MAMP)

The MAMP is aimed at improving AM practices within municipalities[8]. Designed to assist municipalities in gaining a better understanding, planning, and efficient and sustainable management of their infrastructure assets, the program may offer funding to support the development or improvement of AM plans. This financial support is intended to incentivize municipalities to adopt and implement sustainable AM practices.

5.7.3 Enabling Accessibility Fund (EAF)

The EAF is a Federal government program aimed at supporting projects that enhance accessibility for individuals with disabilities[9]. The fund provides financial assistance to eligible organizations for initiatives such as infrastructure improvements, renovations, and retrofitting to create more accessible spaces. Its goal is to contribute to a barrier-free and inclusive society by addressing physical barriers and promoting equal access in community spaces.

5.7.4 Northern Ontario Heritage Fund Corporation (NOHFC)

The NOHFC is an organization that provides financial support and promotes economic development in the northern regions of Ontario. Established to stimulate growth and sustainability, NOHFC offers funding for various projects, such as business expansion, job creation, infrastructure development, and community initiatives. Within the NOHFC, the Community Enhancement Program is an initiative aimed at supporting community-driven projects[10]. This program provides financial assistance for local initiatives that enhance community infrastructure, amenities, and services. Eligible projects may include the development or improvement of recreational facilities, community spaces, and essential services.

5.7.5 Active Transportation Fund

The Active Transportation Fund, introduced as part of a $5.9 billion funding initiative for public transit and active transportation, aims to invest $400 million over five years (beginning 2021-22) to enhance and expand active transportation networks across diverse communities[11]. Aligned with Canada's National Active Transportation Strategy, this fund seeks opportunities to increase the quantity, utilization, and quality of active transportation infrastructure nationwide. Eligible projects under this fund are divided into two streams: planning projects and capital projects. Planning projects, with a maximum payout of $50,000, involve the development or enhancement of formal active transportation strategic planning documents and stakeholder engagement. Capital projects, on the other hand, involve new infrastructure construction, enhancement of existing infrastructure, and the incorporation of fixed design and safety features that encourage increased active transportation. It is worth noting that the application for this fund is currently closed, and the results will be communicated in writing by Infrastructure Canada.

5.7.6 Trail Funding Program

The Trail Funding program is intended to assist Trail operators across Canada in the development and enhancement of the Trans Canada Trail[12]. The program includes a range of funding streams to support specific trail priorities including trail infrastructure and major repairs, trail signage, and accessibility and inclusion in trails.

[8] Municipal Asset Management Program. (n.d.). Federation of Canadian Municipalities. Municipal Asset Management Program | FCM. Retrieved on February 14th, 2024.

[9] About Enabling Accessibility Fund. (2023). Government of Canada. Enabling Accessibility Fund - Canada.ca. Retrieved on February 14th, 2024.
[10] Community Enhancement Program. (2024). Northern Ontario Heritage Fund Corporation. Community Enhancement Program | NOHFC. Retrieved on February 14th, 2024.
[11] Active Transportation Fund. (2023). Infrastructure Canada. Infrastructure Canada - Active Transportation Fund. Retrieved on February 14th, 2024.
[12] Trail Funding Program: Program Framework. Trans Canada Trail. Trans Canada Trail | Trail Funding Program: Program Framework (tctrail.ca). Retrieved on March 15th, 2024.

6. Implementation Plan and Continuous Improvement

Continuous improvement is an important component of any AM program and is achieved through the implementation of recommended improvement initiatives which support sustainable service delivery. AECOM has identified a set of activities that represents the next stage of AM planning and implementation within the City, as shown in **Table 6-1.**

Table 6-1: Recommended AM Improvement Initiatives

Index	Improvement Initiative	Description
1.	Refine the Asset Hierarchy and Inventory	• Continue refining the asset inventory to ensure full coverage and consistent classification. • Address gaps such as missing Asset IDs and inconsistent grouping. • Integrate steel sheet pilings into the Stormwater AMP in the next iteration. • Consolidate data from shapefiles, spreadsheets, and documentation into a centralized GIS database. • Update inventory after capital replacement and rehabilitation work • Develop a system to log rehabilitation and replacement activities. • Ensure that updated asset conditions are reflected accurately.
2.	Standardize Condition Assessment and Grading	• Implement a condition assessment program for all AT assets. • Use consistent grading methodologies across asset types. • Prioritize high-risk and high-value assets for condition assessment. • Utilize physical condition data for lifecycle and capital planning.
3.	Enhance Levels of Service Framework and Target Setting	• Analyze current LoS performance and stakeholder expectations. • Establish measurable targets aligned with funding levels. • Track performance regularly and adjust strategies as needed.
4.	Incorporate Risk-Based Decision-Making	• Develop a formal risk assessment approach. • Identify and score high-risk assets based on likelihood and consequence of failure. • Use risk data to inform maintenance and capital decisions.
5.	Update Financial Modeling Assumptions	• Refine assumptions for reinvestment rates, unit costs, and ESLs. • Use updated data for improved forecasting. • Adjust timing and costing of interventions as needed.
6.	Formalize Corridor-Based Project Coordination	• Standardize procedures for bundling AT work with road projects. • Document and systematize bundling practices. • Engage AT staff early in the capital planning cycle.
7	Develop a Dedicated Capital Funding Strategy	• Develop a long-term AT capital program following Active Transportation Master Plan approval. • Include renewal and growth-related needs. • Create a prioritization framework for capital programming.
8	Improve Grant Funding Support and Capacity	• Assign a staff lead to pursue and manage grant funding. • Create a grant tracking and application database. • Prepare reusable documentation to streamline applications.
9	Refine the Levels of Service FrameworkOptimize Promote Level of Service Coverage	• The AMP represents the City's Levels of Service in alignment with the requirements of O. Reg. 588/17 July 1, 2025 deadline. The City will continue its efforts to: – Regularly record LoS performance measures to monitor changes over time and identify emerging trends. – Review and update performance measures as needed to ensure they remain relevant and effective. – Periodically assess proposed LoS to confirm alignment with shifting community expectations, regulatory changes, City priorities, available

Index	Improvement Initiative	Description
		resources, and observed performance trends—supporting adaptive and responsive service delivery. – Continuously enhance demand management by routinely evaluating future demand drivers that influence service delivery and asset use, integrating these insights into long-term capital planning to ensure LoS remains responsive to changing needs. Evaluate usage patterns and reallocate resources accordingly. – Focus investments in high-demand areas. – Develop dashboards to track KPIs (e.g., condition, safety, investment). – Use dashboards to support decision-making and reporting.
10	Strengthen Public and Council Engagement	• Develop a structured engagement framework. • Create Councillor Tool Kits for AT messaging. – Use online platforms and social media for public outreach.
11	Develop a Customer Consultation Plan	• Conduct regular public engagement activities. • Use surveys and forums to gather input on comfort and safety. • Integrate feedback into LoS and capital planning.
12	Conduct Climate Risk and Resiliency Assessments	• Assess vulnerabilities due to climate change (e.g., freeze-thaw, flooding). • Integrate adaptation measures in design and maintenance.
13	Establish a Change Management & Communications Plan	• Promote AM culture and internal support. • Establish a network of AM champions across departments. • Ensure initiatives are resourced and widely communicated.
14	Strengthen Renewal Planning for Active Transportation Assets through Prioritization and Targeted Service Delivery to Achieve Proposed LoS on Infrastructure Renewal and Potential Life Extension Strategies	• Acknowledge the significant funding gap for active transportation infrastructure, particularly for sidewalks, walkways, waterfront walkways, and multi-use paths. • Over the next 10 years (2025–2034), the estimated reinvestment needs totals at approximately $126 million, compared to the City's planned capital investment of $33 million, resulting in a gap of $93 million. • This shortfall highlights the need for long-term financial planning and increased funding commitments to sustain current service levels and support infrastructure growth. • Consider adjusting capital reinvestment targets, securing stable funding sources, and exploring phased implementation strategies to close this gap. • Link future capital planning directly to the proposed LoS metrics (e.g., percentage of assets in fair or better condition, network growth, and user comfort). • Develop a prioritization approach that identifies high-risk, high-benefit segments and bundles work with other infrastructure renewals. – Formalize a prioritization matrix that considers asset condition, safety risk, equity of access, connectivity, and alignment with the AT Master Plan. • Use this framework to rank and phase investments to optimize the use of limited capital dollars. Promote AM culture and internal support. • Establish a network of AM champions across departments. • Ensure initiatives are resourced and widely communicated.

APPENDIX A

Active Transportation Asset Inventory

A



Appendix A – Active Transportation Asset Inventory

The City's active transportation asset inventory is presented as a separate MS Excel file.

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STORMWATER ASSET MANAGEMENT PLAN

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List of Abbreviations

Abbreviation	Description
AM	Asset Management
AMP	Asset Management Plan
CCTV	Closed Circuit Television Video
CIBI	Canadian Infrastructure Benchmarking Initiative
CMMS	Computerized Maintenance Management System
EA.	Each
ESL	Estimated Service Life
FIPPA	Freedom of Information and Protection of Privacy Act
GIS	Geographic Information System
I&I	Inflow and Infiltration
LoS	Level of Service
MFIPPA	Municipal Freedom of Information and Protection of Privacy Act
O&G	Oil and Grit
O&M	Operations and Maintenance
O. Reg.	Ontario Regulation
PUC	Public Utilities Commission
RSL	Remaining Service Life
TBD	To be determined

1. Introduction

AECOM Canada ULC (AECOM) was retained by The City of Sault Ste. Marie (the "City") to update the asset management plan developed in 2022 to comply with the third phase (Phase III) of the Ontario Regulation 588/17 (O. Reg. 588/17) requirements in respect to its core municipal infrastructure assets. The scope of work is outlined in AECOM's proposal dated September 20, 2024, and subsequent project correspondence.

1.1 Background

Sault Ste. Marie is a City located on the St. Mary's River, North of the United States of America, bordering on two of the Great Lakes with an estimated population of 73,368 (2016). The City provides a wide range of public services to their constituents with the expectation from the public that these services are expected to function efficiently at a certain level. The provision of these services requires the management of the physical assets to meet desired service levels, manage risks, and to provide long term financial sustainability. These assets include, but are not limited to roads, bridges, sidewalks, wastewater assets, stormwater management assets, landfill, fleets, buildings, and parks.

In accordance with the terms of reference for this assignment, it is understood that the City is proceeding with an asset management plan to comply with the third phase of the regulatory requirements in respect to its core municipal infrastructure assets, in accordance with O. Reg. 588/17, by July 1, 2025. The core assets to be included in the scope, as defined by the regulation, include the City's wastewater assets, stormwater management assets, roads, and bridges and culverts.

1.2 Scope and Objectives

In 2015, the City's first Asset Management Plan (AMP) was published. In 2019, by the City Council approval, the Strategic Asset Management (AM) Policy for the City came into effect. In 2022, the City published its core asset AMPs. Following that, the City developed the AMPs for its non core assets in 2024.

Organizations that implement good AM practices will benefit from improved business and financial performance, effective investment decisions, and better risk management. Stakeholders can expect lower total asset life cycle costs, higher asset performance, and confidence in sustained future performance.

The AMPs capture the City's infrastructure assets and deliver a financial and technical roadmap for the management of the City's assets. The intent of this plan is to provide the means for the City to maximize value from its assets, at the lowest overall expense while, at the same time, enhance service levels for its residents.

The objective of Phase III is to update all the core and non-core AMPs to comply with the July 1st, 2025, deadline set by O. Reg. 588/17. Phase III will update the AMP by incorporating the latest asset information, with a focus on:

- Updating the current AMPs to integrate proposed Levels of Service (LoS).
- Defining the lifecycle activities and associated costs required to achieve those LoS.
- Identify the available funding and any funding shortfalls.
- Document the risk(s) of failing to meet the proposed LoS for all asset classes over a 10-year period.

This AMP is an update of the 2022 AMP for the City's Stormwater management system, as shown in **Table 1-1**. Other core and non-core AMPs are presented under separate reports.

Table 1-1: In-Scope Stormwater Assets

Asset Category	Sub-Assets
Stormwater Conveyance System	Sewers, Service Connections, Manholes & Chambers, Aqueducts, Ditches, Catch Basins, Catch Basin Leads, Road Crossing Culverts, Driveway Culverts, and Oil and Grit Separators.
Pump Stations	Structural, Process Mechanical, Building Mechanical, Electrical, Instrumentation and Control Assets.
Stormwater Other	Stormwater Management Ponds, Rain Gauges, Snow Dumps, and Shoreline Seawalls.

The following elements are included within the scope of this AMP:

- Asset hierarchy, a summary of the asset inventory, including the replacement cost of the assets, the average age of the assets, the condition of the assets, and data gaps analysis (**Section 2**).
- The City's level of service objectives, stakeholder identification, current levels of service (LoS) determined in accordance with the qualitative descriptions and technical metrics outlined in O. Reg 588/17, proposed service levels, LoS forecast, and future demand drivers (**Section 3**).
- Asset lifecycle management strategies, lifecycle activities and funding needs to achieve proposed LoS, risk of not meeting proposed LoS, available funding and funding gap, and alternative (non-financial) strategies to manage funding shortfall (**Section 4** and **Section 5**).

1.3 Asset Management Provincial Requirements

The O. Reg. 588/17 came into effect in 2018 and stipulates specific AM requirements to be in place within Ontario municipalities by certain key dates (**Table 1-2**). The development of this AMP is one of the steps to guide the City towards meeting the July 1st, 2025, deadline.

Table 1-2: O. Reg. 588/17: AM Planning for Municipal Infrastructure

Deadline Date	Regulatory Requirement
July 1st, 2019	All municipalities are required to prepare their first Strategic AM Policy.
July 1st, 2022	All municipalities are required to have an AM Plan for its entire core municipal infrastructure (i.e., water, wastewater, stormwater, roads, and bridges & culverts).
July 1st, 2024	All municipalities are required to have an AM Plan for infrastructure assets not included under their core assets.
July 1st, 2025	All AM Plans must include information about the LoS that the municipality proposes to provide, the lifecycle activities and associated costs needed to achieve those LoS, available funding, any funding shortfalls, and the risk of failing to meet the proposed LoS.

2. State of Infrastructure

Typically, stormwater originates from melted snow and rain that flows across the land. The City's system is transferring this stormwater to streams, rivers and lakes with a combination of sewers, culverts, aqueducts, as well as other vital components such as catch basins, ditches, service connections, manholes & chambers, a pump station, ponds, rain gauges, and snow dumps. The City also owns and maintains shoreline stabilization assets (i.e., seawalls) to protect municipal infrastructure from erosion.

The stormwater system plays a pivotal role to protect the well-being and the safety of society, as well as protecting the environment. Accordingly, the City is responsible for managing the stormwater network to maintain the asset serviceability and reliability at a satisfactory level.

2.1 Asset Hierarchy

To fulfill the requirements of O. Reg. 588/17 and to pave the way for robust long range AM planning, the City requires a logically segmented asset break down structure (hierarchy) under the scope of this AMP. To do so, the core stormwater assets must be sufficiently granular to recognize which individual assets are due for renewal. However, it is important to balance the fine trade-off between adequate granularity to provide the essential information, and too much granularity that the effort of which to collect and manage the information eclipses the usefulness of the data itself.

There is a wide range of stormwater system assets organized hierarchically as presented in **Figure 2-1**. This break down of the infrastructure is derived from the way that assets are presented within the data sources, which indicates program area's responsibilities and parent-child relationships within each asset type.

Figure 2-1 categorizes the City's stormwater system into three main sections namely, the conveyance system, pump stations, and other. Pump stations is then stratified into structural, process mechanical, electrical, and instrumentation & control. The conveyance system is broken down into sewers, service connections, culverts, ditches, manholes & chambers, catch basins, oil and grit separators, and aqueducts. Snow dumps, ponds, rain gauges, and seawalls fall into the other category.

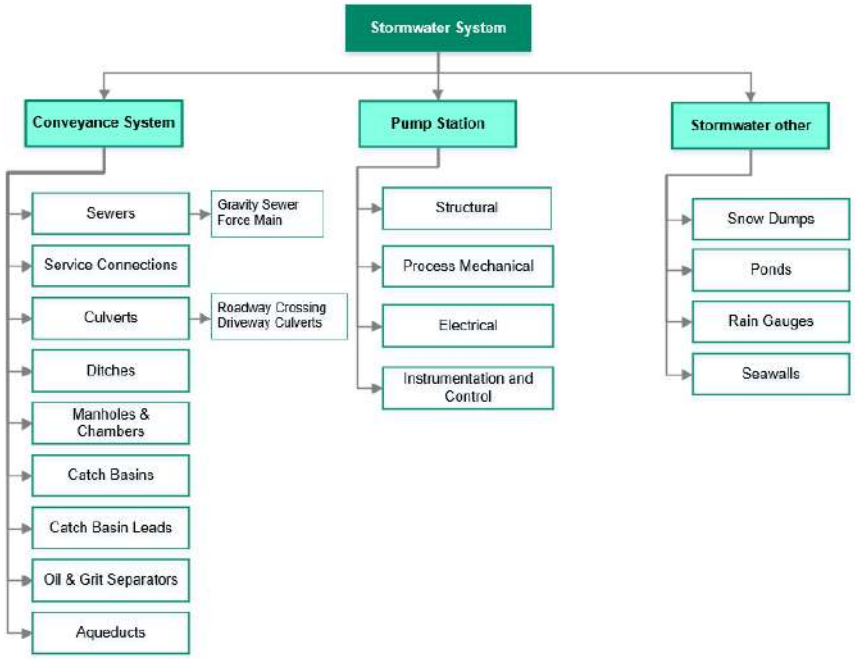


Figure 2-1: City of Sault Ste. Marie Stormwater Asset Hierarchy

2.2 Current State of the Assets

2.2.1 Asset Inventory

Table 2-1 summarizes the stormwater inventory for each asset category within the City's stormwater network.

Table 2-1: Stormwater Asset Inventory Summary

Asset Group	Asset Category	Asset Sub-Category	Quantity	Unit	Count of Assets
Stormwater Management System	Conveyance System	Sewers	287	km	4,976
		Road Crossing Culverts	10	km	553
		Driveway Culverts	79	km	8,987
		Aqueducts	14	km	56
		Catch Basin Leads	83	km	9,257
		Ditches	658	km	22,748
		Service Connections	78	km	7,714
		Catch Basins	9,243	Ea.	9,243
		Manholes & Chambers	4,299	Ea.	4,299
		O&G Separators	11	Ea.	11
	Pump Stations	Pump Stations	1	Ea.	8
	Stormwater Other*	Ponds	17	Ea.	17
		Rain Gauges	7	Ea.	7
		Snow Dumps	7	Ea.	7
		Seawalls	2	km	8
Total					**67,948**

**A shoreline seawall inventory was compiled by City staff by tracing the length that could be viewed in aerial imagery, along with approximate installation eras. However, condition data and replacement valuation have not yet been captured, though capital needs for the seawalls are considered in Section 5.5 – Full Funding Profile.*

2.2.2 Current Asset Replacement Value

The City's Stormwater system is valued at approximately $1.2 Billion. **Table 2-2** presents current replacement value of each asset subcategory, as well as all subcategories. The total replacement value for the conveyance system is approximately $1.1 Billion. Pump stations and other stormwater assets account for almost $0.5 Million and $2.4 Million, respectively. The Aqueducts account for the highest replacement value, which is approximately $412 Million, followed by sewers, contributing to over $340 Million. The values presented in **Table 2-2** include a 45% markup to allow for the removal of existing infrastructure, engineering (design and contract administration), contingencies, and mobilization.

Table 2-2: Stormwater Assets Current Replacement Value

Asset Group	Asset Category	Asset Sub-Category	Unit Replacement Cost ($/Unit)	Total Replacement Value (2025)
Stormwater Management System	Conveyance System	Sewers	$360 - $2,100 / m	$343,352,000
		Culverts	$250 - $2,500 / m	$89,000,000
		Aqueducts	$13,000 - $24,000 / m	$411,978,543
		Catch Basin Leads	$360 - $800 / m	$55,665,000
		Ditches	$50 / m	$53,786,000
		Service Connections	$300 - $730 / m	$45,873,000
		Catch Basins	$5,000 / Ea.	$76,258,000
		Manholes & Chambers	$10,000 - $40,000 / Ea.	$78,227,000
		O&G Separators	$12,000 - $76,000 / Ea.	$1,054,000
	Pump Stations	Pump Station	$5,000 - $200,000 / Ea. (per component)	$540,000
	Stormwater Other	Ponds	$70,000 / Ea.	$2,000,000
		Rain Gauges	$5,000 / Ea.	$57,000
		Snow Dumps	$30,000 / Ea.	$353,000
			Conveyance System	$1,158,143,000
			Pump Stations	$540,000
			Stormwater Other	$2,410,000
			Total	$1,161,000,000

2.2.3 Age and Remaining Service Life

In practice, various assets will deteriorate at different rates and not necessarily linearly over time. However, it is pivotal to keep in mind the level of effort required to predict failure compared with the asset value. More sophisticated deterioration modelling may be warranted for very high value assets, whilst the cost of deterioration modeling for low-value assets may very well exceed the replacement cost of the asset. The actual service life can vary significantly from the estimated service life (ESL). The latter is defined as the period over which an asset is available for use and able to provide the required LoS at an acceptable risk and serviceability (i.e., without unforeseen costs of disruption for maintenance and repair). In some instances, a variation in expected vs. actual service life is evident due to the following factors:

- **Operating conditions and demands:** Some assets are operated intermittently or even infrequently or are being operated at a lower demand than their designed capacity. Thus, the actual operating “age” of the asset is reduced.
- **Environment:** Some assets are exposed to very aggressive environmental conditions (e.g., corrosive chemicals), while other assets are in relatively benign conditions; thus, the deterioration of assets is affected differently.
- **Maintenance:** Assets are maintained through refurbishment or replacement of components, which prolongs the service life of the asset.
- **Technological Obsolescence:** Some assets can theoretically be maintained indefinitely, although considerations such as cost to maintain the asset, its energy efficiency, and the cost to upgrade to an updated technology that would result in cost savings are likely to render this approach uneconomical.

Table 2-3 and **Figure 2-2** present the weighted average age, weighted average ESL, and remaining service life (RSL) for various asset sub-categories within the City's stormwater system. The average age of assets ranges from 12 to 40 years for rain gauges and aqueducts, respectively, and the average ESLs vary from 20 (rain gauges) to 100 (snow dumps) years. Based on the table, ponds, snow dumps, and service connections have the highest remaining service life with 66, 64, and 51 years, respectively.

Table 2-3: Stormwater Assets Average Age, ESL, and Remaining Service Life

Asset Group	Asset Category	Asset Sub-Category	Weighted Average Age	Weighted Average ESL	Remaining Service Life
Stormwater System	Conveyance System	Sewers	42	80	38
		Road Crossing Culverts	32	29	0
		Driveway Culverts	30	25	0
		Catch Basins	41	80	39
		Aqueducts	36	80	44
		Catch Basin Leads	42	72	31
		Ditches	42	50	8
		Service Connections	32	80	48
		Manholes & Chambers	42	80	38
		O&G Separators	18	50	32
	Pump Stations	Pump Stations	35	66	31
	Stormwater Other	Ponds	17	80	63
		Rain Gauges	15	20	5
		Snow Dumps	39	100	61

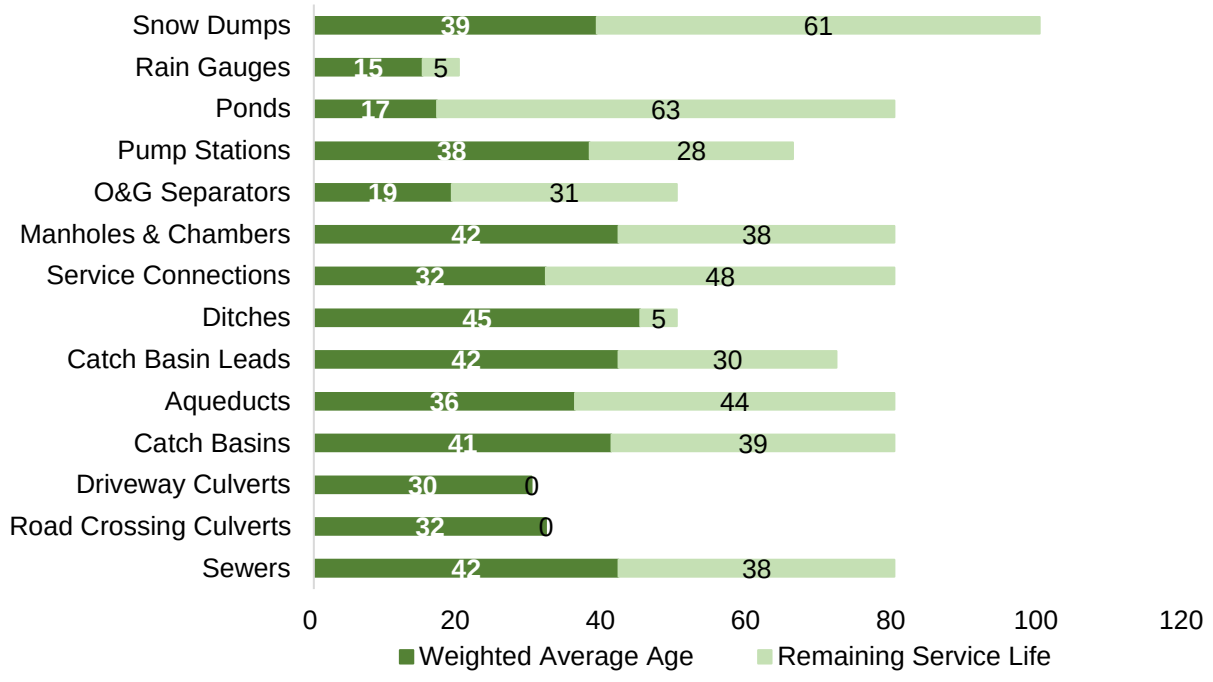


Figure 2-2: Stormwater System Weighted Average Age and Remaining Service Life

Figure 2-3 shows the installation profile of the City's stormwater management system, stratified based on different sub-categories. As seen, aqueducts have considerable contribution to installed assets prior to 1990 with a replacement

value of approximately $257 Million. As mentioned before, the total replacement value for aqueducts is almost $357 Million.

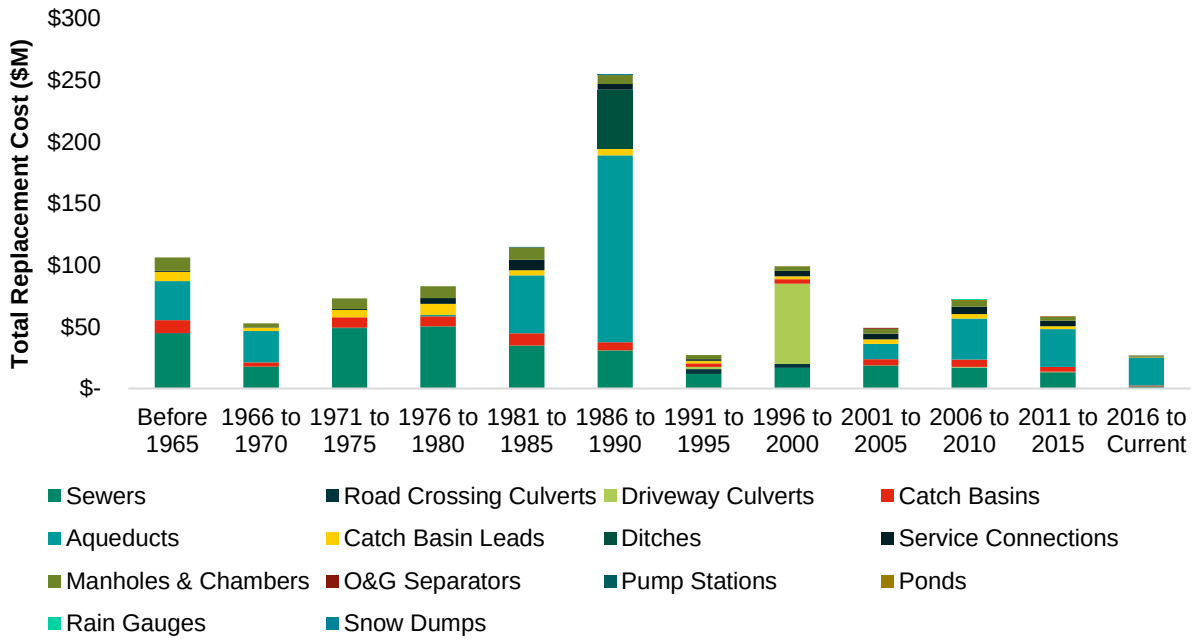


Figure 2-3: Stormwater Assets Installation Profile

Figure 2-4 illustrates the stormwater conveyance assets profile based on the 10-year installation periods to better understand how much each asset subcategory is contributing to replacement values, by era of construction. A significant proportion of sewers was installed after 1951, with a spike between 1971 to 1980.

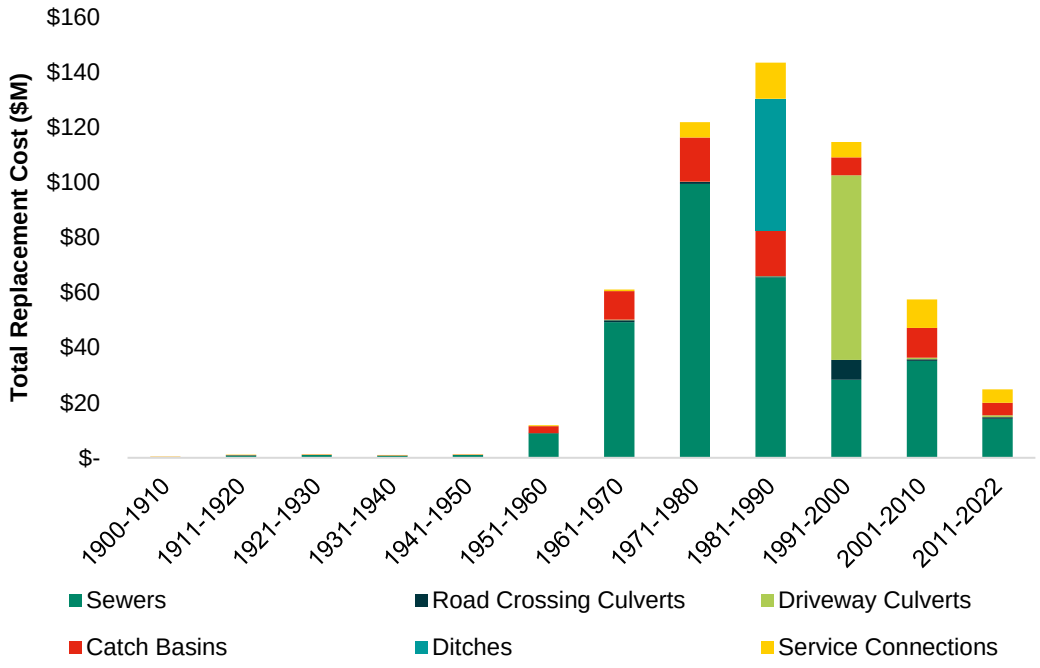


Figure 2-4: Installation Profile of Stormwater Conveyance system

2.2.3.1 Stormwater Sewers and Service Connections Materials

Table 2-4 indicates the material distribution for stormwater sewers and service connections. Most of the storm sewer mains are made of concrete and concrete cast in place, with almost 181 km and 18.8 km, respectively, followed by PVC, with approximately 51 km. The majority of service connections are made of PVC material (approximately 43 km). **Figure 2-5** and **Figure 2-6** highlight the percentage of length for each material type for stormwater sewers and service connections.

Table 2-4: Storm Sewer and Service Connections Material Distribution by Length

Asset Category	Material	Total Length (km)
Stormwater Sewers	Concrete	181.6
	Concrete Cast in Place	18.8
	Other (Asbestos Cement, Cast Iron, Clay, Corrugated PVC, Polypropylene, Vitrified Clay)	9.5
	PVC	50.9
	Unknown	25.8
Service Connections	Asbestos Cement	3.3
	Other (Vitrified Clay, Polyethylene)	0.7
	PVC	42.9
	Unknown	31.6

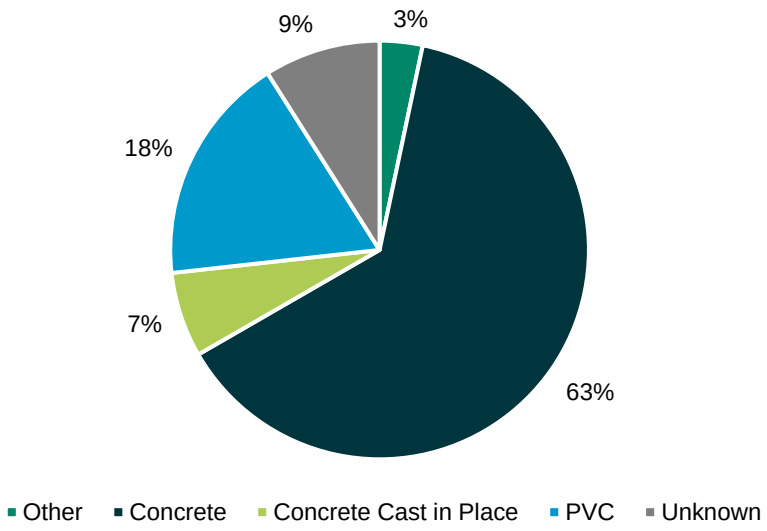


Figure 2-5: Stormwater Sewers Material Distribution by Length

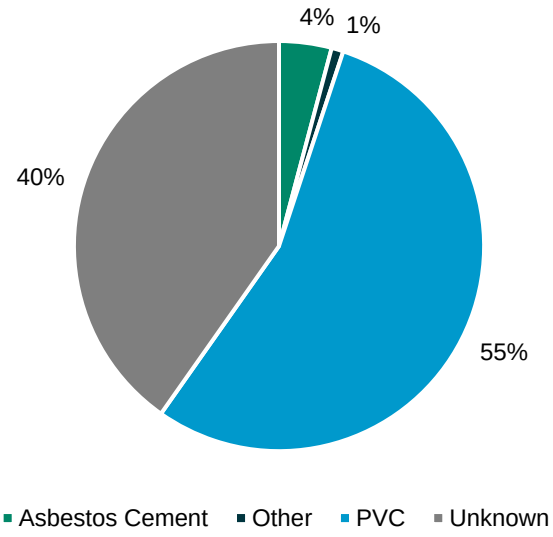


Figure 2-6: Stormwater Service Connections Material Distribution by Length

2.2.4 Asset Condition

All assets are expected to deteriorate over their lifetime, and their assigned condition reflects the physical state of the asset. Field condition assessment for 25 sewer segments in the South Market area (Clark Creek Drainage System from Black Road to Bennett Blvd) were performed in 2020[1] and incorporated in this AMP. Cured-in-Place-Pipe Lining (CIPP) sewer rehabilitation strategy and the associated costs were suggested to resolve the observed defects. It should be noted that no on-site condition assessments were carried out for this project.

For storm sewers that do not have field condition assessment results, an age-based approach was applied to assess the condition. Accordingly, a two-parameter Weibull distribution function was used to assess the current condition of the stormwater assets. The Weibull distribution has been used extensively in reliability studies and lifetime prediction models in industries ranging from automotive to the oil & gas and provides a suitable distribution for this type of analysis.

The underlying premise of the Weibull-shaped deterioration is that while some assets fail prematurely due to severe conditions or improper installation, other assets are very long-lived and function well beyond their theoretical ESL. In order to perform a high order network-level analysis, it was assumed that assets would fail (and require replacement) within a deterioration envelope / curve approximated by a Weibull probability distribution. The two-parameter Weibull cumulative distribution has two parameters for scale and shape, as set out in Equation [1]:

$$f(x;\alpha,\beta) = e^{-\left(\frac{x}{\beta}\right)^{\alpha}} \quad [1]$$

Where: x = Age
α = Shape parameter (or slope)
β = Scale parameter

A set of Weibull cumulative distribution functions were leveraged to simulate a set of deterioration curves for assets with different ESLs as shown in **Figure 2-7**.

[1] AECOM. 2020. Technical Memorandum: Storm Sewer Assessment – South Market Area (Clark Creek Drainage System from Black Road to Bennett Blvd)

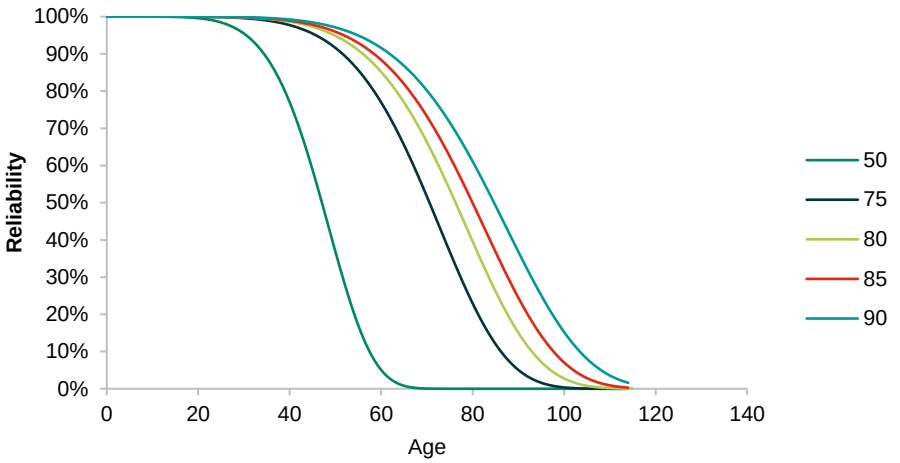


Figure 2-7: Asset Deterioration Curve Samples

Table 2-5 summarizes the condition grade of the City's stormwater assets with associated replacement values. Approximately 68% of the assets are in very good condition, with a total replacement value of approximately $504 Million, and approximately 13% of the stormwater assets are in the very poor condition with total replacement value of around $95 Million. Good condition accounts for 11% of the existing infrastructure, having a replacement value of around $80 Million. Fair and poor condition assets make up 3% and 0.4%, respectively. Please note that this summary (and **Figure 2-8** and **Table 2-6**) does not include aqueducts, ponds, snow dumps or seawalls, and therefore the total replacement value between **Table 2-2** and **Table 2-5** do not align. These were not included since this data was pulled from the PowerBI Lifecycle Model described in subsequent sections, and these assets were omitted from the model analysis. They were however captured in the Full Funding Profile (**Section 5.5**), using City defined annual budgets for rehabilitation and maintenance activities.

Table 2-5: Stormwater Condition Summary

Rank	Condition Rating	Replacement Value	% of Replacement Value
1	Very Good	$504,848,000	68%
2	Good	$80,476,000	11%
3	Fair	$23,501,000	3%
4	Poor	$3,301,000	0.4%
5	Very Poor	$95,292,000	13%
	Unknown	$35,575,000	5%
	Total	**$742,992,000**	**100%**

Additionally,

Figure 2-8 and **Table 2-6** breaks the condition of the assets based on asset sub-categories and their corresponding replacement values. As indicated within the bar chart, a significant proportion of sewers are in good and very condition, with 14% and 81%, respectively. A negligible proportion of these assets are classified within the poor and very poor condition. Also of note is the significant proportion of culverts that are in very poor condition (90%), reflective of the fact that the vast majority of culverts have surpassed their expected service life.

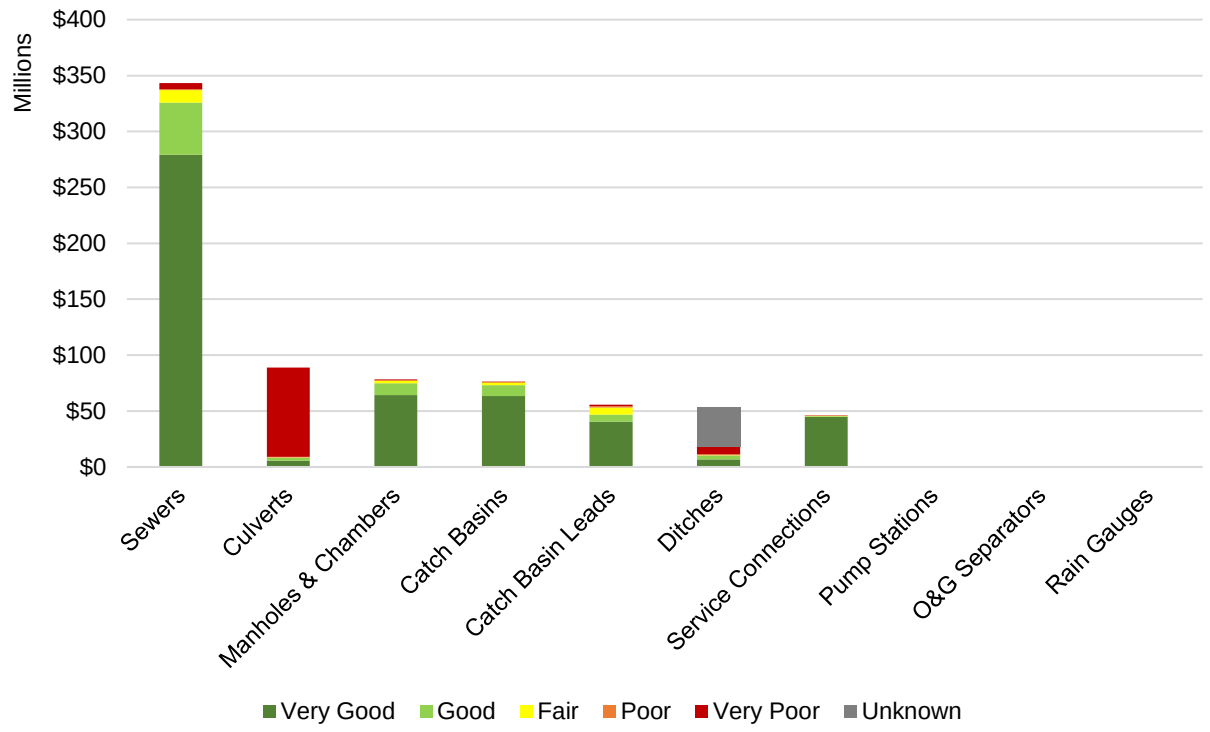


Figure 2-8: Stormwater Condition Summary

Table 2-6: Stormwater Condition Summary by Asset Sub-Category

	Sewers	Culverts	Manholes & Chambers	Catch Basins	Catch Basin Leads	Ditches	Service Connections	Pump Stations	O&G Separators	Rain Gauges	Total
Very Good	81%	6%	82%	83%	73%	13%	98%	79%	100%	0%	**68%**
Good	14%	3%	14%	13%	11%	6%	1%	-	-	100%	**11%**
Fair	3%	0.3%	3%	3%	11%	1%	0.4%	-	-	-	**3%**
Poor	0.2%	1%	0.1%	0.1%	2%	1%	0.1%	-	-	-	**0%**
Very Poor	2%	90%	1%	1%	2%	13%	0.3%	21%	-	-	**13%**
Unknown	-	-	-	-	-	66%	-	-	-	-	**5%**
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

2.2.4.1 Sewers

Table 2-7 and **Figure 2-9** present sewer condition distribution by diameter, categorized into four groups, <450mm, 450-1,500mm, >= 1,500mm, and Unknown. Pipes between 450mm and 1,500mm have the highest contribution to the replacement cost ($214 Million), followed by smaller than 450mm pipes ($88 Million). The highest replacement value for the very poor category belongs to 450-1500 mm pipes, which is approximately $3.3 Million. Unknown pipes and pipes with larger diameter than 1,500 mm account for approximately $26 Million and $16 Million, respectively.

Table 2-7: Sewers Condition by Diameter

Condition Rating	< 450mm	450 - 1,500mm	≥ 1,500mm	Unknown	Total
Very Good	$61,397,000	$185,139,000	$12,654,000	$19,954,000	**$279,144,000**
Good	$18,555,000	$23,129,000	$0	$5,078,000	**$46,761,000**
Fair	$6,458,000	$1,420,000	$2,736,000	$568,000	**$11,181,000**
Poor	$104,000	$549,000	$0	$0	**$652,000**
Very Poor	$1,218,000	$3,333,000	$189,000	$874,000	**$5,614,000**
Total	**$87,732,000**	**$213,569,000**	**$15,578,000**	**$26,473,000**	**$343,352,000**

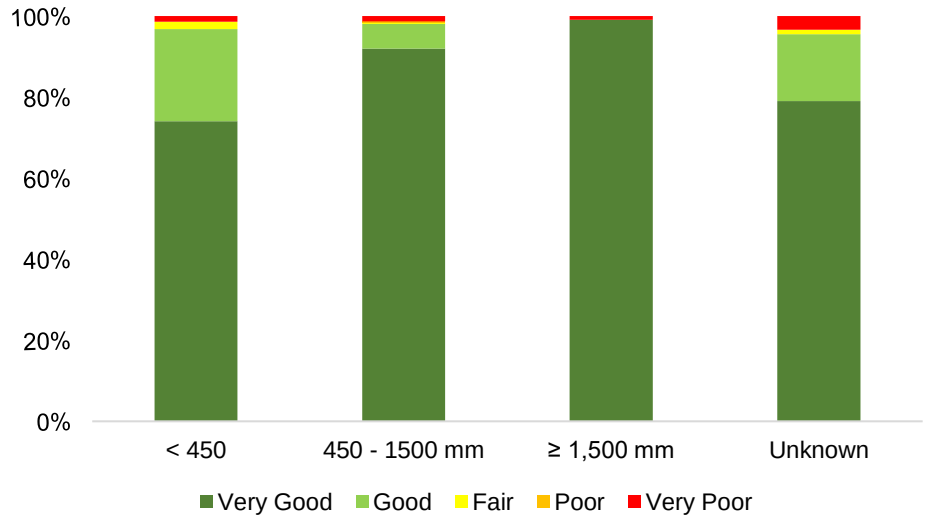


Figure 2-9: Stormwater Sewers Condition Distribution by Diameter

2.3 Asset Data Gap Analysis

This section summarizes the current state of the City's asset data by assessing the quality of the asset inventory. To determine the overall confidence in the current asset data, identify exiting data gaps, as well as to gather insight into the City's data management practices, AECOM facilitated a virtual State of Infrastructure and Data Gap Analysis Workshop with key staff across the in-scope assets. An online Data Management Gap Assessment Survey was also distributed to the AM Working Group to elicit further insights on the City's current and desired future state, as well as key challenges, regarding the City's overall data management.

2.3.1 Data Gap Observations

Table 2-8 provides a summary of observed data gaps in the compiled stormwater asset inventory across key data attributes that help to make informed decisions over the asset lifecycle for this AM plan.

Table 2-8: Observations on Asset Data Completeness

Asset Group	Inventory Completeness (%)						
	Asset ID	Name / Location	Install Date	Inspection Date	Condition	Expected Service Life	Replacement Cost
Stormwater	99.5%	100%	64%	0%	0%	100%	100%

2.3.2 Data Confidence

The quality of asset data is critical to effective AM, accurate financial forecasts, and informed decision-making. For this reason, it is important to know what the reliability of the information is for the State of Infrastructure analysis of the stormwater assets. **Table 2-9** provides a description for the data confidence grades used to classify the reliability of the asset data used in this data gap analysis. Through consultation with City staff during a Data Gap and State of Infrastructure Workshop, the asset attribute data for the stormwater in-scope assets were assigned the grades outlined in **Table 2-10**.

Table 2-9: Data Confidence Grading Scale

Confidence Grades	Description
A - Highly reliable	Data is based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate ± 2%
B - Reliable	Data is based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10%
C - Uncertain	Data is based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy is estimated ± 25%
D - Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy ± 40%
E - Unknown	None or very little data held.

Table 2-10: High-Level Asset Data Confidence Grades

Asset Category	Data Confidence Average Grade		
	Inventory	Age	Condition
Stormwater	B	C	C

2.3.3 Data Management Practice

The asset data lifecycle is a sequence of stages that data goes through from its initial build (i.e., data capture and entry) to its eventual archival and/or deletion at the end of its useful life[2]. A clear definition and understanding of the organization's process for acquiring, storing, utilizing, assessing, improving, archiving, and deleting data (see **Figure 2-10**) will ensure good data management practices and help to sustain levels of data quality required to support AM activities.

[2] TechTarget Network, Definition: Data Life Cycle, 2020.



Figure 2-10: Asset Information Lifecycle

The seven key stages of the asset data lifecycle are described in more detail below:

- **Acquiring New Data**: The majority of new asset data arises from asset creation, refurbishment and overhaul activities. New data may also come by way of inheritance or transfers from other business units, organizations, or third parties. As such, it is important to have clearly defined processes in place not only to add or update asset data, but to migrate and merge data from other sources.
- **Storing Data**: The way asset data is stored is an important consideration for overall data quality. Having a planned approach to data storage will inevitably reduce the likelihood of duplication and inconsistencies across datasets within the organization. Depending on the needs of the organization, this stage may involve procuring a new software to adequately house the data, along with a data backup and recovery plan to ensure that the necessary data protection and privacy standards are met.
- **Utilizing / Analysing Data**: This aspect of the asset information lifecycle is where users encounter the data to support data-driven activities within the organization. Data can be viewed, processed, edited, and published to allow users to access the data outside the organization. Critical data that has been modified should be fully traceable to maintain the integrity of the data. As such, it is important to communicate to the users why asset data is so important, and how it is used to inform decisions within the organization.
- **Assessing Data**: Assessing the data quality helps to determine the level of confidence in the information and ensures that decision-makers are making informed decisions based on the quality of data available to them. Moreover, it is important to fully understand the availability and quality of the asset data before issuing information publicly. Some of the results of data degradation, due to improper or lack of assessment, may include:
  - Poor asset performance due to lack of information and understanding of asset behaviour.
  - Non-compliance with statutory regulations or safety requirements.
  - Safety incidents due to risks not being identified or reported.
  - Asset failure due to gaps in maintenance planning.
- **Improving Data**: Improving data quality involves establishing clear targets which are intended to be communicated widely across the organization. It is imperative that the organization understands the costs, benefits, and risks associated with any data improvements since the cost of the improvement may outweigh the overall benefit. It is also important to note that *more* data does not necessarily mean *better* data. It is very possible to collect data that does not add value to the organization. As such, it is critical that the organization aligns its data improvement targets with its AM objectives, and considers the data-driven decisions staff need to make at the operational and strategic level, to ensure that the *right* data is being improved upon.

- **Archiving Data**: Archiving data is the process of storing data that is no longer active or required but is able to be retrieved in case it is needed again. Data that is archived is stored in a location where no usage or maintenance occurs. It is recommended that a data archive strategy exists within an organization in order to lay out the data archival requirements, which considers the following:
    - What data should be archived and why?
    - Are there any legal obligations for retaining data records?
    - How long should data records be retained?
    - What is the risk associated with not being able to retrieve data records?
    - Who should be able to access archived data records?
    - What is the expected timeframe to retrieve archived data records?
    - Clearly communicating these requirements across the organization is key to ensuring staff are educated on why records are being archived, how they can access archived data records, and for how long archived data records can still be accessed.
- **Deleting Data:** The deletion of data is the final component of the asset information lifecycle. Typically, within organizations there is a resistance to permanently delete data, otherwise known as data “squirrelling”, due to the overall capacity of storing data increasing and the cost decreasing. However, within the organization’s data archive strategy, a retention period should be specified to indicate when data should be deleted, along with any processes to follow, such as obtaining prior authorization.

2.3.3.1 Current Data Management State

The City’s Public Works and Engineering Services Department staff are involved in stormwater data management. The City’s stormwater data is currently stored in GIS, Excel spreadsheets, reports, and as-built drawings. Currently, the City updates assets in the GIS post-construction, and there may be a lag in obtaining as-builts and adding/updating data. The City is following the mandate in records retention procedures for municipalities as per Freedom of Information and Protection of Privacy Act (FIPPA) and the Municipal Freedom of Information and Protection of Privacy Act (MFIPPA).

2.3.3.2 Future Data Management State

The City will develop and implement a software strategy that helps streamline data management following this AMP. Eventually, the City plans to have a clear and efficient data management process and comprehensive and robust asset inventory to support their AM decision making. The implementation plan for data improvement is presented in **Section 6**.

3. Level of Service

3.1 Purpose

Levels of Service (LoS) support every aspect of the overall AM system. The objective of establishing clearly defined service levels is to help the City meet stakeholder values, achieve its strategic goals, make informed decisions, and implement effective asset lifecycle activities.

Documenting LoS is a proven practice that will enable the City to:

- Link corporate strategic objectives to customer expectations and technical operations.
- Balance customer needs and expectations while evaluating the effectiveness of operations to determine whether the right LoS is being provided at the right cost.
- Transition from an “Asset Stewardship” approach that focuses on making decisions based on maintaining assets in an acceptable condition to a “Serviceability” approach that is geared towards making decisions based on balancing the costs, risks, and goals for the LoS being provided by the City’s assets.
- Communicate the physical nature of infrastructure that the City owns and is financially responsible for and enable effective consultation with stakeholders regarding alternative funding options according to desired LoS outcomes.
- Make recommendations on strategies that the City can take now to minimize future renewal costs while ensuring that adequate LoS can be delivered without burdening future generations.
- Assess internal (e.g., program changes) and external (e.g., climate change) factors that have the potential to impact the City’s ability to deliver services and how these factors may impact the LoS being provided.
- Implement a corporate continuous improvement program to further optimize AM across all service areas.

The O. Reg. 588/17 requires that all AMPs include the current LoS being provided, determined in accordance with the qualitative descriptions and technical metrics provided (see **Section1.3**).

3.2 Objectives

Defining LoS objectives is important for drawing a line of sight between the City’s corporate objectives and the tangible asset performance outcomes. To do so, the LoS objectives must take into consideration stakeholder interests to develop asset performance measures that aim to meet the needs and expectations of the community. By doing this, the City will ensure that their assets are striving towards optimal performance, not only operationally, but economically, socially, and sustainably as well. Every stakeholder has certain interests in the service being provided and in general. The City’s corporate objective is to lift up the community and build pride, and attract people (visitors, employers and employees).

The City’s Comprehensive Background Report[3] (2021) for the New Official Plan outlined the overarching themes that reflect the City’s values, as shown in **Table 3-1**. Each overarching theme is also assigned a corporate service objective.

The development of level of service targets should be aligned with these corporate objectives which will be addressed in the next iteration of the AMP.

[3] City of Sault Ste Marie. 2021. Comprehensive Background Report.

Table 3-1: The City's Overarching Themes and Objectives

Overarching Themes	Corporate Objective
Healthy Community	Supports healthy living, active transportation, access to passive and active recreation, social interaction and the creation of spaces that are comfortable, safe, and accessible for all ages and abilities (the "8 to 80 Cities" concept).
Environmental Sustainability	Supports energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions and climate change adaptation.
Integrated Mobility	Supports accessibility and choice of diverse transportation modes.
Sense of Place	Fosters a welcoming place for all that establishes connection and provides a memorable experience to visitors.
Sustainable Growth	Stimulates reinvigoration of neighbourhoods to provide a complete range of housing, services, employment and recreation.
Economic Resiliency	Supports the growth and diversification of the city's economy.
Social Equity	Contributes to creating a welcoming and inclusive community, focusing on the removal of systemic barriers so that everyone has access to an acceptable standard of living and can fully participate in all aspects of community life.
Cultural Vitality	Celebrates the Sault's history, diverse communities and natural and cultural heritage, with the Downtown as the Sault's core destination for arts and culture.

3.3 Stakeholders Identification

A stakeholder is any person or organization that can affect, be affected by, or perceive themselves to be affected by a decision or an activity. Stakeholder analysis is the process of understanding stakeholder needs, expectations and perceptions relative to the stakeholder's level-of-interest and level-of-influence over the organization. The organization typically engage with its stakeholders to:

- Establish which activities or services matter most.
- Understand their risk appetite and risk threshold.
- Understand their willingness to pay for services.

A stakeholder is any person or organization that can affect, be affected by, or perceive themselves to be affected by a decision or an activity. Stakeholder analysis is the process of understanding stakeholder needs, expectations and perceptions relative to the stakeholder's level-of-interest and level-of-influence over the organization. The organization typically engages with their stakeholders to:

- Establish which activities or services matter most.
- Understand their risk appetite and risk threshold.
- Understand their willingness to pay for services.

Stakeholders can take many forms and may be internal (i.e., staff, Council) or external (i.e., the public, regulatory agencies, suppliers, neighbouring municipalities, etc.) to the organization. The following groups were identified as key stakeholders for stormwater at the LoS workshops. This is not intended to be an exhaustive list; however, the following groups provide a good starting point for the City to move forward to the next stage.

- Council.
- Residents.
- Industrial, Commercial, Institutional (ICI).
- Regulatory Agencies (i.e., Ministry of the Environment, Conservation and Parks [MECP], Fisheries and Oceans Canada [DFO]).
- Government Agencies (i.e., Environment and Climate Change Canada [ECCC] and Michigan Department of Environment, Great Lakes, and Energy [EGLE]).
- Neighbouring Municipalities or Downstream Municipalities (i.e., First Nations including Garden River First Nation, Batchewana First Nation, and Echo Bay, and municipalities from the US including Chippewa County, Michigan, and the City of Sault Ste Marie, Michigan).

- Environmental groups (i.e., Bi-National Public Advisory Council [BPAC] [US & Canada joint committee], Clean North, International Joint Commission, and Stream keepers).
- Developers.
- Other City Departments (e.g., Planning Department).
- Contractors and suppliers (e.g., EDS).

3.4 O. Reg. 588/17 Levels of Service Metrics

O. Reg. 588/17 requires legislated community levels of service for core assets. Community levels of service use qualitative descriptions to describe the scope or quality of service delivered by an asset category. O. Reg. 588/17 also requires legislated technical levels of service for core assets. Technical levels of service use metrics to measure the scope or quality of service being delivered by an asset category.

Table 3-2 presents a summary of the City's stormwater service levels for O. Reg. 588/17 Metrics. References are provided to show where the O. Reg. 588/17 requirement has been attained.

Table 3-2: O. Reg. 588/17 Levels of Service Metrics (Stormwater Services)

O. Reg. 588/17 LoS Performance Measure	Unit	Community or Technical LoS	Current LoS Performance (2024)
Description, which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system.	Text	Community	• Most properties are resilient to riverine flooding, except for some properties along creeks. • Most properties are resilient to pluvial flooding. The City's storm sewer models show areas that are at risk during extreme rainfall events. Problem areas and possible mitigation options are outlined in the City's Stormwater Master Plan. • Actual incidences of flooding during heavy rainfall have been recorded by the City. • Refer to **Appendix B** for the approximate regulated area from O. Reg. 176/06: Sault Ste. Marie Region Conservation Authority: Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses.
% of properties in municipality resilient to a 100-year storm.	%	Technical	• 61% of properties are resilient to pluvial flooding during the 100-year storm. • 97% of properties resilient to riverine flooding during the 100-year flood.
% of the municipal stormwater management system resilient to a 5-year storm.	%	Technical	• 80% of properties are resilient to the 5-year storm.

The Stormwater LoS performance data was collected and estimated based on information from SSMRCA's floodplain mapping, the City's trunk sewer models, and the City's Stormwater Master Plan.

The percentage of City properties resilient to riverine flooding during the 100-year flood was determined by the SSMRCA based on their floodplain mapping overlapped with the City's parcel data in GIS.

The percentage of the municipal stormwater management system resilient to pluvial flooding from a 100-year storm was estimated based on the percentage of the City's trunk sewers which are under-capacity during a 100-year storm, using the City's trunk sewer model. Likewise, the percentage of the municipal stormwater management system resilient to a 5-year storm was calculated based on prorating the percentage of the trunk sewers that are under-capacity in the City's trunk sewer model during the 2-year and 100-year storms.

3.5 Proposed Levels of Service

Establishing LoS targets is an important part of continual improvement and performance management. Without targets, it is difficult to ascertain whether goals are being met, or the extent of the gap if they are not. Incorporating targets into the City's LoS Framework helps to ensure that targets are reasonable, aligned with customer expectations, and evaluated on an objective basis using cost-benefit trade-offs.

One of the key challenges in setting targets in a municipal environment is that they can often become biased and/or politically motivated. Therefore, it is important to review LoS targets with internal and external stakeholders, especially the customers who will be impacted the most by changes in service delivery. An important aspect of evaluating LoS targets is determining how willing the user is to pay for the service. Regulatory requirements are an exception; however, as they are not optional and can be deemed the minimum service standard. Cost is still an important parameter to consider when assessing the merits of service improvements. To deal with the financial realities, it is necessary to:

- Calculate how much the service costs based on current LoS.
- Determine the lifecycle activities and cost associated with varying the LoS.
- Assess the customers' willingness to pay.
- Set targets that are realistic and achievable.

A summary of the City's stormwater service level metrics is presented in **Table 3-4**. Each metric was indicated with its current trend and proposed trend for the next 10 years, represented by legends, taking into account the nature of the measure, data availability, analysis feasibility, and whether the trend impacts positively or negatively on the proposed LoS. The LoS trend legends are described in **Table 3-3**.

Table 3-3: LoS Trend Legend

Symbol	Name	Description
	Positively Increasing	KPI is improving steadily over time, showing progress toward goals.
	Positively Stable	KPI is at a strong, desirable level and consistently maintained.
	Positively Decreasing	KPI is improving as lower values indicate better performance.
	Negatively Increasing	KPI is worsening over time, signaling a need for corrective action.
	Negatively Stable	KPI remains poor with no improvement or further decline.
	Negatively Decreasing	KPI is declining in a way that reflects worsening performance.

Table 3-4:Stormwater Management System Current and Proposed Levels of Service

LoS #	Service Area	LoS Measure	Unit of Measure	LoS Category	Current Performance	Trend		Lifecycle Activities to Meet Proposed LoS	Budget Impact to Meet Proposed LoS	Risk of Not Meeting Proposed LoS
						Current	Proposed			
1	Stormwater	Description, which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extend of the protection provided by the municipal stormwater management system	Text / Map	Customer	See **Table 3-2** and **Appendix B**	N/A	N/A	N/A	N/A	N/A
2	Stormwater	% of properties in municipality resilient to a 100-year storm	%	Technical	• 61% for pluvial flooding • 97% of properties for riverine flooding	→	→	• The City coordinates stormwater infrastructure upgrades with road reconstruction projects to maximize cost-efficiency and minimize community disruption. • The City uses a more rigorous than typical IDF (intensity-duration-frequency) curve for its stormwater design standards (10-year as opposed to 5-year). This practice contributes to good flood resilience throughout the City, and will increase this LoS as more pipes are replaced in the coming years. • The City carries out studies on flood-prone areas to identify solutions to mitigate flooding and reduce the impact to property owners (e.g. Peoples Rd Area Overland and Basement Flooding EA, Municipal Class EA for Trunk Road Flooding Mitigation).	Moderate to High	• An increased risk of flooding poses risks to the City, including costly emergency repairs, legal liability, and damage to public infrastructure. It can also lead to reduced property values, loss of tax revenue, and erosion of public trust. Additionally, repeated flooding may result in regulatory penalties and hinder future funding opportunities
3	Stormwater	% of the municipal stormwater management system resilient to a 5-year storm	%	Technical	80%	→	↑			
4	Stormwater	% of Asset in Fair and Better Condition	%	Technical	82%	→	→	• Implement a CCTV condition assessment for sewers to better understand the age, material, and structural integrity of the existing system and inform an accelerated replacement program. • Implement a culvert condition assessment program to identify culverts most at risk of failure to inform an accelerated replacement program.	High	• Deteriorating storm sewers and culverts can fail and cause road washouts/failures, embankment failures, and erosion. These failures not only cause concern for public safety, but also result in costly emergency repairs.

Performance Trend Legend:

↑ Positively Increasing	→ Positively Stable	↓ Positively Decreasing	↑ Negatively Increasing	→ Negatively Stable	↓ Negatively Decreasing

3.6 2025 – 2034 10-Year Levels of Service Forecast

Considering the City's characteristics, growth projections, and strategic objectives, the anticipated performance for each level of service outlined in **Table 3-4** has been projected for the next 10 years and summarized in **Table 3-5**. This table indicates whether each measure is expected to trend upward, downward, or remain stable, taking into account the nature of the measure, data availability, analysis feasibility, and whether the projected trend impacts positively or negatively on the proposed level of service

Table 3-5: 2025-2034 10-Year Levels of Service Forecast

LoS #	Service Area	LoS Measure	Unit of Measure	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Proposed Trend	Basis for Forecast
1	Stormwater	Description, which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extend of the protection provided by the municipal stormwater management system	Text / Map	Positive Stable										→	City subject matter expert opinion.
2	Stormwater	% of properties in municipality resilient to a 100-year storm (pluvial / riverine)	%	61% / 97%	61% / 97%	61% / 97%	61% / 97%	61% / 97%	61% / 97%	61% / 97%	61% / 97%	61% / 97%	61% / 97%	→	City subject matter expert opinion.
3	Stormwater	% of the municipal stormwater management system resilient to a 5-year storm	%	80%	80%	81%	81%	81%	81%	82%	82%	83%	83%	↑	City subject matter expert opinion. The City uses updated IDF curves and a design standard that aligns with a 10-year storm, so with replacement of pipes, it is expected that properties resilient to a 10-year storm will gradually increase overtime.
4	Stormwater	% of Asset in Fair and Better Condition	%	82%	81.4%	81.1%	81.4%	80.4%	79.9%	79.8%	79.7%	79.7%	79.7%	↓	Lifecycle Modeling (Based on City's Forecasted Budget Scenario, See **Figure 5-3**)

Performance Trend Legend:

↑ Positively Increasing	→ Positively Stable	↓ Positively Decreasing	↑ Negatively Increasing	→ Negatively Stable	↓ Negatively Decreasing

3.7 Future Demand Drivers

Demand management is a critical component of managing the desired LoS in a sustainable manner, now and into the future. Understanding future demand drivers enables the City to proactively develop effective, long-term strategies that are suitable for the City's unique and evolving political, environmental, social and technological landscape.

Factors identified during the LoS workshop that would impact stormwater service levels now and into the future include, but are not limited to, the following:

- Aging infrastructure (e.g., old concrete sewers, etc.).
- Regulatory changes.
- Staff availability (i.e., technical skill availability, skill gaps from changing technology, etc.).
- Succession management & skills transfer.
- Funding (e.g., having proper AM plans to optimize service delivery at minimal cost).
- Contractor availability (e.g., contractors' availability for big projects, etc.).
- Climate change (e.g., greater risk of flooding from increased precipitation, higher water levels in Great Lakes, St. Mary's River etc.).
- Supply Chain (i.e., material and equipment availability for capital projects, etc.).
- Fluctuations on contract pricings.
- Increased development resulting in greater stormwater run-off.
- Population growth.

On November 2, 2021, the City of Sault Ste. Marie's Planning Division released the Comprehensive Background Report[4] for updating the Official Plan[5]. The City's Official Plan guides the local decision-making on land use, development and public infrastructure over the next 20 years. The City's population is expected to reach approximately 80,000 residents by 2031 and 83,300 by 2036. Employment is projected to increase by approximately 6,000 jobs, rising from about 31,000 in 2016 to 36,900 in 2036.

When additional assets to accommodate this population and employment growth are introduced to the City's portfolio, additional human resources, training and funding are required to maintain, operate, and renew or replace those assets. O. Reg. 588/17 requires municipalities by July 1, 2025, to estimate capital expenditures and significant operating costs to achieve the proposed LoS and accommodate projected increases in demand caused by population and employment growth. This includes the estimated capital expenditures and significant operating costs related to new construction and / or to upgrade existing municipal infrastructure assets. This has been addressed in **Section 5.2.2.**

[4] City of Sault Ste Marie. 2021. Background Report. Compressed OP Background Report 2022April.pdf
[5] City of Sault Ste Marie. 1996. Official Plan

4. Asset Management Strategies

4.1 Asset Lifecycle Management Introduction

Asset lifecycle management focuses on the specific activities that should be undertaken during all phases of the asset lifecycle. Considering entire asset lifecycles can ensure that the City makes sound decisions that consider present and future service delivery needs.

The overarching goal of life cycle management is to maximize the long-term benefits and services that our assets deliver while minimizing the associated costs and risks in the long run. Every asset has a lifecycle cost, which is the total cost of all the activities undertaken throughout its service life. Part of the purpose of the asset management planning process is to fully understand and predict the long-range financial requirements for the City's infrastructure to facilitate planning and resource management in the most cost-effective manner possible. **Figure 4-1** illustrates how costs typically accumulate over an asset's life. It is worth noting that the accumulation of the ongoing operations and maintenance, renewal & replacement and disposal costs is many multiples of the initial acquisition costs. As such, it is important to fully understand the entire lifecycle costs before proceeding with asset acquisition.

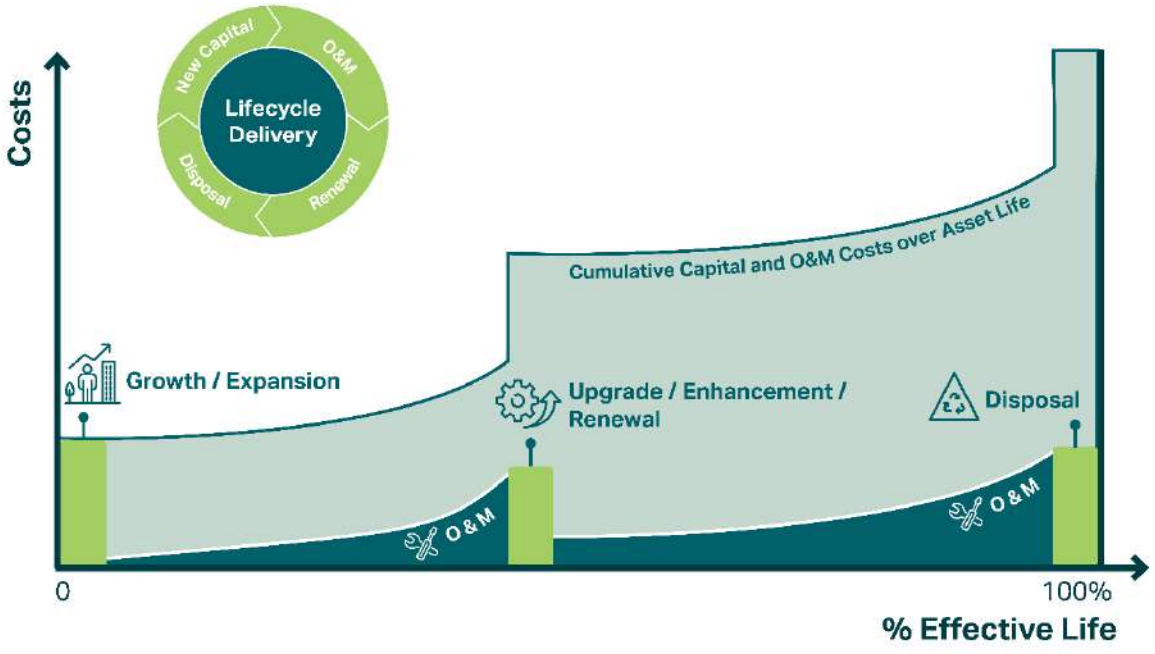


Figure 4-1: Lifecycle Cost Accumulation Over Asset Life

Asset lifecycle management strategies are typically organized into the following categories.



- **Asset Acquisition / Procurement / Construction**: Acquisition includes expansion activities and upgrading activities to extend services to previously unserved areas or expand services to meet growth demands and to meet functional requirements. When acquiring new assets, the City should evaluate credible alternative design solutions that consider how the asset is to be managed at each of its life cycle stages. Asset management and full lifecycle considerations for the acquisition of new assets include, but are not limited to the following:
    - The asset's operability and maintainability.
    - Availability and management of spares.
    - Staff skill and availability to manage the asset.

- The manner of the asset's eventual disposal.

- **Asset Operations and Maintenance (O&M)**: As new infrastructure is commissioned, the City accepts the responsibility of operating and maintaining the infrastructure according to O&M standards to ensure that the infrastructure is safe and reliable. Operations staff provide the day-to-day support required to operate infrastructure. In few cases, operation costs are minor, but for most there are significant increases. For example, underground pipes require almost no operational support while a facility such as a pump station requires full-time staff to operate the facility safely and efficiently. Maintenance expenses include periodic preventive maintenance to ensure that the infrastructure can provide reliable service throughout the life of the asset and corrective maintenance that is required to repair defective assets as and when needed. Inadequate funding for O&M will have an adverse impact on the lifespan of assets. The amount of O&M resources required in any period is a function of the current inventory of infrastructure and total O&M needs required for each asset. As the inventory of infrastructure grows, total O&M requirements will also grow.



- **Renewal and Replacement:** The third portion of full lifecycle costing relates to the renewal and replacement of infrastructure that has deteriorated to the point where it no longer provides the required service. Renewal cost is sometimes incurred during the life of an asset where an investment is made to improve the condition and / or functionality of the asset e.g., re-lining of a pipe. Replacement activities are expected to occur once an asset has reached the end of its useful life and rehabilitation is no longer an option.



- **Decommissioning and Disposal:** There will inevitably come a point in time when an asset must be removed from service and, depending on the type of asset, there may be significant costs associated with its decommissioning and disposal. Factors that may influence the decision to remove an asset from service include changes to legislation that cause the asset to be in non-compliance, the inability of the asset to cope with increased service levels, technology advances that render the asset obsolete, the cost of retaining the asset is greater than the benefit gained, or the current risk associated with the asset's failure is not tolerable.



  Normally, major costs that may be incurred during disposal and decommissioning derive from the environmental impact of the disposal and, if required, the rehabilitation and decontamination of land. In some cases, there will be residual liabilities and risks to consider if a decision is made to partially abandon the asset as opposed to fully disposing of its components (e.g., leaving a non-functioning pipe in the ground, or an inactive building standing). However, some cost savings may be achieved through the residual value of the asset or by exploring alternative uses for the asset. In all cases, it is important to consider disposal and decommissioning as the strategy employed has the potential to attract significant stakeholder attention. For that reason, the costs and risks associated with disposal and decommissioning should be equally considered in the City's capital investment decision-making process.

4.2 Stormwater Asset Management Strategies

The asset management strategies that are employed by the City to manage the stormwater management system throughout their lifecycle are summarized in **Table 4-1**.

Table 4-1: Current Lifecycle Management Strategies for Stormwater Assets

Asset Group	Lifecycle Activity	Description of Activities Practiced by the City	Benefit or Risk Associated with the Activities
Stormwater	**Acquisition**	**All Stormwater Assets** • Assumption of subdivisions. • Pipes that do not meet capacity requirements are upsized to increase capacity. • Undertaking Environmental Compliance Approval (ECA).	• To extend services to previously unserved areas or expand services to accommodate asset enhancements. • Adequate planning and implementation of infrastructure projects help manage existing and potential growth pressures and address other demand factors.
	Operations and Maintenance	**Storm sewers gravity mains** • Flushing and cleaning. • Spot Repairs. • Reactive CCTV inspections of sewers. • Emergency blockage or failure responses.	• Flushing and cleaning activities can remove debris to ensure desired mains capacity and ensure a proper functioning sewer system. • Spot repair will fix mains that have or may collapse and cause disruptions to service, backups and / or overflows. • Emergency blockage responses will remove partial or full blockages from mains that cause disruptions to service, backups and / or overflows and restore the main operational functions.
		Manholes & Chambers • Routine inspections. • Performing maintenance as needed.	• Routine inspections for manholes & chambers to address flow concerns or easement flooding issues. • React to issues and ensures manholes are structurally and operationally sound.
		Service Connections • Performing maintenance as needed.	• Repair service connections or remove blockages that cause connection back ups to minimize the service impact and ensure assets are operationally and structurally sound. • Replacement of aged and / or substandard laterals to reduce potential failures.
		Catch Basins • Performing maintenance as needed. • Vacuuming out catch basins and sump pits.	• React to issues and ensure catch basins are structurally and operationally sound. • Clean catch basins to remove debris and improves drainage.
		Catch Basins Leads • Corrective maintenance as needed such as thawing frozen leads.	• Ensure proper drainage.
		Ditches • Routine maintenance. • Clean diches as required. • Ditching program.	• Ditch maintenance activities reduce / eliminate the possibility of ditch flooding and failure.
		Road Crossing Culverts (<3 m) • Performing maintenance as needed.	• Prevent further damage to culverts and the ultimate failure of culverts

Asset Group	Lifecycle Activity	Description of Activities Practiced by the City	Benefit or Risk Associated with the Activities
			which could lead to sinkholes and flooding
		Driveway Culverts • Performing maintenance as needed.	• Prevent further damage to culverts and the ultimate failure of culverts which could lead to flooding.
		O&G Separators • Proactive maintenance program.	• Ensure separator functions properly and reduce the amount of oil/sediment that could be disposed in the receiving environment / area.
		Aqueducts • Biennial inspections. • Coordination with Sault Ste. Marie Region Conservation Authority (SSMRCA) to make maintenance decisions.	• Inspect the condition of aqueducts to identify and locate deficiencies or problems.
		Pump Station • Weekly routine inspection. • Maintaining the electronic components that monitor station security, controls, and diagnostics. • Washing down and removing debris in the pump station chambers. • Annual oil change. • Emergency repairs.	• Regular inspections ensure stormwater facilities are operating properly and that potential maintenance issues are identified and prioritized for repairs to avoid equipment failure. • Regular maintenance activities at stormwater facilities ensure that the facilities continue operate properly. • Facilities' emergency repairs restore the condition of failed components.
		Stormwater Management Ponds • Regular inspections and maintenance.	• Visual inspection of pond sediment accumulation, vegetation, litter and trash, condition of structures, etc. help identify and prevent potential problems or issues with the ponds.
		Rain Gauges • Ongoing program to inspect and maintain electronical equipment such as batteries checkup and wireless data transmission equipment inspections.	• Ensures rain gauges are functioning properly.
		Snow Dumps • None currently.	• TBD
		Shoreline Seawalls • TBD.	
	Renewal and Replacement	**Storm sewers** • Coordination of sewer replacement with road reconstruction.	• Coordination sewer replacement with road reconstruction allow to manage a range of assets within any road right-of-way to optimally coordinate leading to reduced cost and limited disruption to businesses and residents.
		Manholes & Chambers • Replace at the same time as the sewer mains.	• Bundling similar works to manage related assets and reduce overall lifecycle cost.
		Service Connections • Replace at the same time as the sewer mains.	

Asset Group	Lifecycle Activity	Description of Activities Practiced by the City	Benefit or Risk Associated with the Activities
		Catch Basins • Replace at the same time as the sewer mains.	
		Catch Basins Leads • Replace at the same time as the sewer mains.	
		Ditches • Ditching program.	• Repair ditches and shoulders to improve drainage and reduce the risk of flooding.
		Road Crossing Culverts (<3 m) • Replace at end of life or in conjunction with road reconstruction.	• Failure to replace road crossing culverts and driveway culverts can cause drainage issues.
		Driveway Culverts • Replace at end of life.	
		O&G Separators • Replace at end of life.	• Reduce risk of failure ensuring continued service in preventing contaminants entering stream and rivers.
		Aqueducts • Coordination with Sault Ste. Marie Region Conservation Authority (SSMRCA) to make rehabilitation and reconstruction decisions.	• Renewal or replacement of underperformed components.
		Pump Stations • The small pump station is assessed annually in terms of priorities for renewal/replacement.	• Renewal or replacement of underperformed stormwater facility assets reduce potential loss of service caused by unplanned failure.
		Stormwater Management Ponds • Pond cleaning.	• Remove sediments to ensure proper function / capacity of ponds.
		Rain Gauges • Replace at end of life.	• Reduce risk of failure ensuring continued service in rainfall monitoring.
		Snow Dumps • None currently.	• TBD
		Shoreline Seawalls • TBD.	
	Disposal	**All Stormwater Assets** • Removal and landfill disposal. • Metals are retained and brought to a facility as appropriate for recycling, etc.	• Ensure assets are disposed in compliance with waste regulations in Ontario.
	Non-Infrastructure	• Developing Master Plans and Official Plan.	• Master Plans and Official Plan include strategic planning / budgeting and project prioritization enable long-term decision making.

5. Funding Need Analysis

5.1 Capital and Operating Budget

5.1.1 Capital Budget – Historical Expenditure and Future Forecast

Historical capital expenditures for stormwater assets have typically included replacement of stormwater mains and related assets such as catch basins, manholes and service connection which are typically completed at the same time as capital road reconstruction projects. Re-ditching and pump station capital costs have also been captured here. **Table 5-1** presents the capital reinvestment budget forecast.

Table 5-1: Capital Reinvestment Budget Forecast

Asset Class	Asset Category	Asset Type	2025-2029 5-Year Average Reinvestment Budget
Stormwater	Conveyance & Pump Stations	Stormwater mains, catch basins and leads, manholes and chambers, rain gauges, service connections, ditches, pump stations	$2,000,000
		Total	**$2,000,000**

5.1.2 Operating and Rehab Budgets – Historical Expenditure and Future Forecast

Table 5-2 summarizes the City's operations, maintenance and rehabilitation budgets. The City's 2025 Operating Budget[6] includes $778,221 for storm sewer operation expenses, the aqueduct rehabilitation budget is half of the $1.5 Million budget allocated by the City for bridges and aqueduct rehabilitation, while the budget for ponds, snow dumps, and seawalls is based on the value provided by the City in the 2022 AMP (inflated to 2025). All values were inflated 2% annually throughout the analysis period (2025-2034), and the first 5 years were used to come up with the averages presented in **Table 5-2**.

Table 5-2: Operating & Rehab Budget Forecast

Asset Class	Asset Category	Asset Type	2025-2029 5-Year Average O&M & Rehab Budget
Stormwater	Conveyance	Storm Sewers (Operations)	$810,000
	Conveyance	Aqueducts (Rehab)	$780,000
	Other	Ponds, Snow Dumps, Seawalls (Rehab and Maintenance)	$270,000
		Total	**$1,860,000**

[6] City of Sault Ste. Marie. 2025. 2025 Final Operation Budget Summary.

5.2 Capital Funding Needs Analysis

This section outlines the capital funding scenarios analysis approach, assumptions, and presents service level trends regarding asset condition under various budget scenarios.

5.2.1 Lifecycle Model Approach and Assumptions

The lifecycle analysis was carried out using a PowerBI Model that integrates key asset attribute information including asset inventory, age, expected service lives, replacement values, and condition to create a theoretical asset replacement cycle for each asset captured in the model.

The annual reinvestment needs for the stormwater assets were determined based on their age and ESL in years (i.e., replacing assets that have exceeded their ESL, in inflated dollar values, incorporating the following assumptions on inflations:

- The base year used is 2025. Any historic asset replacement values have been inflated using the experienced inflation rate from Non-Residential Building Construction Price Index (NRBCPI).
- Inflation rate: the inflation rates adopted for the financial model are presented in **Table 5-3**. The inflation for 2025 and later is determined based on the City's input.

Table 5-3: Inflation Rate over 20 Years[7]

Year	Inflation Rate
2022	7%
2023	7.1%
2024	6%
2025	2%
2026	2%
2027	2%
2028	2%
2029	2%
2030 - 2034	2%

Table 5-4 presents the proposed reinvestment targets for stormwater infrastructure from 2025 to 2034. It outlines the intervention measures and target percentages for each asset type, along with the resulting average annual reinvestment rates over the 10-year period.

In the future, when condition assessment programs are implemented, asset conditions are recommended to be used to update the renewal and replacement forecast to support improved decision making.

It should be noted that the nature of this type of analysis is based on a wide range of data inputs, currently available information, and a number of assumptions, and is therefore at best a high-level estimate of future funding needs. Project timing and cost should be further refined upon approach of the actual implementation date.

[7] Past inflation data obtained from NRBCPI using the non-residential; yearly result taken from an average of quarterly results. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810027601

Table 5-4: Stormwater Reinvestment Assumptions

Asset Group	Asset Category	Measure	Target	2025- 2034 10-Yr. Annual Avg. Reinvestment Rate
Stormwater	Stormwater Mains	Percentage of mains exceed their expected service life replaced in 2023 and thereafter	100%	0.2%
	Service Connections	Percentage of required replacement of service connections when replacing mains addressed	100%	0.07%
	Manholes & Chambers	Percentage of required replacement of manholes & chambers when replacing mains addressed	100%	0.2%
	Catch Basins	Percentage of required replacement of catch basins when replacing mains addressed	100%	0.15%
	Catch Basin Leads	Percentage of required replacement of catch basin leads when replacing mains addressed	100%	1.0%
	Ditches	Percentage of ditches rehabilitated annually	2%	0.67%
	Road Crossing Culverts (<3 m)	Percentage of road crossing culverts replaced annually	Replace assets for a life cycle of 40 to 80 years, depending on material type	9%
	Driveway Culverts	Percentage of driveway culverts replaced annually	Replace assets for a life cycle of 25 to 50 years depending on material type	9%
	O&G Separators	Percentage of O&G Separators exceed their expected service life replaced in 2023 and thereafter	100%	0.0%
	Aqueducts	Percentage of capital reinvestment needs to sustain the current level of service addressed	100% (Equivalent to $750,000 annually – based on the current capital expenditure)	NA
	Pump Station	Percentage of stormwater pump station assets exceed their expected service life replaced in 2023 and thereafter	100%	2.16%
	Stormwater Management Ponds	Percentage of stormwater dry ponds cleaning and capital repair needs addressed	100% (Equivalent to $13,000 annually)	0.6%
	Rain Gauges	Percentage of rain gauges exceed their expected service life replaced in 2023 and thereafter	100%	11.3%
	Snow Dumps	Percentage of capital needs (installation of stormwater treatment OGS for each snow dump) and OGS unit cleaning needs addressed	100% (Equivalent to $124,000 every year for installing OGS in the first seven years, and $35,000 annually for OGS cleaning)	NA
	Shoreline Seawalls	Percentage of capital reinvestment needs to sustain current level of service addressed	100% (Equivalent to $124,000 annually)	NA

5.2.2 Stormwater Asset Budget Scenarios & 10-Year Service Level Forecast

This section presents the budget scenario results and the 10-year service level forecast for most stormwater assets The assets included in this condition-based reinvestment analysis include:

- Stormwater mains
- Manholes and chambers
- Catch basins and leads
- Culverts
- Rain gauges
- Pump stations
- Ditches

Assets not included (aqueducts, ponds, snow dumps and seawalls) have been accounted for in the Full Funding Profile included in **Section 5.5.** These were not included in the PowerBI model since they have City defined budgets for annual rehabilitation and maintenance work. Additionally, aqueducts, ponds, and seawalls lacked sufficient data to estimate a condition score. However, it should be noted that Aqueducts do undergo regular inspections, and this information should be included in subsequent updates to the Stormwater AMP and Lifecycle Model.

5.2.2.1 Budget Scenarios Setting for Stormwater Assets

Table 5-5 shows the three funding scenarios used in the PowerBI Modelling exercise and results presented in subsequent sections illustrate the impact of these differing scenarios on asset condition. Scenario 1(S1) is a “Do Nothing” approach with zero expenditure; S2 assumes an ideal, unconstrained budget enabling asset replacement at end-of-life; and S3 reflects the City’s defined budget at $2 Million annually.

Table 5-5: Stormwater Budget Scenarios

Scenario		Description	Budgets
S1	Do Nothing	Spend Nothing	$0 M
S2	Unconstrained Budget	Replace assets at end of life	Unlimited
S3	City’s Planned Budget	City’s Current Planned Budget	$2 M annual budget

5.2.2.2 Stormwater Asset Funding Need

The average annual reinvestment estimate for the City’s stormwater system is around $11.2 Million over the next 10 years in inflated dollar values. This is equivalent to a total of approximately $112 Million over the next 10-year period, as presented in **Figure 5-1.** The City should note that there are significant backlogs for reinvestment that can be attributed to culverts, as can be seen the first year of the analysis (2025). The City’s culverts are aging (and have mostly exceeded their ESLs) and since the model relied on age vs ESL to calculate condition, the vast majority were triggered for replacement in the first year of the analysis. Another important factor is the fact that around half of the culverts did not have an installation year, and in these instances average installation year was used depending on available installation data by culvert type and material.

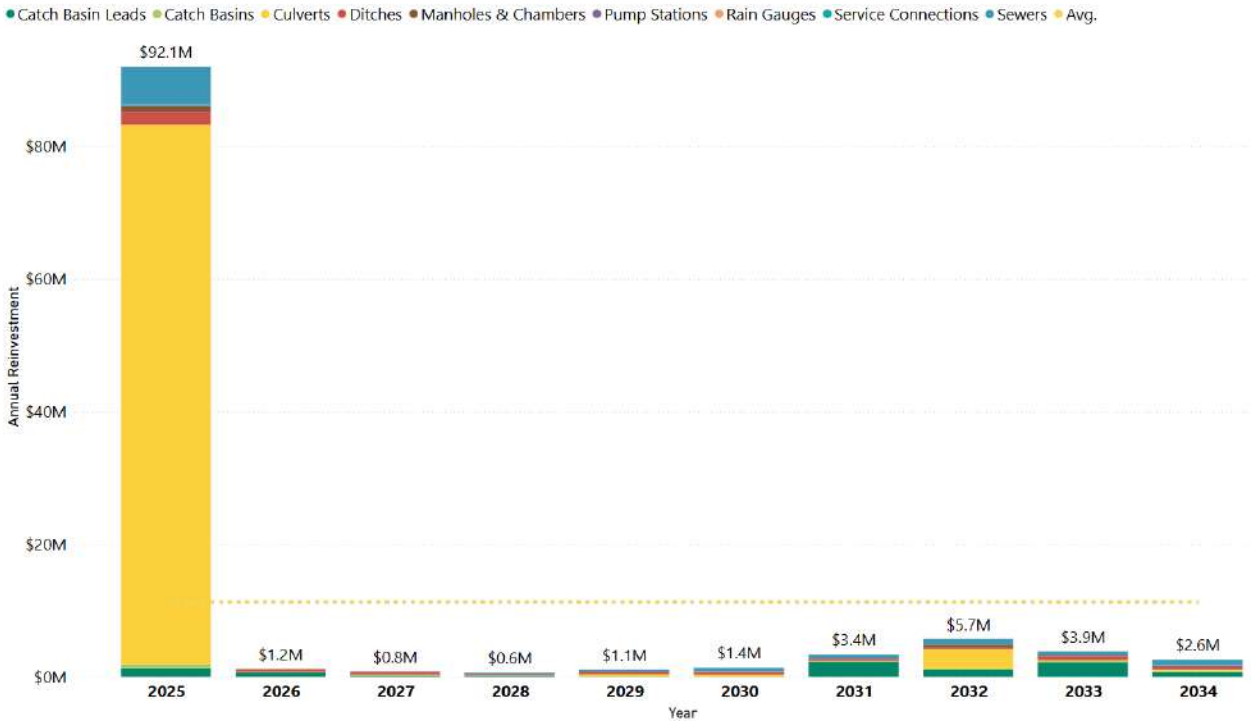


Figure 5-1: 10-Year Funding Need for Stormwater Assets – Unlimited Budget Scenario

The detailed 10-year reinvestment needs for stormwater assets (except for aqueducts, ponds, seawalls, and snow dumps) are presented **in Table 5-6 in** inflated dollar values.

Table 5-6: Stormwater 10-Year Total and Annual Average Capital Reinvestment Need

Asset Type	Annual Average Need	10-Year Total
Sewers	$955,000	$9,554,000
Manholes & Chambers	$159,00	$1,589,000
Catch Basins	$129,000	$1,294,000
Catch Basin Leads	$880,000	$8,801,000
Culverts	$8,552,000	$85,517,000
Service Connections	$30,000	$303,000
Ditches	$358,000	$3,588,000
Pump Stations	$12,000	$117,000
Rain Gauges	$6,000	$64,000
Total	**$11,082,000**	**$110,829,000**

5.2.2.3 Stormwater Asset 10-Year Service Level Forecast

Figure 5-2 presents the projected condition of stormwater assets (not including aqueducts, ponds, snow dumps and seawalls) under three funding scenarios over a 10-year period. Currently, 82% of linear assets are in fair or better condition. Under the “Do Nothing” scenario (S1), the service level declines steadily to 77% by 2034, and similarly, under the City’s current budget (S3) of $2 Million annually, condition decline to 80% of assets in fair or better condition by 2034. While both the Do Nothing and the City’s Defined Budget scenario seem to offer similar results, it is worth noting that the S1 trendline would continue to decline after the analysis period, while the S3 trend line appears to plateau, if not start to trend upwards. Finally, under the Unlimited Budget scenario (S2), with an annual spend of approximately $11 Million per year, service levels increase to around 92% of assets in fair or better condition. An initial spike in condition in 2026 is a result of the City’s aging culverts being replaced, followed by a

slight dip in condition (commensurate with decreased spending), before steadily turning upwards in the latter half of the analysis period.

These projections indicate that the City's current funding could result in a slight decrease in overall condition, yet most assets will remain in fair or better condition. However, it is important to remember that this is an overall snapshot of all asset classes. Under current funding, certain assets (culverts), will largely remain in poor and very poor condition, resulting in an increased level of risk of those assets failing, and thus potential for cascading impacts of failure such as road closures and washouts. Additional investment or complementary strategies are necessary to target certain asset classes that are in particularly poor condition.

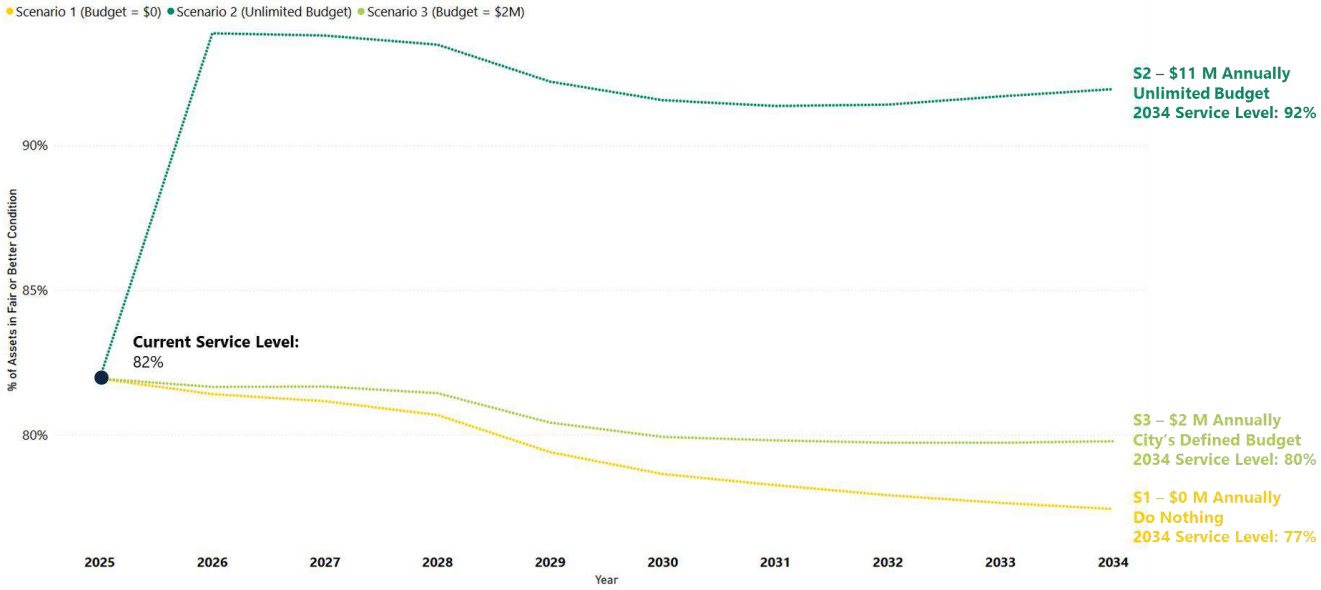


Figure 5-2: Stormwater Levels of Service Trend in the Next 10-Years for All Budget Scenarios

Figure 5-3 illustrates the projected condition distribution of stormwater assets (not including aqueducts, ponds, snow dumps and seawalls) from 2025 to 2034, assuming the City maintains its current annual investment of $2 Million. Currently, 68% of these assets are in very good condition, with 16% rated as poor or very poor. Under continued funding at this level, the proportion of assets in very good condition is expected to shift, resulting in a greater percentage in good and fair condition, and a slight increase in assets in poor and very poor condition.

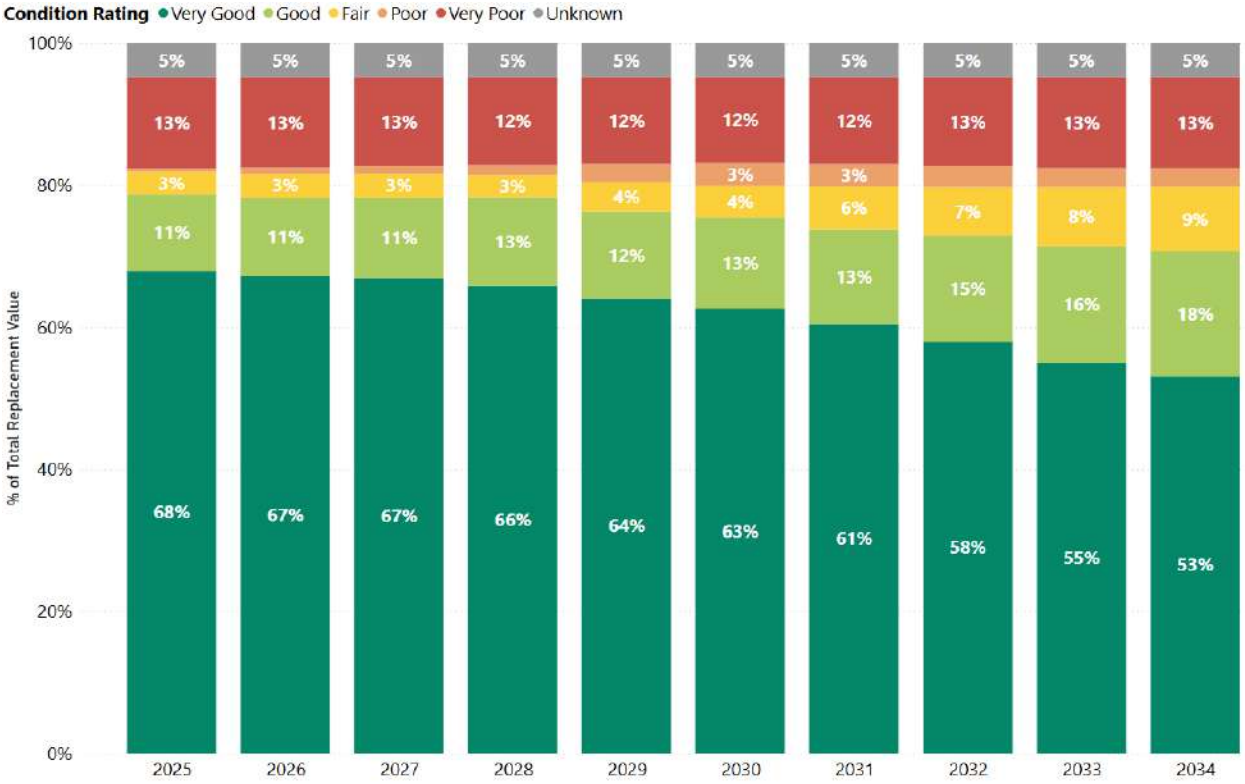


Figure 5-3: Stormwater Condition Projection Under Scenario 3 - City's Planned Budget

5.3 50-Year Reinvestment Need

Looking ahead over the long term, the average annual reinvestment estimate for all the City's stormwater assets is $29 Million over the next 50 years in inflated dollar value, for a total of approximately $1.5 Billion, as presented in **Figure 5-4**. Reinvestment needs start to climb and remain heightened around 2039, with significant peaks around 2047, 2062 and 2064 which correspond with aqueduct replacements.

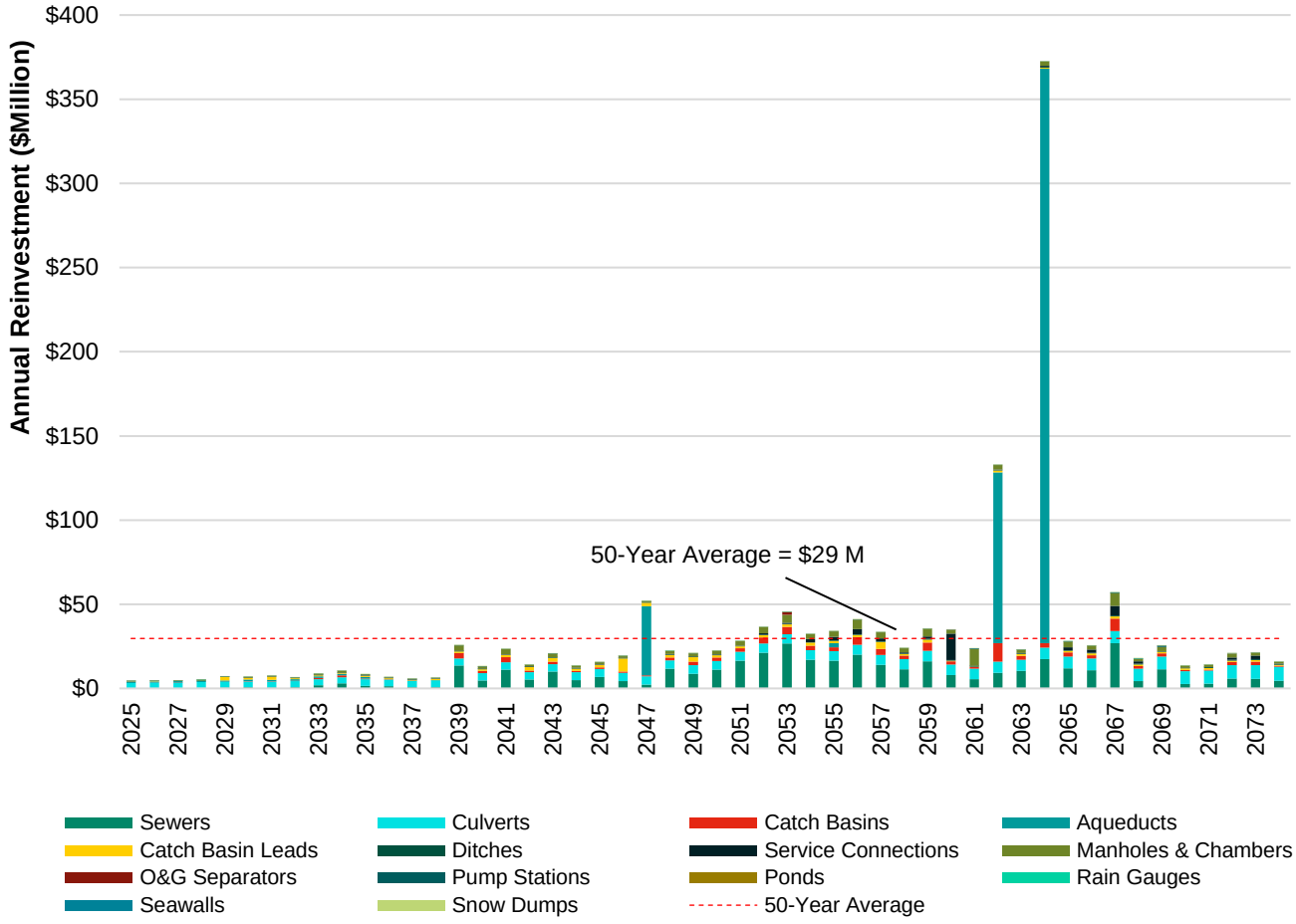


Figure 5-4: Stormwater System 50-Year Reinvestment Needs – Unlimited Budget Scenario

5.4 Growth Related Capital Funding Need

The City's Long Term Financial Plan has identified two upcoming growth-related stormwater projects to accommodate growth and allow for development in previously undeveloped areas. These include the Sackville Road Extension (ravine crossing), and Sackville Road (new construction), in 2025 and 2026, respectively. Both projects have been given an approximate cost of $1.5 Million. Growth related capital expenditures for stormwater are also necessary to increase capacity and mitigate flooding in certain areas of the City, as noted in two recent class environmental assessments that target flood prone areas of the City. These include:

- **Municipal Class Environmental Assessment for Trunk Road Flooding Mitigation (on-going)[8]:** Study to recommend options to mitigate flooding in the study area which may include additional / upsized culverts, re-

[8] Trunk Road Municipal Class EA – Notice of Assessment. Trunk Road - City of Sault Ste. Marie.

ditching or the establishment of a flood control channel. At this time no projects have been identified in a capital plan, nor has any funding been ear-marked.

- **Peoples Road Area Overland and Basement Flooding Class Environmental Assessment (2024)[9]:** Study to recommend options to mitigate overland and basement flooding in the study area including property owner remedial measures, City operations and maintenance enhancements, and City remedial measures (i.e. capital improvements) consisting of enhanced system storage capacity and enhanced system conveyance capacity. At this time no projects have been identified in a capital plan, nor has any funding been ear-marked.

5.5 Full Funding Profile

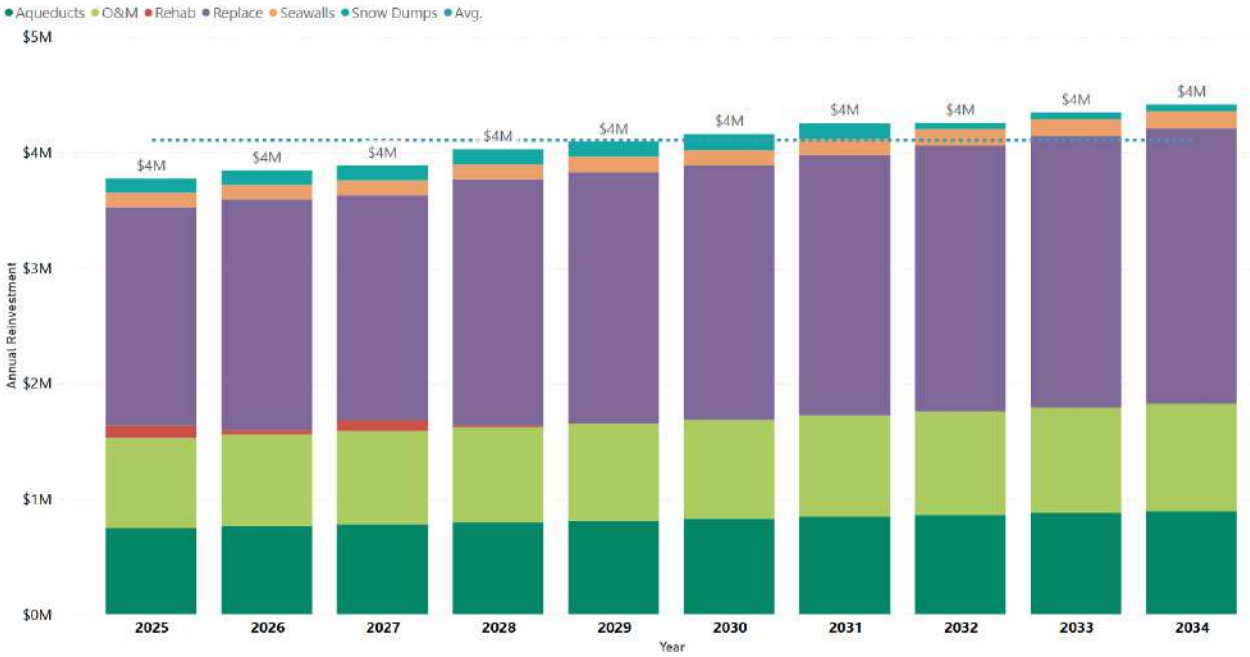


Figure 5-5 shows a full picture of the City's stormwater funding need forecast over the next 10 years. Categories included on the graph are outlined below:

- **O&M:** City's defined O&M for sewers. This includes stormwater pond maintenance and cleaning costs, as noted by City staff during the Financial Strategy Workshop facilitated by AECOM during the development of this AMP.
- **Aqueducts:** Aqueduct rehabilitation, City defined budget.
- **Rehab:** Re-ditching costs.
- **Replace:** Capital investments for sewers, manholes and chambers, catch basins, service connections, rain gauges and pump stations, outputs from PowerBI model described in previous sections.
- **Seawalls:** Seawall rehabilitation / maintenance, City defined budget.
- **Snow dumps:** Snow dump maintenance and O&G replacement and cleaning, City defined budget.

The City's stormwater full funding requirement increases to approximately $41 Million over the next 10 years equivalent to approximately $4.1 Million per year in inflated dollar value.

[9] AECOM. 2024. Peoples Road Area Overland and Basement Flooding Class EA.

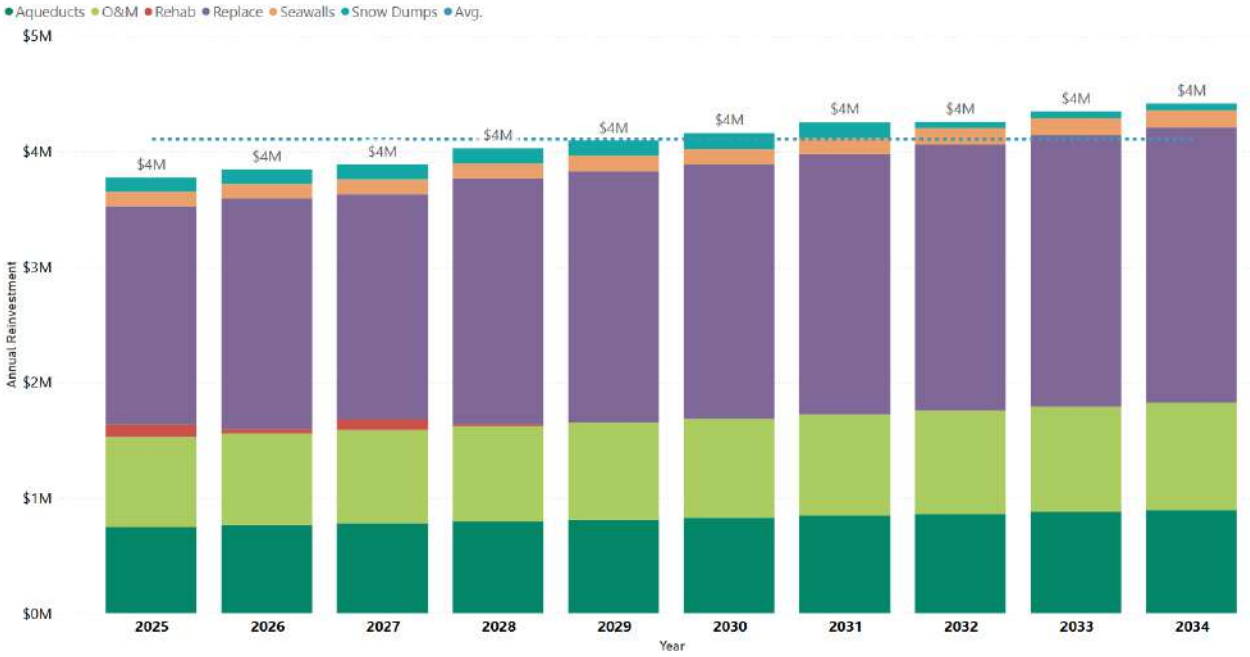


Figure 5-5: Full Funding Profile (City's Planned Capital Reinvestment Budget Scenario Included)

5.6 Funding Gaps and Risks

Table 5-7 compares the City planned capital reinvestment budget against the capital reinvestment funding needs. A shortfall in available funding to address funding need is referred to as a "funding gap." The funding gap noted of approximately $86 Million can be largely attributed to the City's network of aging culverts that require replacement.

Table 5-7: Funding Gap – Capital Reinvestment Funding Needs vs. Budget Forecast

Asset Class	10-Year Need Total	10-Year City Budget Total	10-Year Gap Total
Stormwater*	$107 M	$22 M	$86 M

**Not including assets not included in PowerBI model (aqueducts, ponds, seawalls and snow dumps).*

As described in **Section 3.5**, risks are identified for each service level performance measure. **Table 5-8** provides a high-level overview of the key risks associated with funding gaps, as well as the potential consequences and impacts of not meeting the proposed service levels.

Table 5-8: Risks of Not Meeting Proposed Levels of Service

Key Risk	Asset	Potential Consequences/Impacts
Insufficient funding to keep up with population and demand increases	All Stormwater assets	- Constrained growth (e.g., impacts on housing supply) - Difficulty balancing growth-related and renewal budgets
Insufficient funding for linear asset lifecycle renewals	Linear Assets	- Reputational risk to the City - Unwanted media attention - Declining asset condition over time - Greater reliance on reactive maintenance - Reactive interventions are costlier than proactive actions - Increased frequency of service interruptions and asset failures - Compromised regulatory compliance - Ministry of the Environment, Conservation and Parks (MECP) violations (e.g., health and safety concerns, beach closures) - Reduced system resiliency and redundancy - Aging pipes not replaced contribute to increased inflow and infiltration (I&I) - Elevated risk of flooding
Higher vulnerability of assets to emergencies/ extreme weather events	All Stormwater assets	- Damage to infrastructure from more frequent and severe weather due to climate change - Accelerated asset deterioration - Elevated risk of flooding - Additional pressure on already constrained financial resources
Insufficient funding for operations and maintenance	All Stormwater assets	- Increasing annual maintenance costs as infrastructure ages - Emergency responses divert resources from routine maintenance - More time spent responding to complaints and public inquiries

5.7 Funding Sources & Alternative Funding Strategies

The Funding Gap represents the shortfall between optimal and forecasted funding levels. Addressing this gap requires careful strategic consideration. Options may include increasing revenues (e.g., user rates, taxes), issuing debt, adjusting the LoS, or accepting elevated asset-related risks. Each of these choices involves trade-offs that must be weighed in light of financial sustainability, regulatory obligations, and community expectations.

The City's current internal funding and external funding source include, but are not limited to:

- General Tax Levy
- Urban-Only Tax Levy
- Ontario Community Infrastructure Fund
- Canada Community Building Fund

An additional potential source of stormwater funding for the City is the establishment of a Variable Stormwater Rate. In 2019 the City retained AECOM to conduct a Stormwater Funding Strategy[10], including the feasibility of a Variable Stormwater Rate. Unfortunately, the COVID-19 Pandemic halted progress on the study, in part due to the affordability crisis that was exacerbated by the pandemic and the associated reluctance of City council to impose more costs on residents. The City should consider revisiting this work to establish a regular and predictable source of stormwater funding, keeping the following elements needed for successful implementation in mind:

[10] AECOM. 2020. City of Sault Ste. Marie Stormwater Funding Study Intermin Report #2 (Draft)

- A clear set of objectives for the proposed new stormwater funding model (e.g., equity, environmental sustainability, financial sustainability, simplicity etc.).
- A well articulated understanding of the problem(s) that need to be addressed and how a new stormwater funding model can address them.
- Internal buy-in from all key departments (Finance/Billing, Engineering, Communications, IT/GIS etc.).
- Sufficient data.
- Public education and/or consultation.
- An informed Council with at least one key champion (e.g., mayor in support of the initiative).
- A staff champion who will help drive the initiative.
- Staff resource(s) and a budget that can manage/complete the initiative; and
- Timing (e.g., consideration of elections, other municipal initiatives and stormwater education opportunities such as a large storm).

Recognizing the constraints of internal funding and limitations and uncertainties associated with external funding, it becomes increasingly important to explore complementary approaches that do not depend solely on financial sources. In this context, alternative or non-financial strategies play a critical role in enhancing the City's ability to manage service levels and asset performance within existing fiscal constraints. **Table 5-9** highlights the City's non-financial strategies to address the identified stormwater funding gap that were discussed in the Financial Strategy Workshop, along with some general strategies for the City to consider. These strategies are designed to support long-term financial sustainability through alternative delivery methods, changes in practices or policies, and system optimization, without relying solely on increased funding.

Table 5-9: Non-Financial Strategies to Address Funding Gaps for Stormwater

Strategy	Description / Actions
Leverage internal capacity for capital works	At times, the City assigns capital work projects to public works staff to help reduce labour costs, however it is important to ensure this sort of work does not impact the ability to complete routine operations and maintenance work typically completed by public works staff.
Partner with the Sault Ste Marie Region Conservation Authority (SSMRCA)	The City has previously partnered with the SSMRCA to identify failing culverts and help with securing external funding.
Continuously coordinate pipe replacement with road renewal planning	Align renewal of linear assets closely with planned road reconstruction to minimize cost while managing I&I and failure risks. The City already implement good practice by triggering pipe replacement based on road renewal schedules, which helps avoid unnecessary rework and surface disruption. However, there is an opportunity to enhance and formalize this coordination by adopting a more proactive, corridor-based bundling approach. This means moving beyond reactive alignment to strategically coordinating utility and road reinvestments earlier in the capital planning cycle. By jointly prioritizing projects at corridors, using asset condition and risk to optimize timing, and identifying corridors where full upgrades can be bundled, the City can maximize cost-efficiency, reduce construction-related disruptions, and better manage risks such as I&I or pipe failure.
Seek external grant opportunities	Identify existing or hire new staff (at a corporate level) to dedicate time to identifying and applying to external grant opportunities to provide additional capital funding. Other Canadian municipalities have had success with this approach, and additional ones are following suit.

6. Implementation Plan and Continuous Improvement head

Continuous improvement is an important component of any AM program and is achieved through the implementation of recommended improvement initiatives which support sustainable service delivery. While the City's stormwater assets are in a relatively good condition at the moment, there are future challenges that must be addressed considering the 50-year projection presented in **Figure 5-4** . It is important to address these challenges thoroughly and promptly to leave a positive legacy for future generations.

A suite of improvement initiatives has been identified for the next update to AM planning for the City's stormwater assets, as outlined below:

- **Recommendation 1: Refine asset data and fill data gaps to make more informed and defensible decisions.**
  - Continue to collect data and fill gaps in the GIS inventory to have a more accurate representation of the current state of the stormwater infrastructure. For example, it is recommended to confirm the installation years and last treatment years of some aqueducts to improve the understanding of the current state.
  - Refine inventory of shoreline seawall assets, confirming quantities and installation years, and filling attributes such as replacement costs, materials, ESL and asset condition.
- **Recommendation 2: Develop a Data Governance Framework to provide a holistic and consistent approach to the City's stormwater data management practices**.

  A Data Governance Framework includes developing an Asset Information and Data Standards Strategy to clearly define what asset data exists, who is accountable for managing it, methods of data collection, and safeguarding data quality. The successful deployment of a Data Governance Framework aims to achieve the following benefits:
  - Enhanced data integrity to support reliable analysis.
  - Improved data management workflows and processes.
  - Improved AM reporting.
  - Clearly defined data management roles and responsibilities.
- **Recommendation 3: Review business process for asset acquisition and design workflow diagrams to formally document AM processes.**

  An opportunity exists for the City to continually re-evaluate its business practices, including data management, to promote information sharing between roles, departments, and systems. The development of process maps is an excellent resource for visualizing the flow of information and formalizing procedures.
- **Recommendation 4: Develop a stormwater sewer condition assessment program and culvert inspection / condition assessment program**.

  Sewers

  Condition assessment is one of the primary steps utilized prior to performing maintenance, rehabilitation, or replacement activities. In sewers, the most commonly used inspection technique is CCTV for sewers up to 1,200 mm; larger sewers can be good candidates for multi-sensor inspection (MSI). The results from these inspections will be used to evaluate the internal condition of the pipeline to determine the structural and operational condition. A CCTV program will allow the City to:
  - Better forecast infrastructure renewal and rehabilitation needs.
  - Avoid infrastructure failures and the resulting economic, social, and environmental costs.

- Leverage cost-effective methods to extend the life of assets before the asset becomes too deteriorated and must be replaced.

Culverts

A significant funding backlog exists due to the City's aging culverts that have surpassed their ESLs. The City should consider the development of a culvert inspection program to identify culverts most at risk of failure to help inform an accelerated culvert replacement program.

- **Recommendation 5: Refine the Levels of Service Framework.**

This AMP represents the City's Levels of Service in alignment with the requirements of O. Reg. 588/17 July 1, 2025 deadline. The City will continue its efforts to:

- Regularly record LoS performance measures to monitor changes over time and identify emerging trends.
- Review and update performance measures as needed to ensure they remain relevant and effective.
- Periodically assess proposed LoS to confirm alignment with shifting community expectations, regulatory changes, City priorities, available resources, and observed performance trends—supporting adaptive and responsive service delivery.
- Continuously enhance demand management by routinely evaluating future demand drivers that influence service delivery and asset use, integrating these insights into long-term capital planning to ensure LoS remains responsive to changing needs.

- **Recommendation 6: Develop a Formalized Risk Assessment Framework and use risk scores to drive financial needs forecasting.**

  The use of a risk-based approach to inform financial needs provides a clear direction in maintenance, rehabilitation, and replacement work in terms of balancing priorities. It also provides transparency to the public and other stakeholders to demonstrate that decisions are made in an impartial and consistent manner, without unreasonable bias, and in accordance with agreed upon policy and priorities.

- **Recommendation 10: Strengthen Renewal Planning for Stormwater Linear Assets through Corridor-Based Coordination on Infrastructure Renewal and Potential Life Extension Strategies.**

  - Enhance corridor-based coordination by aligning the renewal of linear assets with planned road reconstruction to minimize lifecycle costs and service disruptions; the City currently demonstrates sound practice by triggering pipe replacement based on road renewal schedules, minimizing surface disruption and rework. To build on this, the City is recommended to enhance its coordination efforts by adopting a proactive corridor-based bundling approach. This involves jointly prioritizing capital projects across road and utility programs earlier in the planning cycle, using asset condition and risk data to optimize timing, and identifying corridors where full upgrades can be bundled. This strategic integration will help maximize cost-efficiency, minimize disruption, and better manage infrastructure risks such as I&I and pipe failure.

- **Recommendation 7: Implement a Computerized Maintenance Management System (CMMS) / Work Management System.**

  Implementation of a CMMS will ensure managing and tracking asset operations and maintenance on a consistent basis across all asset classes. The City will conduct an AM Software Strategy following the completion of this AM plan to identify future system requirements that may include enhancing existing software, adding-on, or replacing.

- **Recommendation 8: Refine the Stormwater lifecycle model and update the model periodically as new information becomes available.**

  The stormwater funding model is based on a wide range of data inputs, currently available information, and a number of assumptions, and is therefore at best a high-level estimate of future funding needs.

  - In light of the annual capital and O&M investments outlined in **Section 5**, the estimated funding requirement for the City's stormwater reinvestment and O&M is an average of $11 Million per year over the

next 10 years. However, when considering the longer-term needs, the City may want to consider establishing reserves to address future renewals and replacement beyond the 10-year horizon.

- Review financial modeling assumptions on ESLs and replacement values and update the financial model with new information as it becomes available (e.g., when the results from the CCTV inspection program or any advanced field inspection become available).
- Incorporate condition assessment data from aqueduct inspections into the model.

- **Recommendation 9: Continue to monitor growth needs and integrate growth related stormwater infrastructure funding needs into the financial forecast and update the stormwater AM Plan as appropriate.**

  As referenced in **Section 3.7**, the City's stormwater system is expected to grow in line with an increase in the City's population. AECOM recommends that the City:

  - Includes growth-related capital needs as part of the capital budgeting.
  - Coordinates AM planning and development planning processes to ensure that the infrastructure systems that are built to serve new growth can be sustained over the long term.
  - Ensures that the stormwater asset inventory is kept current at all times as new assets are added and existing assets are refurbished or retired.

- **Recommendation 10: Continue to find ways to improve AM initiatives across the City by maintaining a high level of AM awareness through training, AM buy-in, communication, and knowledge sharing.**

  ISO 55010[11] identifies that the financial and non-financial functions of AM within organizations are generally inadequately aligned. The lack of alignment between financial and non-financial functions can be attributed to silos in an organization, including reporting structures, functional / operational business processes, and related technical data. Financial and non-financial alignment needs to work both "vertically" and "horizontally", as follows:

  - Vertical Alignment: financial and non-financial asset-related directives by management are informed by accurate upward information flows, effectively implemented across the appropriate levels of the organization.
  - Horizontal alignment: financial and non-financial information that flow between departments conducting functions such as operations, engineering, maintenance, financial accounting, and management, etc. should use the same terminology and refer to the assets identified in the same way.

- **Recommendation 11: Develop a Knowledge Retention Strategy to document staff AM knowledge and experience for succession planning purposes.**

  Communicate AM improvement initiatives and enhance AM awareness internally through internal communication.

- **Recommendation 12: Develop a Change Management & Communications Plan.**

  AM buy-in and support are needed from all levels of the City to ensure that AM standards, practices, and tools are properly adopted and incorporated into day-to-day work activities. A successful Change Management & Communications Plan will depend on the following factors:

  - AM buy-in from Council, senior management, staff, and departments.
  - AM objectives are realistic and achievable.
  - AM improvement initiatives are appropriately resourced.
  - A network of AM champions is developed and empowered across the City.

- **Recommendation 13: Public and Council Engagement Activities.**

[11] International Organization for Standardization (2019): ISO 55010 - Asset management — Guidance on the alignment of financial and non-financial functions in asset management

Establish a structured approach to public and Council engagement to ensure the AMP aligns with community expectations, supports informed decision-making, and enhances transparency, the City is committed to establishing a structured approach to public and Council engagement. While several engagement activities have already been undertaken, these efforts lay the foundation for a more consistent and strategic approach moving forward.

For Council engagement, the City has held presentations and conducted media events to share key project updates. It is recommended the development of Councillor Tool Kits could equip elected officials with clear and consistent messaging, including project overviews and frequently asked questions, to help them confidently respond to inquiries from residents. Suggested content for the tool kits includes:

- Overview of the City's Infrastructure Network
- Unique Conditions and Localized Challenges
- Investment in Infrastructure: Past, Present, and Future
- How the City Plans and Delivers Maintenance
- Why Continued Investment in Infrastructure Is Critical
- Asset Types and How They Guide Investment Priorities
- Introduction to Asset Management Principles
- Service Levels: What Residents Can Expect
- How Climate Change Impacts Infrastructure and their Maintenance
- Leveraging Technology to Improve Infrastructure Management
- Funding Sources and Budget Allocation
- How Infrastructure Are Prioritized and Selected for Maintenance

On the public engagement side, the City has shared information through existing channels, and this could be enhanced through a dedicated project webpage. This webpage would serve as a central hub for infrastructure planning updates, offering frequently asked questions, downloadable resources, project timelines, contact information, and an interactive feature to encourage two-way communication. A targeted social media strategy is also recommended to further broaden outreach—leveraging platforms such as Facebook and Instagram, including the use of sponsored posts to promote project milestones and public input opportunities.

The recommended engagement strategies would help foster public trust, define customer-focused performance targets, and ensure that the AMP reflects the evolving priorities of both Council and the broader community.

APPENDIX A

Stormwater Asset Inventory



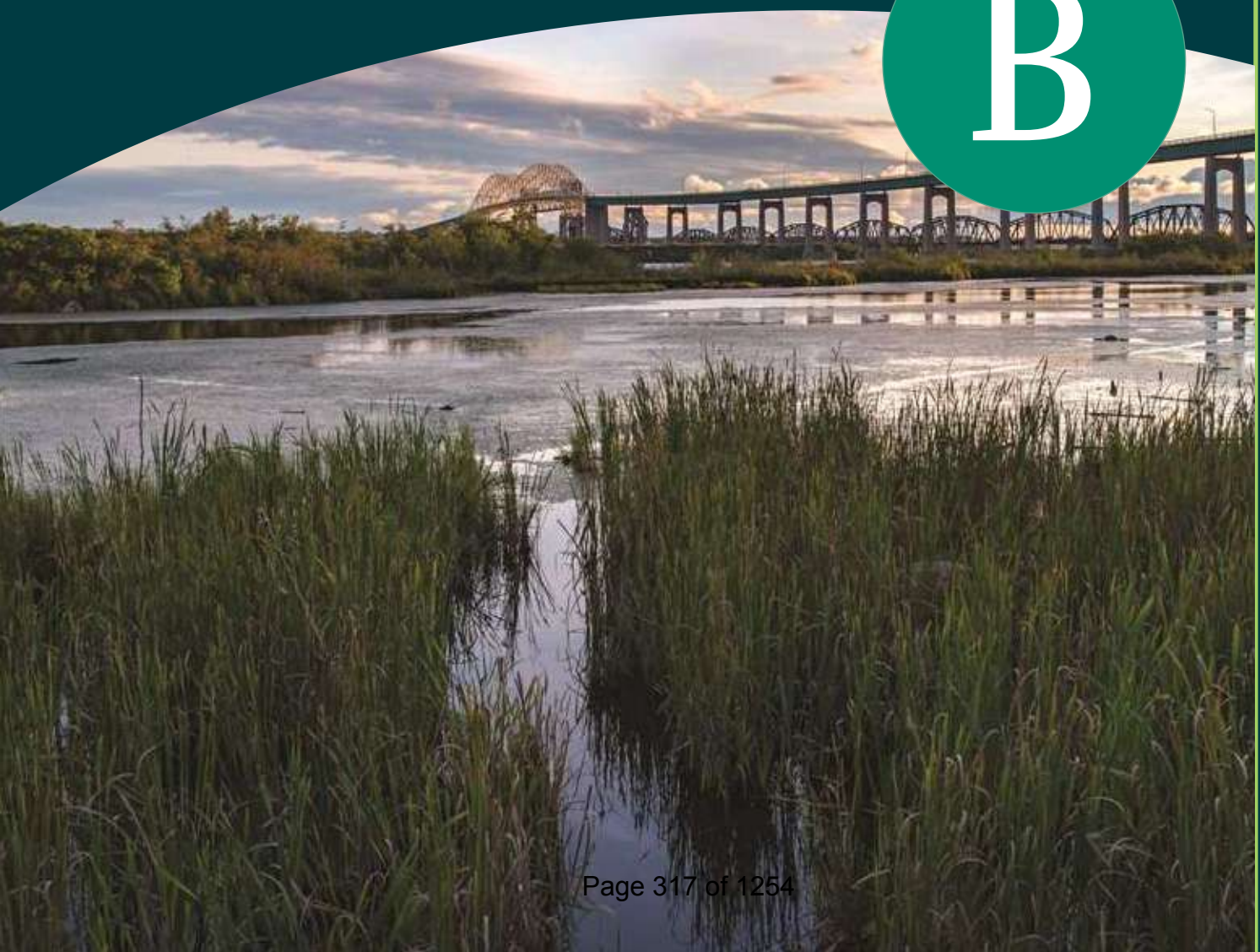
Appendix A - Stormwater Asset Inventory

The City's stormwater asset inventory is presented as a separate MS Excel file.

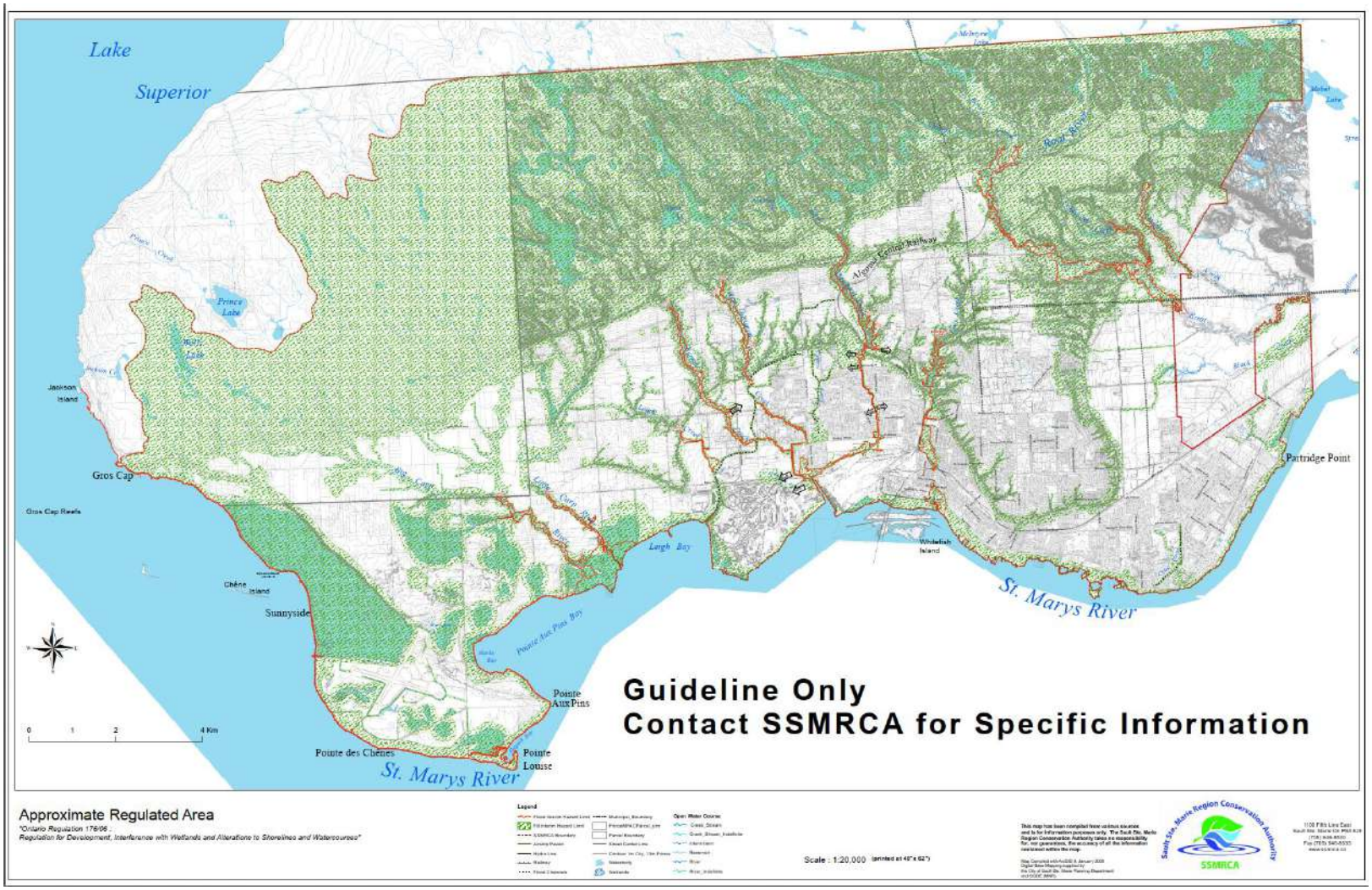
APPENDIX B

Stormwater Approximate Regulated Area

B



Appendix B - Stormwater Approximate Regulated Area



Source: O. Reg. 176/06: Sault Ste. Marie Region Conservation Authority: Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses.

Figure B-1: Stormwater Approximate Regulated Area

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SAULT STE. MARIE

CITY OF SAULT STE. MARIE

ROADWAY APPURTENANCE ASSET MANAGEMENT PLAN

FINAL | 60735219 | June 2025



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List of Abbreviations

Abbreviation	Description
AM	Asset Management
Ea.	Each
ESL	Expected Service Life
GIS	Geographic Information System
LoS	Level of Service
m^2	Square meter
O&M	Operations and Maintenance
O. Reg.	Ontario Regulation
RSL	Remaining Service Life

1. Introduction

AECOM Canada ULC (AECOM) was retained by The City of Sault Ste. Marie (the "City") to update the asset management plan developed in 2022 to comply with the third phase (Phase III) of the Ontario Regulation 588/17 (O. Reg. 588/17) requirements in respect to its core municipal infrastructure assets. The scope of work is outlined in AECOM's proposal dated September 20, 2024, and subsequent project correspondence.

1.1 Background

Sault Ste. Marie is a city located on the St. Mary's River, north of the United States of America, bordering three of the Great Lakes with an estimated population of 72,051 (2021). The City provides a wide range of public services to their constituents, with the public expectation that these services function efficiently at a certain level. The provision of these services requires the management of the physical assets to meet desired service levels, manage risks, and provide long-term financial sustainability. These assets include, but are not limited to roads, bridges, sidewalks, wastewater assets, stormwater management assets, landfill, fleets, buildings, and parks.

In accordance with the terms of reference for this assignment, it is understood that the City is proceeding with an asset management plan to comply with the third phase of the regulatory requirements in respect to its non-core municipal infrastructure assets, in accordance with O. Reg. 588/17, by July 1, 2025. The non-core assets to be covered in the scope, as defined by the regulation, include the City's protection services, solid waste, parks and cemetery, facilities, fleet, roadway appurtenances, and active transportation.

1.2 Objectives

In 2015, the City's first Asset Management Plan (AMP) was published. In 2019, by the City Council approval, the Strategic Asset Management (AM) Policy for the City came into effect. In 2022, the City published its core asset AMPs. Following that, the City developed the AMPs for its non core assets in 2024.

Organizations that implement good AM practices will benefit from improved business and financial performance, effective investment decisions, and better risk management. Stakeholders can expect lower total asset life cycle costs, higher asset performance, and confidence in sustained future performance.

The AMPs capture the City's infrastructure assets and deliver a financial and technical roadmap for the management of the City's assets. The intent of this plan is to provide the means for the City to maximize value from its assets, at the lowest overall expense while, at the same time, enhance service levels for its residents.

The objective of Phase III is to update all the core and non-core AMPs to comply with the July 1st, 2025, deadline set by O. Reg. 588/17. Phase III will update the AMP by incorporating the latest asset information, with a focus on:

- Updating the current AMPs to integrate proposed Levels of Service (LoS).
- Defining the lifecycle activities and associated costs required to achieve those LoS.
- Identify the available funding and any funding shortfalls.
- Document the risk(s) of failing to meet the proposed LoS for all asset classes over a 10-year period.

This AMP is an update of the 2024 AMP for the City's roadway appurtenances. All other core and non-core AMPs are presented under separate reports.

1.3 Asset Management Provincial Requirements

The O. Reg. 588/17 came into effect in 2018 and stipulates specific AM requirements to be in place within Ontario municipalities by certain key dates (see **Table 1-1**). The development of this AMP is one of the steps to guide the City towards meeting the July 1st, 2025 deadline.

Table 1-1: O. Reg. 588/17: AM Planning for Municipal Infrastructure

Deadline Date	Regulatory Requirement
July 1st, 2019	All municipalities are required to prepare their first Strategic AM Policy.
July 1st, 2022	All municipalities are required to have an AM Plan for its entire core municipal infrastructure (i.e., water, wastewater, stormwater, roads, and bridges & culverts).
July 1st, 2024	All municipalities are required to have an AM Plan for infrastructure assets not included under their core assets.
July 1st, 2025	All AM Plans must include information about the LoS that the municipality proposes to provide, the lifecycle activities and associated costs needed to achieve those LoS, available funding, any funding shortfalls, and the risk of failing to meet the proposed LoS.

1.4 Scope

The following elements are included within the scope of this AMP:

- Asset hierarchy, a summary of the asset inventory, including the replacement cost of the assets, the average age of the assets, the condition of the assets, and data gaps analysis (**Section 2**).
- The City's level of service objectives, stakeholder identification, current levels of service (LoS) determined in accordance with the qualitative descriptions and technical metrics outlined in O. Reg 588/17, proposed service levels, LoS forecast, and future demand drivers (**Section 3**).
- Asset lifecycle management strategies, lifecycle activities and funding needs to achieve proposed LoS, risk of not meeting proposed LoS, available funding and funding gap, and alternative (non-financial) strategies to manage funding shortfall (**Section 4** and **5**).

1.5 Relationship to Other Corporate Documents

This AMP is a tactical plan which links "top-down" strategic objectives with "bottom-up" operational activities. **Figure 1-1** demonstrates the line-of-sight between AM strategic objectives and tactical and operational AM elements, including the relationship this AMP has to the other plans in the City's hierarchy of documents.

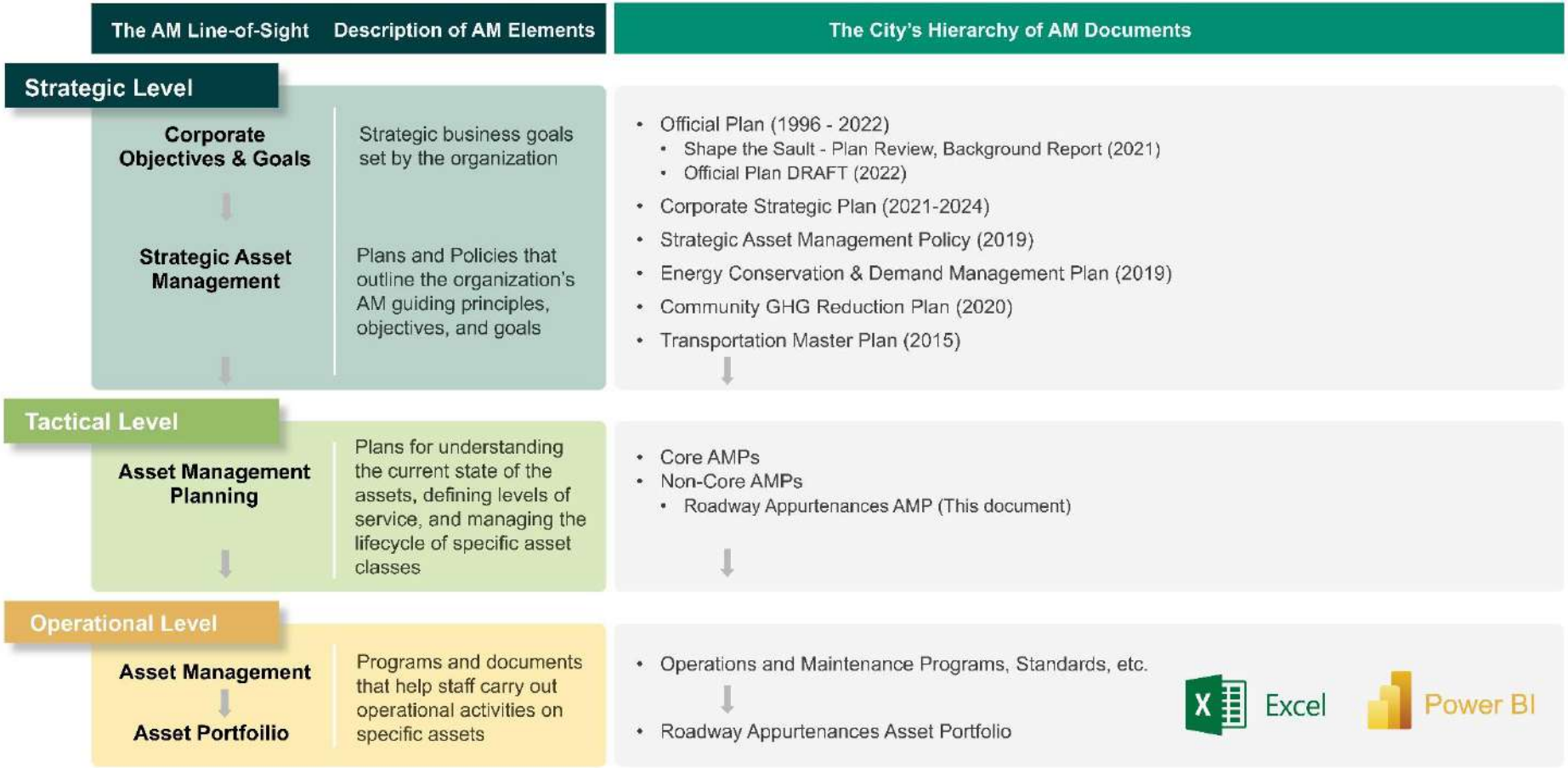


Figure 1-1: The City's Asset Management Line of Sight

2. State of Infrastructure

Roadway appurtenances encompass a diverse range of auxiliary elements crucial to the functionality and safety of roadways. The City's roadway appurtenances include traffic signals, signage, railway crossings, parking lots, and various supporting structures. The inventory of roadway appurtenances is a comprehensive catalog detailing the quantity, condition, and specifications of these components within the City. By analyzing the inventory and assessing the data gaps, this section facilitates informed decision-making and strategic resource allocation, providing essential insights into the maintenance needs and financial requirements.

2.1 Asset Hierarchy

To fulfill the requirements of O. Reg. 588/17 and to pave the way for robust long range AM planning, the City necessitates a logically segmented asset breakdown structure (hierarchy) within the ambit of this AMP. Achieving this requires a sufficiently granular classification of roadway appurtenances, enabling the identification of individual assets due for renewal. Striking the right balance is also crucial, as there is a fine trade-off between ensuring adequate granularity to provide essential information and avoiding excessive granularity that could make the effort to collect and manage information more burdensome than the usefulness derived from it.

In **Figure 2-1**, the hierarchy of roadway appurtenances is illustrated, showcasing five main categories: traffic signals, traffic equipment, traffic signs, parking lots, and railway crossings. Each category is further broken down into subcategories. This asset hierarchy establishes a logical indexing of the City's roadway appurtenances, categorizing them into primary (parent) and secondary (child- and grandchild) assets. Such a structure forms the foundational framework for subsequent discussions and analysis, enabling the drill-down to a specific asset within the hierarchy to support maintenance planning or track costs at the asset level or higher levels.

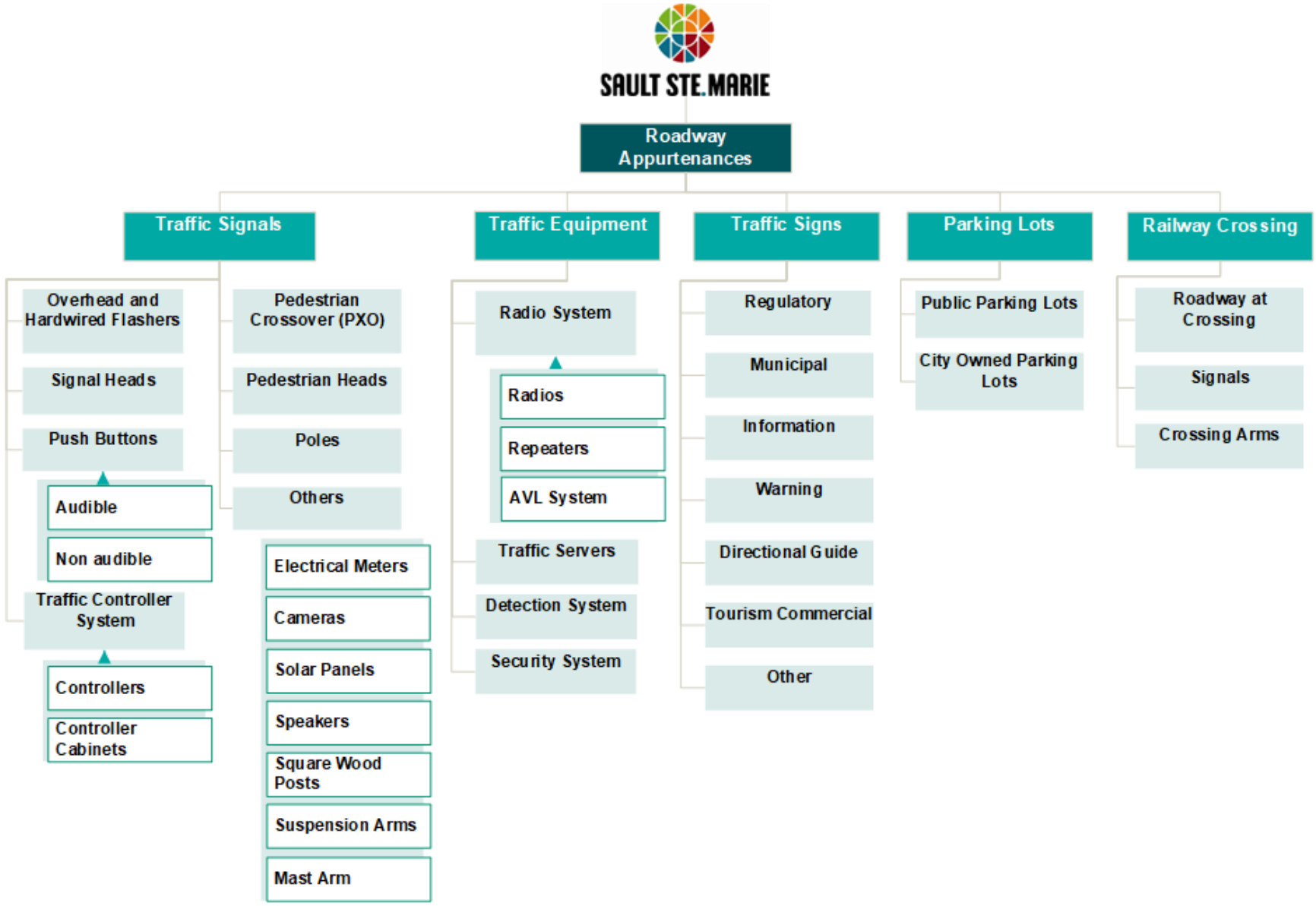


Figure 2-1: City of Sault Ste. Marie Roadway Appurtenances Asset Hierarchy

2.2 Current State of the Assets

2.2.1 Asset Inventory

Table 2-1 presents the summary of the City's roadway appurtenances inventory.

Table 2-1: Roadway Appurtenance Inventory Summary

Asset Group	Asset Category	Quantity	Unit
Roadway Appurtenances	**Traffic Signs**	13,172	Ea.
	Traffic Signals	2,301	Ea.
	Traffic Equipment	279	Ea.
	Railway Crossings	52	Ea.
	Parking Lots	46,932	m^2

2.2.2 Current Asset Replacement Value

The asset replacement value is the estimated cost that would be incurred to replace an existing asset with a new one of similar functionality, at current market prices or construction costs. This value represents the monetary amount required to reproduce or procure an asset equivalent to the one being assessed. Examining the distribution of asset replacement values allows the City to comprehend which asset categories hold the highest value for both the City and the public.

Table 2-2 presents the unit replacement cost and the total replacement value for distinct roadway appurtenance asset categories within the City. Notably, railway crossings constitute the most significant portion, accounting for a replacement value of approximately $12 million, followed by parking lots at $10 million, traffic signs and traffic signals at $9 million and $8 million respectively, and traffic equipment at $0.8 million. The combined replacement value for all these categories amounts to approximately $41 million.

It is worth noting that the total replacement values have been marked up by 45%, out of which 15% accounts for engineering and project management cost and 30% for contingency cost.

Table 2-2: Current Replacement Value

Asset Group	Asset Category	Unit Replacement Cost ($/Unit)	Total Replacement Value (2025)
Roadway Appurtenances	**Traffic Signs**	$458 - $17,174 / Ea.	$9,094,000
	Traffic Signals	$114 - $85,868 / Ea.	$7,988,000
	Traffic Equipment	$1,211 - $20,674 / Ea.	$910,000
	Railway Crossings	$171,735 / Ea.	$12,493,000
	Parking Lots	$160 / m^2	$10,524,000
Total			**$41,010,000**

2.2.3 Age and Remaining Service Life

The asset age is based on the install year of the assets and the remaining service life (RSL) is estimated by considering both the age and the expected service life (ESL) in years. In practice, different assets will deteriorate at varying rates, and their deterioration may not necessarily follow a linear pattern over time. However, it is crucial to consider the level of effort required to predict failure in relation to the asset value. For highly valuable assets, more sophisticated

deterioration modeling may be justified. Conversely, for low-value assets, the cost of deterioration modeling might surpass the replacement cost of the asset. Moreover, the actual service life can vary significantly from the ESL. ESL is defined as the period over which an asset is available for use and able to provide the required LoS at an acceptable risk and serviceability (i.e., without unforeseen costs of disruption for maintenance and repair). In some instances, a variation in expected vs. actual service life is evident due to the following factors:

- **Operating Conditions and Demands:** Some assets are operated intermittently or even infrequently or are being operated at a lower demand than their designed capacity. Thus, the actual operating "age" of the asset is reduced.
- **Environment:** Some assets are exposed to very aggressive environmental conditions (e.g., corrosive chemicals), while other assets are in relatively benign conditions; thus, the deterioration of assets is affected differently.
- **Maintenance:** Assets are maintained through renewal or replacement of components, which prolongs the service life of the asset.
- **Technological Obsolescence:** Some assets can theoretically be maintained indefinitely, although considerations such as cost to maintain the asset, its energy efficiency, and the cost to upgrade to an updated technology that would result in cost savings are likely to render this approach uneconomical.

Table 2-3 and **Figure 2-2** show the weighted average asset age and RSL as a proportion of average ESL for traffic signs (including all subcategories), traffic signals (including traffic controller systems and solar flashers), and traffic equipment (including radio systems). Other asset categories or subcategories are excluded due to missing installation date information. It is recommended that the City collect such data to enable their inclusion in future iterations of the AMP.

Since each asset category may include various subcategories with differing functions, materials, usage patterns, and operational conditions, both asset age and ESL are weighted by replacement value to ensure a representative analysis. It should also be noted that the age of traffic signs is represented by an estimated apparent age derived from condition assessment scores.

Table 2-3: Roadway Appurtenance Assets Average Age, ESL, and Remaining Service Life

Asset Group	Asset Category	Weighted Average Age	Weighted Average ESL	Remaining Service Life
Roadway Appurtenances	Traffic Signs	12	15	3
	Traffic Signals	21	27	5
	Traffic Equipment	7	24	17

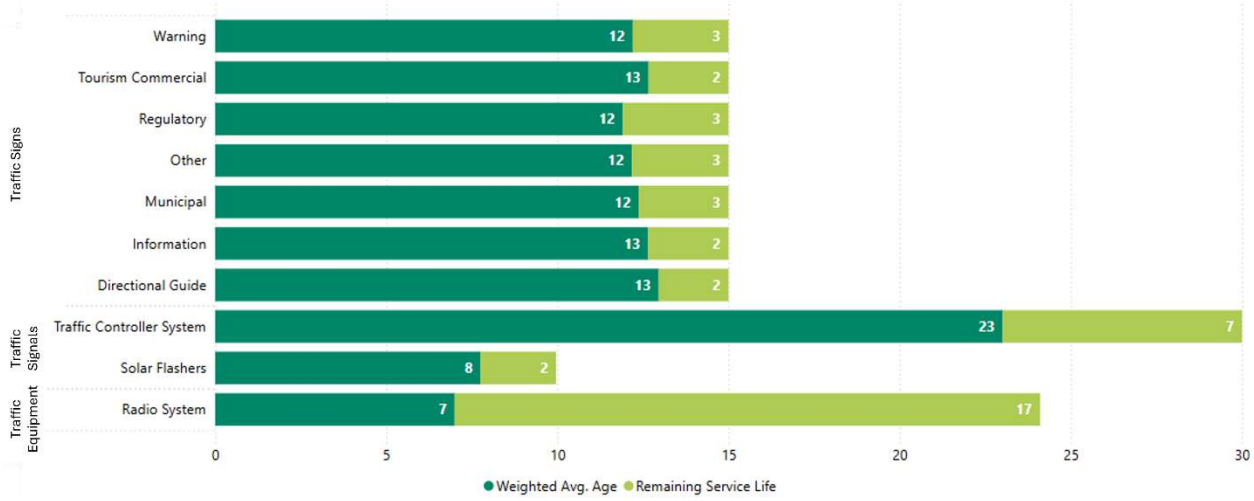


Figure 2-2: Roadway Appurtenance Weighted Average Age and Remaining Service Life

Figure 2-4 shows the installation profile of the City's roadway appurtenance assets by asset category. As previously mentioned, a significant portion of these assets lack installation date information. Among the assets with available data, approximately $1.9 million were installed before 2000, while $4.3 million were installed after 2000.

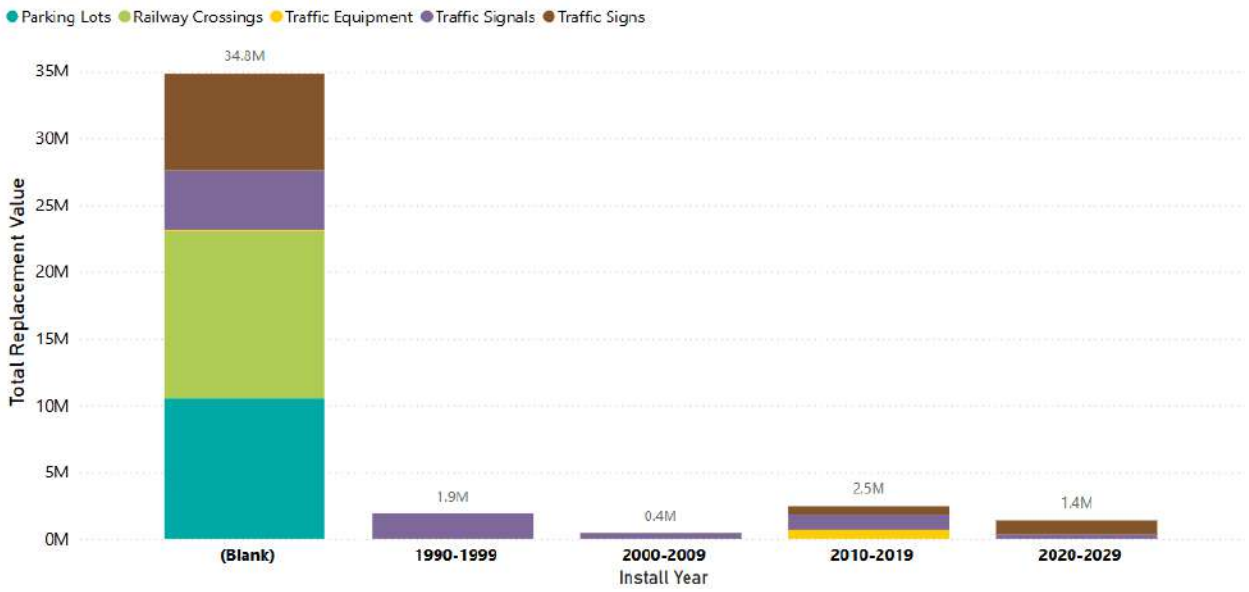


Figure 2-3: Roadway Appurtenance Installation Profile

2.2.4 Asset Condition

Regular field condition assessments for traffic signs are conducted as mandated by the O. Reg. 239/02: Minimum Maintenance Standards for Municipal Highways under Municipal Act. For other asset categories that do not have field condition assessment results, the two-parameter Weibull distribution function was used to assess the current condition and to project the future condition of the City's roadway appurtenances. The Weibull distribution has been used extensively in reliability studies and lifetime prediction models in industries ranging from automotive to the oil & gas and provides a suitable distribution for this type of analysis.

The underlying premise of the Weibull-shaped deterioration is that while some assets fail prematurely due to severe conditions or improper installation, other assets are very long-lived and function well beyond their theoretical ESL. In order to perform a high order network-level analysis, it was assumed that assets would fail (and require replacement) within a deterioration envelope / curve approximated by a Weibull probability distribution. The two-parameter Weibull cumulative distribution has two parameters for scale and shape, as set out in Equation [1]:

$$f(x;\alpha,\beta) = e^{-\left(\frac{x}{\beta}\right)^{\alpha}} \quad [1]$$

Where: x = Age
α = Shape parameter (or slope)
β = Scale parameter

A set of Weibull cumulative distribution functions were leveraged to simulate a set of deterioration curves for assets with different ESLs as shown in **Figure 2-4**.

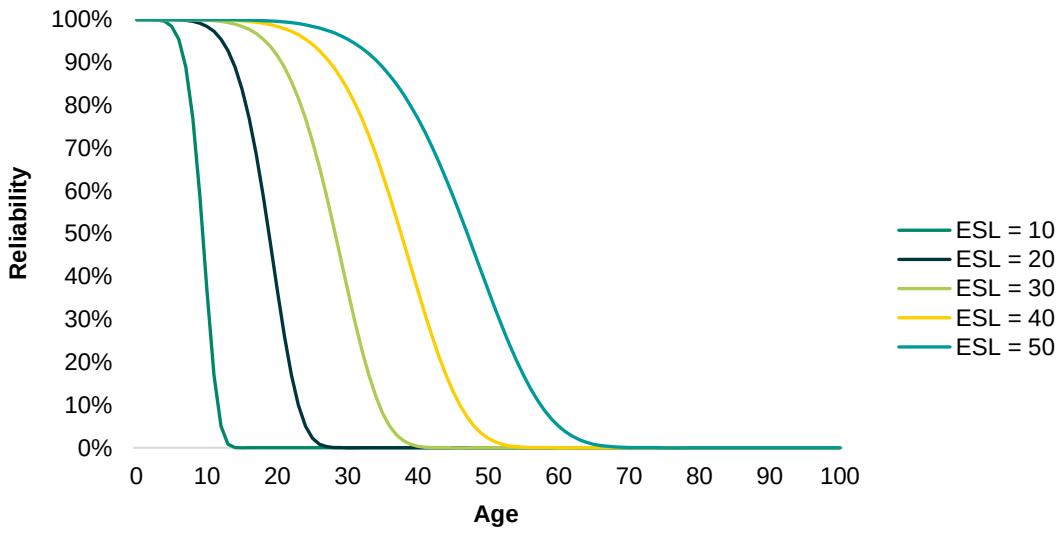


Figure 2-4: Asset Deterioration Curve Samples

Table 2-4 and **Figure 2-5** present the condition ratings of the City's roadway appurtenances with respective replacement values. As stated previously, a substantial number of roadway appurtenances assets lack installation date information. Therefore, a significant data gap exists for assets labelled as "Unknown" condition, representing 69% of the total replacement value. The known condition ratings span from "Very Good" to "Very Poor," with "Very Good" and "Good" collectively contributing 9% to the overall replacement value.

Table 2-4: Roadway Appurtenances Condition Summary

Rank	Condition Rating	Replacement Value	% of Replacement Value
1	Very Good	$2,816,000	7%
2	Good	$856,000	2%
3	Fair	$5,612,000	14%
4	Poor	$1,442,000	4%
5	Very Poor	$2,151,000	5%
6	Unknown	$28,134,000	69%
Total		**$41,010,000**	**100%**

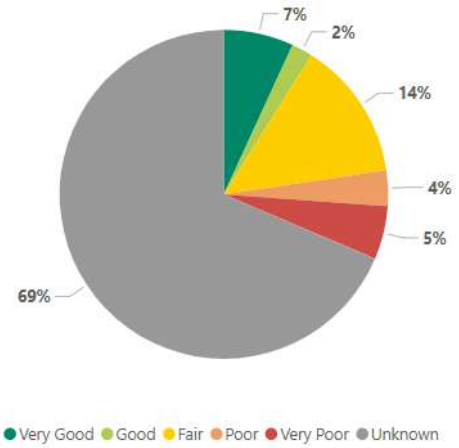


Figure 2-5: Roadway Appurtenances Asset Condition Weighted by Replacement Value

Figure 2-6 and **Table 2-5** granulate the condition of the assets based on asset categories / subcategories and their respective replacement values. Similarly, only the condition of traffic signs (including all subcategories), traffic signals (including traffic controller systems and solar flashers), and traffic equipment (including radio systems) has been assessed. The data gap for other subcategories still requires attention and completion.

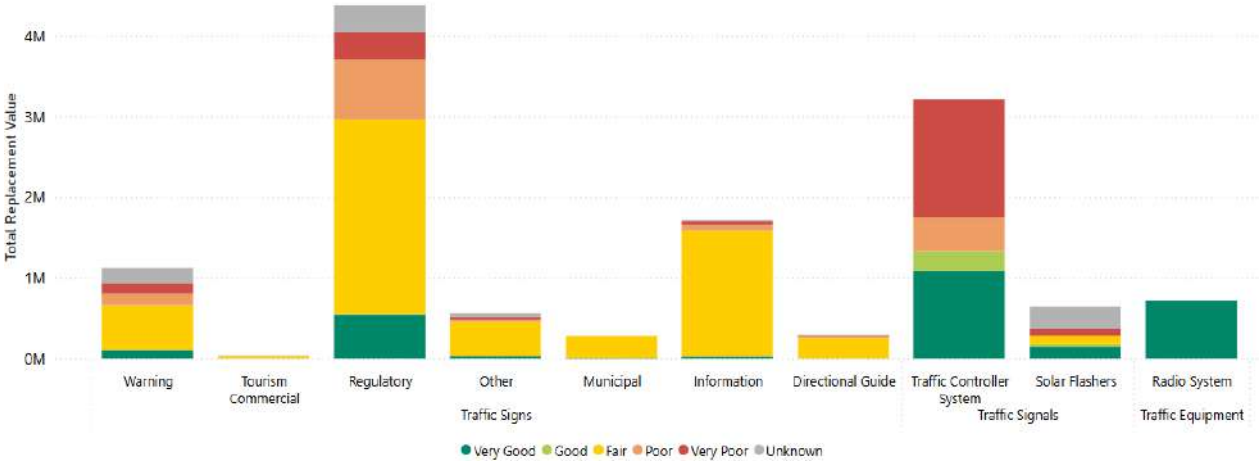


Figure 2-6: Distribution of Roadway Appurtenances Asset Condition

Table 2-5: Distribution of Condition for Roadway Appurtenance Asset Categories

Asset Category	Very Good	Good	Fair	Poor	Very Poor	Unknown
Parking Lots	-	-	-	-	-	26%
Railway Crossings	-	-	-	-	-	30%
Traffic Signs	2%	0%	0%	0%	0%	0%
Traffic Signals	3%	1%	0%	1%	4%	11%
Traffic Equipment	2%	1%	13%	2%	1%	1%
Total	**7%**	**2%**	**14%**	**4%**	**5%**	**69%**

2.3 Asset Data Gap Analysis

This section summarizes the current state of the City's asset data by assessing the quality of the asset inventory. Specifically, this section identifies existing data gaps, determines the overall confidence in the current asset data, and introduces good practices of data management.

2.3.1 Data Gap Observations

The City's roadway appurtenances were previously stored across multiple spreadsheets and GIS database. This project has successfully centralized the data into a single inventory. Additionally, it has addressed and filled gaps in key data, such as expected service life and replacement costs, achieving a 100% completeness rate. **Table 2-6** provides a summary of data completeness levels in the compiled roadway appurtenance inventory across key data attributes. It is recommended that the City continue to work on filling any remaining gaps, ensuring an up-to-date database.

Table 2-6: Asset Data Completeness

Asset Group	Inventory Completeness (%)					
	Asset ID	Location	Install Date	Condition (for Traffic Signs)	Expected Service Life	Replacement Cost
Roadway Appurtenances	85%	8%	20%	92%	100%	100%

2.3.2 Data Confidence

The quality of asset data is critical to effective AM, accurate financial forecasts, and informed decision-making. For this reason, it is important to know what the reliability of the information is for the State of Infrastructure analysis of the roadway appurtenances. **Table 2-7** provides a description for the data confidence grades used to classify the reliability of the asset data. This can serve as a reference for the City to assess the quality of their asset data.

Table 2-7: Data Confidence Grading Scale

Confidence Grades	Description
A - Highly reliable	Data is based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate ± 2%
B - Reliable	Data is based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10%
C - Uncertain	Data is based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy is estimated ± 25%
D - Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy ± 40%
E - Unknown	None or very little data held.

Table 2-8: Data Confidence Grading Scale

Asset Group	Data Confidence Average Grade		
	Inventory	Install Date	Condition (for Traffic Signs)
Roadway Appurtenances	B	B	B

2.3.3 Data Management Practice

The asset data lifecycle is a sequence of stages that data goes through from its initial build (i.e., data capture and entry) to its eventual archival and/or deletion at the end of its useful life[1]. A clear definition and understanding of the organization's process for acquiring, storing, utilizing, assessing, improving, archiving, and deleting data (see **Figure 2-7**) will ensure good data management practices and help to sustain levels of data quality required to support AM activities.

[1] TechTarget Network, Definition: Data Life Cycle, 2020.

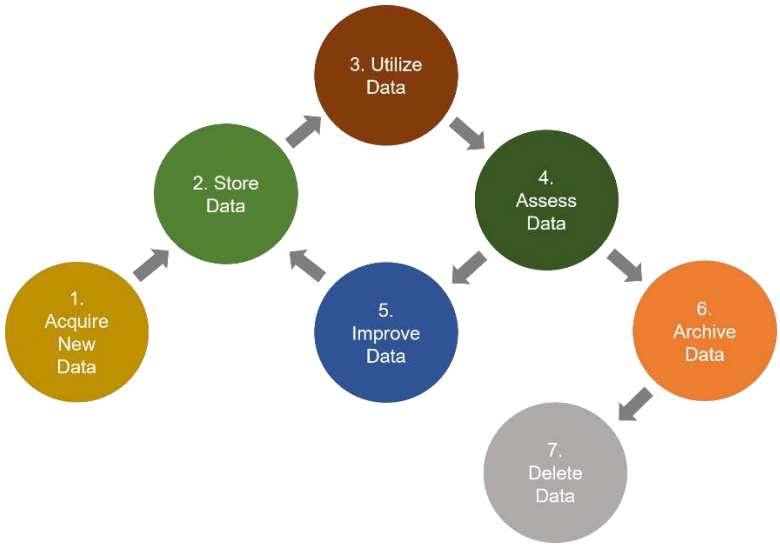


Figure 2-7: Asset Information Lifecycle

The seven key stages of the asset data lifecycle are described in more detail below:

Acquiring New Data: The majority of new asset data arises from asset creation, refurbishment and overhaul activities. New data may also come by way of inheritance or transfers from other business units, organizations, or third parties. As such, it is important to have clearly defined processes in place not only to add or update asset data, but to migrate and merge data from other sources.

Storing Data: The way asset data is stored is an important consideration for overall data quality. Having a planned approach to data storage will inevitably reduce the likelihood of duplication and inconsistencies across datasets within the organization. Depending on the needs of the organization, this stage may involve procuring a new software to adequately house the data, along with a data backup and recovery plan to ensure that the necessary data protection and privacy standards are met.

Utilizing / Analysing Data: This aspect of the asset information lifecycle is where users encounter the data to support data-driven activities within the organization. Data can be viewed, processed, edited, and published to allow users to access the data outside the organization. Critical data that has been modified should be fully traceable to maintain the integrity of the data. As such, it is important to communicate to the users why asset data is so important, and how it is used to inform decisions within the organization.

Assessing Data: Assessing the data quality helps to determine the level of confidence in the information and ensures that decision-makers are making informed decisions based on the quality of data available to them. Moreover, it is important to fully understand the availability and quality of the asset data before issuing information publicly. Some of the results of data degradation, due to improper or lack of assessment, may include:

- Poor asset performance due to lack of information and understanding of asset behaviour.
- Non-compliance with statutory regulations or safety requirements.
- Safety incidents due to risks not being identified or reported.
- Asset failure due to gaps in maintenance planning.

Improving Data: Improving data quality involves establishing clear targets which are intended to be communicated widely across the organization. It is imperative that the organization understands the costs, benefits, and risks associated with any data improvements since the cost of the improvement may outweigh the overall benefit. It is also important to note that *more* data does not necessarily mean *better* data. It is very possible to collect data that does not add value to the organization. As such, it is critical that the organization aligns its data improvement targets with its AM objectives and considers the data-driven decisions staff need to make at the operational and strategic level, to ensure that the *right* data is being improved upon.

Archiving Data: Archiving data is the process of storing data that is no longer active or required but is able to be retrieved in case it is needed again. Data that is archived is stored in a location where no usage or maintenance occurs. It is recommended that a data archive strategy exists within an organization in order to lay out the data archival requirements, which includes the following factors:

- Consider what data should be archived and articulate the reasons behind the archival decisions.
- Examine any legal obligations pertaining to the retention of data records.
- Determine the appropriate duration for retaining different categories of data records.
- Evaluate the risks associated with the inability to retrieve specific data records.
- Specify the authorized individuals or entities who should have access to archived data records.
- Establish the expected timeframe for retrieving archived data records.
- Communicate these requirements across the organization to ensure staff understand why records are being archived, how they can access archived data records, and for how long archived data records can still be accessed.

Deleting Data: The deletion of data is the final component of the asset information lifecycle. Typically, within organizations there is a resistance to permanently delete data, otherwise known as data “squirrelling”, due to the overall capacity of storing data increasing and the cost decreasing. However, within the organization’s data archive strategy, a retention period should be specified to indicate when data should be deleted, along with any processes to follow, such as obtaining prior authorization.

3. Levels of Service

3.1 Purpose

Level of Service (LoS) supports every aspect of the overall AM System. The objective of establishing clearly defined service levels is to help the City meet stakeholder values, achieve its strategic goals, make informed decisions, and implement effective asset lifecycle activities.

Documenting LoS is a proven practice that will enable the City to:

- Link corporate strategic objectives to customer expectations and technical operations.
- Balance customer needs and expectations while evaluating the effectiveness of operations and whether the right LoS is being provided at the right cost.
- Transition from an “Asset Stewardship” approach that focuses on making decisions based on maintaining assets in an acceptable condition to a “Serviceability” approach that is geared towards making decisions based on balancing the costs, risks, and goals for the LoS being provided by the City’s assets.
- Communicate the physical nature of infrastructure that the City owns and is financially responsible for while promoting the use of LoS to enable effective consultation with stakeholders regarding alternative funding options according to desired LoS outcomes.
- Make recommendations on strategies that the City can take now to minimize future renewal costs while ensuring that adequate LoS can be delivered without burdening future generations.
- Assess internal (e.g., program changes) and external (e.g., climate change) factors that have the potential to impact the City’s ability to deliver services and how these factors may impact the LoS being provided.
- Implement a corporate continuous improvement program to further optimize AM across all service areas.

The O. Reg. 588/17 requires that all AMPs include the current and proposed LoS being provided, determined in accordance with the qualitative descriptions and technical metrics provided (see **Section 1.3**).

3.2 Objectives

Defining LoS objectives is important for drawing a line of sight between the City’s corporate objectives and the tangible asset performance outcomes. To do so, the LoS objectives must take into consideration stakeholder interests to develop asset performance measures that aim to meet the needs and expectations of the community. By doing this, the City will ensure that their assets are striving towards optimal performance, not only operationally, but economically, socially, and sustainably as well.

Every stakeholder has certain interests in the service being provided and in general. The City’s corporate objective is to lift up the community and build pride, and attract people (visitors, employers and employees). The City’s Comprehensive Background Report[2] for the New Official Plan outlined the overarching themes that reflect the City’s value, as shown in **Table 3-1**. Each overarching theme is also assigned a corporate service objective.

The development of level of service targets should be aligned with these corporate objectives which will be addressed in the next iteration of the AMP.

[2] City of Sault Ste Marie. 2021. Comprehensive Background Report.

Table 3-1: The City's Overarching Themes and Objectives

Overarching Themes	Corporate Objective
Healthy Community	Supports healthy living, active transportation, access to passive and active recreation, social interaction and the creation of spaces that are comfortable, safe and accessible for all ages and abilities (the "8 to 80 Cities" concept).
Environmental Sustainability	Supports energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions and climate change adaptation.
Integrated Mobility	Supports accessibility and choice of a diversity of transportation modes.
Sense of Place	Fosters a welcoming place for all that establishes connection and provides a memorable experience to visitors.
Sustainable Growth	Stimulates reinvigoration of neighbourhoods to provide a complete range of housing, services, employment and recreation.
Economic Resiliency	Supports the growth and diversification of the city's economy.
Social Equity	Contributes to creating a welcoming and inclusive community, focusing on the removal of systemic barriers so that everyone has access to an acceptable standard of living and can fully participate in all aspects of community life.
Cultural Vitality	Celebrates the Sault's history, diverse communities and natural and cultural heritage, with the Downtown as the Sault's core destination for arts and culture.

3.3 Stakeholder Identification

A stakeholder is any person or organization that can affect, be affected by, or perceive themselves to be affected by a decision or an activity. Stakeholder analysis is the process of understanding stakeholder needs, expectations, and perceptions relative to the stakeholder's level-of-interest and level-of-influence over the organization. The organization typically engages with their stakeholders to:

- Establish which activities or services matter most to them.
- Understand their risk appetite and risk threshold.
- Understand their willingness to pay for services.

Stakeholders can take many forms and may be internal (i.e., staff, Council) or external (i.e., the public, regulatory agencies, suppliers, neighbouring municipalities, etc.) to the organization. The following groups were identified as key stakeholders for roadway appurtenances at the LoS workshops. This is not intended to be an exhaustive list; however, the following groups provide a good starting point for the City to move forward to the next stage:

- Residential Customers
- Regulatory Agencies
- Neighbouring Municipalities
- Environmental Groups
- Internal City Departments
- Railway Companies

3.3.1 Legislated and Regulatory Requirements

It is recommended that the City refer to key legislative requirements to ensure minimum standards are met and that appropriate practices are in place to maintain roadway safety, accessibility, and functionality. A selection of important federal and provincial legislative requirements relevant to roadway appurtenances is outlined in **Table 3-2**.

Table 3-2: Legislated and Regulatory Requirements

Federal	Provincial
• Canada Transportation Act • Railway Safety Management System Regulations • Railway Safety Act • Grade Crossings Regulations • Canadian Rail Operating Rules	• Highway Traffic Act – Ontario Regulation 615 – Traffic Signs – Ontario Regulation 402 – Pedestrian Crossover Signs – Ontario Regulation 408 – Traffic Control Signal Systems – Ontario Regulation 626 - Traffic Control Signal Systems • Municipal Act – Ontario Regulation 239 – Minimum Maintenance Standards for Municipal Highways • Public Transportation and Highway Improvement Act • Ontario Traffic Manual

3.4 O. Reg 588/17 Levels of Service Metrics

Currently, O. Reg 588/17 only identifies levels of service metrics for core assets. Several key LoS performance measures have been identified for roadway appurtenance assets through consultation and workshops with City staff, (see **Section 3.5**).

3.5 Proposed Levels of Service

Establishing LoS targets is an important part of continual improvement and performance management. Without targets, it is difficult to ascertain whether goals are being met, or the extent of the gap if they are not. Incorporating targets into the City's LoS Framework helps to ensure that targets are reasonable, aligned with customer expectations, and evaluated on an objective basis by considering cost-benefit trade-offs.

One of the key challenges in setting targets in a municipal environment is that they can often become biased and/or politically motivated. Therefore, it is important to review LoS targets with internal and external stakeholders, especially the customers who will be impacted the most by changes in service delivery. An important aspect of evaluating LoS targets is determining how willing the user is to pay for the service. Regulatory requirements are an exception; however, they only provide the minimum service standard. Cost is still an important parameter to consider when assessing the merits of service improvements. To deal with the financial realities, it is necessary to:

- Calculate how much the service costs based on current LoS.
- Determine the lifecycle activities and cost associated with varying the LoS.
- Assess the customers' willingness to pay.

It is important that any targets set be realistic and achievable. O. Reg. 588/17 requires AMPs to include proposed LoS by July 1, 2025.

A summary of the City's roadway appurtenances service level metrics is presented in **Table 3-4**. Each metric was presented with its current trend and proposed trend for the next 10 years, represented by legends, taking into account the nature of the measure, data availability, and whether the trend impacts positively or negatively on the proposed LoS. The LoS trend legends are described in **Table 3-3**.

Table 3-3: LoS Trend Legend

Symbol	Name	Description
↑	Positively Increasing	KPI is improving steadily over time, showing progress toward goals.
→	Positively Stable	KPI is at a strong, desirable level and consistently maintained.
↓	Positively Decreasing	KPI is improving as lower values indicate better performance.
↑	Negatively Increasing	KPI is worsening over time, signaling a need for corrective action.
→	Negatively Stable	KPI remains poor with no improvement or further decline.
↓	Negatively Decreasing	KPI is declining in a way that reflects worsening performance.

Table 3-4: Roadway Appurtenances Current and Proposed Levels of Service

LoS #	Service Area	LoS Measure	Unit of Measure	LoS Category	Current Performance	Performance Trend		Lifecycle Activities to Meet Proposed LoS	Budget Impact to Meet Proposed LOS	Risk of Not Meeting Proposed LoS
						Current	Proposed			
1	Roadway Appurtenances	Frequency of inspecting regulatory signs *	# of inspections / year	Technical	1	→	→	The City typically conducts inspections of regulatory signs every summer, employing summer students to carry out this work. To ensure effective inspections, it is essential for the City to maintain up-to-date equipment.	Low	• Non-compliance with regulations can lead to fines or penalties imposed by government authorities. • Damaged signs can lead to driver confusion, increasing the likelihood of accidents. • If poorly maintained signs contribute to accidents, the City may face lawsuits for negligence.
2	Roadway Appurtenances	% of Assets in Fair or Better Condition	%	Technical	23%	N/A **	N/A **	• Regular condition assessment • Replace aged assets	Low to Moderate	• Generally lower risk, but aging or underperforming assets still require attention.

** Reg. 239/02 requires that regulatory and warning signs be inspected at least once per calendar year to ensure they meet the retro-reflectivity requirements of the Ontario Traffic Manual, with no more than 16 months between inspections.*

*** The performance trend is not available because this is a new LoS metric. However, it should become available in future iterations of the AMP as the City continues to collect installation dates and update condition scores for roadway appurtenance assets.*

Performance Trend Legend:

↑ Positively Increasing	→ Positively Stable	↓ Positively Decreasing	↑ Negatively Increasing	→ Negatively Stable	↓ Negatively Decreasing

3.6 Future Demand Drivers

Demand management is a critical component of managing the desired LoS in a sustainable manner, now and into the future. Understanding demand drivers enables the City to proactively develop effective, long-term strategies that are suitable for the City's unique political, environmental, social and technological landscape.

A summary of factors identified through consultation with City staff that may impact roadway appurtenance service levels includes, but is not limited to, the following:

- Technology
- Growth
- Speed Management
- Funding level

On November 2, 2021, the City of Sault Ste. Marie's Planning Division released the Comprehensive Background Report[3] for updating the Official Plan[4]. The City's Official Plan guides the local decision-making on land use, development and public infrastructure over the next 20 years. The City's population is expected to reach approximately 80,000 residents by 2031 and 83,300 by 2036. Employment is projected to increase by approximately 6,000 jobs, rising from about 31,000 in 2016 to 36,900 in 2036.

When additional assets to accommodate this population and employment growth are introduced to the City's portfolio, additional human resources, training and funding are required to maintain and operate, and renew or replace those assets. O. Reg. 588/17 requires municipalities by July 1, 2025, to estimate capital expenditures and significant operating costs to achieve the proposed LoS and accommodate projected increases in demand caused by population and employment growth. This includes the estimated capital expenditures and significant operating costs related to new construction and / or to upgrade existing municipal infrastructure assets. This has been addressed in **Section 5.2.3**.

[3] City of Sault Ste Marie. 2021. Background Report. Compressed OP Background Report 2022April.pdf
[4] City of Sault Ste Marie. 1996. Official Plan

4. Asset Management Strategies

4.1 Asset Lifecycle Management Introduction

Asset lifecycle management focuses on the specific activities that should be undertaken during all phases of the asset lifecycle. Considering the entire asset lifecycle ensures that the City makes sound decisions that take into account present and future service delivery needs.

The overarching goal of lifecycle management is to maximize the long-term benefits and services that the City's assets deliver while minimizing the associated costs and risks in the long run. Every asset has a lifecycle cost, which is the total cost of all activities undertaken throughout its service life. Part of the purpose of the asset management planning process is to fully understand and predict the long-range financial requirements for the City's infrastructure, facilitating planning and resource management in the most cost-effective manner possible. **Figure 4-1** illustrates how costs typically accumulate over an asset's life. It is worth noting that the ongoing operations and maintenance, renewal & replacement, and disposal costs accumulate to many multiples of the initial acquisition costs. As such, it is important to fully understand the entire lifecycle costs before proceeding with asset acquisition.

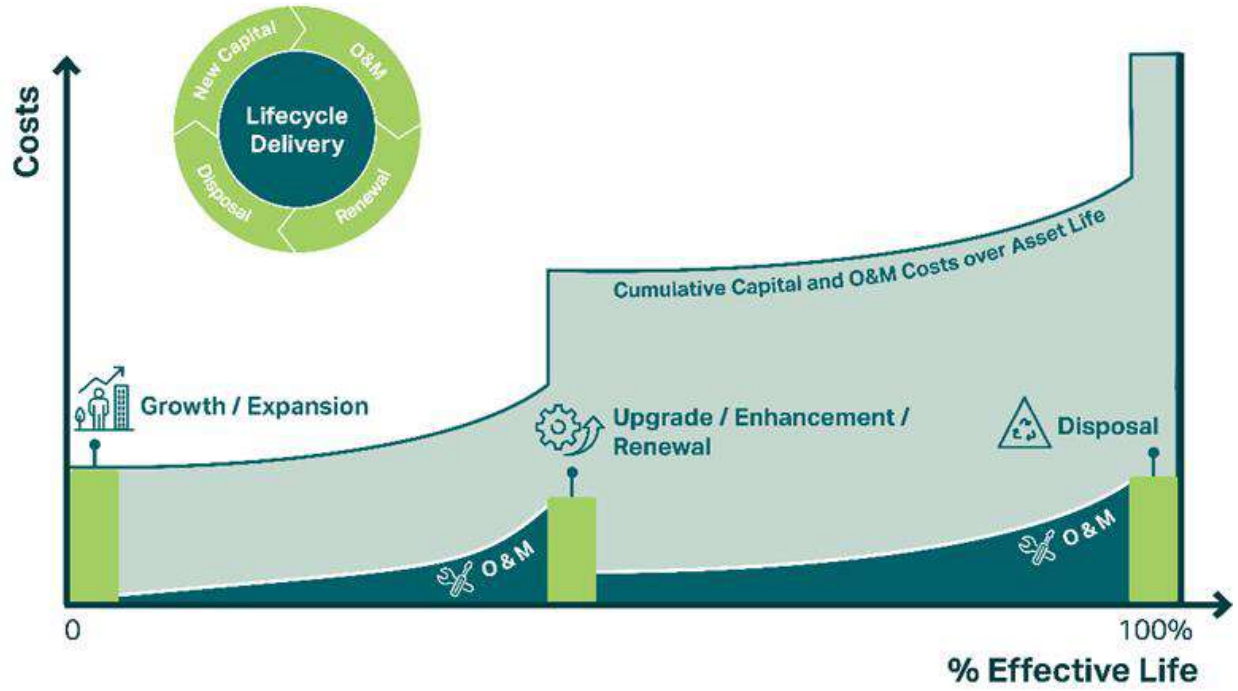


Figure 4-1: Lifecycle Cost Accumulation Over Asset Life

Asset lifecycle management strategies are typically organized into the following categories.



1. **Asset Acquisition / Procurement / Construction**: Acquisition includes expansion activities and upgrading activities to extend services to previously unserved areas or meet the demands of growth and functional requirements. When acquiring new assets, the City should evaluate credible alternative design solutions, considering how the asset will be managed at each of its lifecycle stages. Asset management and full lifecycle considerations for the acquisition of new assets include, but are not limited to, the following:
    - The asset's operability and maintainability.
    - Availability and management of detours.

- Staff skill and availability to manage the asset.
- The manner of the asset's eventual disposal.



2. **Asset Operations and Maintenance (O&M)**: As new infrastructure is commissioned, the City assumes the responsibility of operating and maintaining the infrastructure according to O&M standards to ensure its safety and reliability. The operations staff provides the necessary day-to-day support for operating the assets. Maintenance expenses include periodic preventive maintenance to ensure that the infrastructure can provide reliable service throughout the life of the asset and corrective maintenance that is required to repair defective assets as needed. Inadequate funding for O&M will adversely impact the lifespan of assets. The number of O&M resources required in any period is a function of the current inventory of infrastructure and the total O&M needs for each asset. As the inventory of infrastructure grows, total O&M requirements will also increase.



3. **Renewal and Replacement:** The third aspect of full lifecycle costing pertains to the renewal and replacement of assets that have deteriorated to the point where they no longer provide the required service. Renewal or rehabilitation costs may be incurred during the life of an asset where an investment is made to improve its condition and/or functionality, for example, resurfacing a parking lot. Replacement activities are expected to occur once an asset has reached the end of its useful life, and rehabilitation is no longer a viable option.



4. **Decommissioning and Disposal:** There will inevitably come to a point in time when an asset must be removed from service, and depending on the type of asset, there may be significant costs associated with its decommissioning and disposal. Factors that may influence the decision to retire an asset include changes to leading to non-compliance, the inability of the asset to handle increased service levels, technological advances rendering the asset obsolete, the cost of retaining the asset exceeding the benefits gained, the current risk associated with the asset's failure being tolerable, assets negatively impacting service delivery or the environment.

Normally, major costs that may be incurred during disposal and decommissioning derive from the environmental impact of the disposal and, if required, the rehabilitation and decontamination of land. However, some cost savings may be achieved through the residual value of the asset or by exploring alternative uses for the asset. In all cases, it is important to consider disposal and decommissioning as the strategy employed has the potential to attract significant stakeholder attention. For that reason, the costs and risks associated with disposal and decommissioning should be equally considered in the City's capital investment decision-making process.

4.2 Asset Acquisition Strategies

The City's pursuit of new roadway appurtenances is primarily fueled by their growth. With the expansion of both population and infrastructure, there arises a need for updated and enhanced road features to cater to the rising traffic and facilitate efficient transportation. The City's commitment to complying with traffic and safety regulations is equally crucial, ensuring that the transportation infrastructure aligns with current standards, thereby improving overall road safety. This input prompts targeted improvements in response to resident concerns. Last but not least, the City's dedication to sustainability initiatives propels the adoption of smart, energy-efficient technologies, contributing to environmentally friendly solutions in the transportation system.

Table 4-1 summarizes the acquisition activities associated with the City's roadway appurtenances.

Table 4-1: Acquisition Activities for Roadway Appurtenances

Asset Group	Activities Undertaken by the City	Guiding Documents
Roadway Appurtenances	• New Intersections Development: Accompanied by the creation of GIS data and drawings. • Cameras: New installations to Improve timing of traffic signals and contribute to a reduction in customer complaints.	• Official Plan • Transportation Master Plan • Corporate Strategic Plan • Energy Conservation & Demand Management Plan • Community Greenhouse Gas Reduction Plan • Strategic Asset Management Policy

4.3 Asset Operations and Maintenance Strategies

Effective O&M of assets is crucial for sustainable performance and longevity. Managing O&M costs involves developing comprehensive strategies that optimize resource utilization while ensuring asset reliability. Proactive maintenance schedules and condition monitoring can help identify potential issues before they escalate, reducing unplanned downtime and minimizing repair costs. Implementing energy-efficient technologies and best practices in roadway appurtenances management also contributes to cost-effectiveness over the asset's lifecycle. It is worth noting that currently the City has not established maintenance targets for roadway appurtenances; instead, they rely on the minimum maintenance standards as the guiding document.

Table 4-2 summarizes the O&M activities associated with the City's roadway appurtenances.

Table 4-2: O&M Activities for Roadway Appurtenances

Asset Group	Asset Category	Activities Undertaken by the City	Note
Roadway Appurtenances	Traffic Signals	• Regular monitoring of signal functionality. • Inspection and repair of traffic signal poles. • Implementation of software updates and hardware repairs. • Repairs of LED lamps: – Entire LED segments are replaced rather than repairing individual bulbs. – Daily inspections to ensure signal functionality. – Conducting visual and digital inspections, documenting any defects found.	Challenges in Traffic Signals O&M: • Managing the high volume of maintenance work at each intersection poses tracking difficulties, requiring ongoing efforts for documentation. • Addressing staffing and budget constraints is crucial for effective maintenance operations. • The short operational season, from May to the beginning of November, demands focused efforts to optimize maintenance activities. • Conducting maintenance internally is the current approach; there are challenges in utilizing external contractors for specialized work. • The installation of PXOs has been delayed for a few years due to their lower priority.
	Traffic Equipment	• Regular calibration and cleaning of equipment. • Inspection and repair of hardware. • Updates of software: – It is an ongoing process for traffic signals. – Updates are typically required for most controllers, traffic controllers cabinets, and any hardware in the field.	The ongoing calibration, cleaning, inspection, repair, and software updates required for traffic equipment highlight the need for proactive and systematic asset management practices to ensure equipment reliability, extend service life, and support safe and efficient traffic operations. This includes maintaining detailed asset inventories, scheduling regular maintenance, and budgeting for periodic technology upgrades.

Asset Group	Asset Category	Activities Undertaken by the City	Note
	Traffic Signs	• Regular inspections. • Cleaning and repairing signs. • Replacing faded or damaged signs. • Conducting a reflectivity study each summer for regulatory and warning signs. • Conducting annual reflectivity studies to comply with regulatory standards. • Conducting bi-yearly inspections alongside bridge inspections for overhead signs.	• The O&M of traffic signs is mandated by the Municipal Act, which stipulates specific requirements that must be met. This involves conducting regular inspections and testing, with a commitment to proving compliance with the established standards and regulations. • The City document sign inspections results in GIS.
	Parking Lots	• Regular cleaning and surface repairs. • Repairing lighting, signage, and markings. • Winter maintenance such as snow clearing. • Repairing markings for parking spaces.	These activities underscore the importance of routine maintenance planning and condition assessments within asset management. These activities are essential to ensure safety, accessibility, and prolong the service life of parking lot infrastructure.
	Railway Crossing	• Inspecting and maintaining signal equipment. • Inspecting barrier functionality and safety mechanisms. • Testing traffic signals at railway crossing interconnections annually through collaborative efforts between the City and the railway company.	• The City needs to address public complaints arising from offset rails, with the responsibility for action falling on the railway companies. The difficulties lie in coordinating and communicating with railway companies to establish proactive maintenance plans, adding a layer of complexity to ensuring the safety and functionality of railway crossings.

4.4 Renewal and Replacement Strategies

Renewal often involves upgrading or refurbishing existing assets to extend their lifespan, while replacement entails acquiring new assets. The costs associated with these activities include not only the direct expenses of acquisition but also indirect costs such as downtime during the transition, training for new technologies, and potential disposal or recycling costs. .

Table 4-3 summarizes the renewal and replacement activities associated with the City's roadway appurtenances.

Table 4-3: Renewal and Replacement Activities for Roadway Appurtenances

Asset Group	Asset Category	Activities Undertaken by the City	Note
Roadway Appurtenances	Traffic Signals	• Replacement at the end of life.	• The City has undertaken the replacement for overhead flashers for sustainability purposes. • The City is in the process of replacing cabinets, and the replacement process is being facilitated through the capital road transportation program. • The re-lamping process has been completed, utilizing exclusively LED bulbs with a 10–15 years lifecycle; however, the City currently lacks a plan for end-of-life replacements.
	Traffic Equipment	• Replacement at end of life.	• The City is implementing smart traffic system by adding more intersections online.
	Traffic Signs	• Replacement at end of life.	• A replacement program is in place, and replacements of regulatory and warning signs are documented in GIS. • South facing signs may require more frequent replacement.

Asset Group	Asset Category	Activities Undertaken by the City	Note
	Parking Lots	• Resurfacing (currently not budgeted for regular resurfacing)	• Currently, there is no plan on replacement of parking lots assets.
	Railway Crossing	• Replacement at end of life (currently unplanned).	• The renewal and replacement activities are determined by the railway company, with maintenance requests communicated to the City, which provides funds for the maintenance.

4.5 Decommissioning and Disposal Strategies

Effective asset decommissioning and disposal are integral components of strategic asset management. As the City's roadway appurtenances approach the end of their lifecycle or become obsolete, a systematic methodology to their removal and decommissioning is essential. This process involves careful planning, environmental considerations, and adherence to the City's regulatory requirements. **Table 4-4** summarizes the decommissioning and disposal activities associated with the City's roadway appurtenances.

Table 4-4: Decommissioning and Disposal Activities for Roadway Appurtenances

Asset Group	Activities Undertaken by the City
Roadway Appurtenances	• Recycling metal, plastic, electronic components, and asphalt and concrete. • Ensuring proper disposal of batteries and electronic waste. • Providing hazardous waste depots. • Participating in metal recycling, receiving some funds in return.

4.6 Risk Associated with Lifecyle Activities

In the context of AM, risk is defined as the consequence or impact of uncertainties on AM objectives. These uncertainties span a spectrum of events, including financial market fluctuations, unexpected asset failures, changes in regulatory environments, and other factors capable of influencing the performance or condition of assets. Risk management, developed to handle uncertainties in a systematic and timely manner, is a practical framework that ensures thoughtful decision-making and protects the achievement of goals. The risk management process generally follows a series of steps, as outlined in **Table 4-5**.

Table 4-5: Key Steps in the Risk Management Process

Step	Description
1. Establish the context	• Define the scope of the risk management process and the objectives that the City seeks to achieve through effective risk management. • Consider the City's internal and external factors, and understand stakeholder expectations.
2. Risk identification	• Identify potential risks that could impact the City's AM objectives.
3. Risk analysis	• Utilize qualitative or quantitative analysis methods to assess risks.
4. Risk evaluation	• Evaluate the likelihood and impact of identified risks. • Prioritize risks based on their criticality.
5. Risk treatment	• Develop strategies to reduce the likelihood and impact of identified risks. • Implement preventive measures to address potential issues proactively. • Establish contingency plans for managing risks that cannot be eliminated.
6. Monitor and review	• Regularly update risk assessments to reflect evolving circumstances. • Develop KPIs and monitoring tools to track the effectiveness of risk treatment strategies. • Learn from the City's past experiences and continuously improve risk management strategies.

Over the course of an asset's service life, the accelerating rate of deterioration with age poses inherent risks, inevitably leading to a corresponding increase in maintenance costs. **Figure 4-2** illustrates a general asset deterioration curve. This trend becomes particularly pronounced in the final phase of the asset's service life, where the cost of maintenance experiences a rapid escalation, highlighting the financial risks associated with prolonged neglect. This phenomenon underscores the critical importance of preventive maintenance in the early stages of an asset's service life. By addressing risks proactively during these initial periods, the potential financial burden tied to accelerated deterioration in later stages can be effectively mitigated.

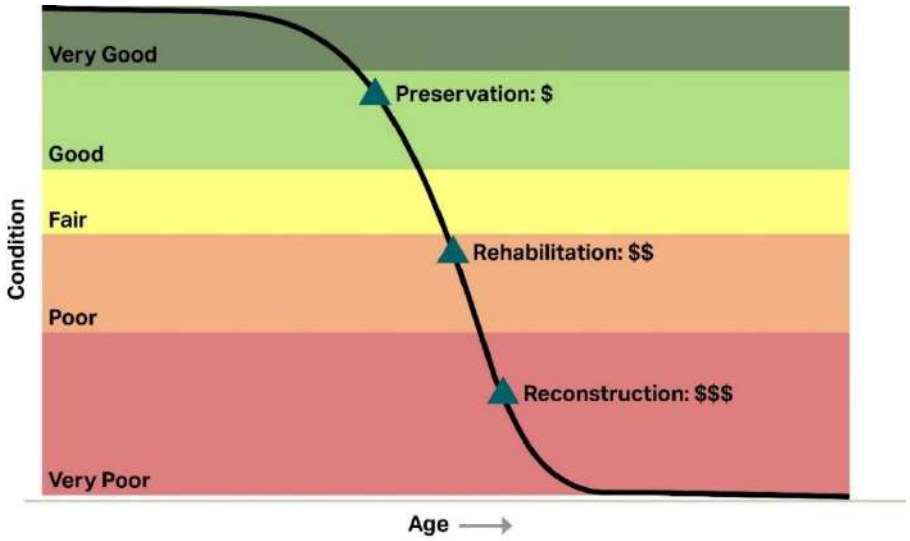


Figure 4-2: Asset Deterioration Curve and Rehabilitation Costs

Beyond the general guidance, the City's approach to risk management should be tailored to their overarching goals, financial resources, and willingness to tolerate uncertainties. It is important to note that failure to meet the proposed LoS also poses several risks, including fines or penalties imposed by government authorities, driver confusion, and increased likelihood of accidents. To help shape the City's risk management process, AECOM recommends taking into account the following key considerations:

1. Legislation Ambiguity for Railway Crossings

Managing roadway appurtenances involves navigating uncertainties in legislation, especially when responsibilities for railway crossings are ambiguous. The division of duties and obligations between the rail company and the City may not always be clearly delineated, presenting a potential challenge in terms of accountability and decision-making. This lack of clarity in legislation can lead to difficulties in establishing a comprehensive and streamlined approach to managing roadway appurtenances at railway crossings, potentially resulting in delays, disputes, or suboptimal maintenance practices.

2. Growing Accessibility Requirements

As the demand for higher levels of service grows, the City faces an increased need to ensure that roadway appurtenances align with accessibility standards, accommodating the diverse needs of the community. However, the City's aging infrastructure poses an additional risk, as some equipment may not meet evolving standards, potentially resulting in accessibility gaps. To address these challenges, the City should adopt a holistic approach that combines technological innovation, policy adjustments, and systematic infrastructure upgrades.

3. Regulatory Traffic Sign Inspections

Maintaining traffic signs is crucial for keeping the City's streets safe. Not only does neglecting them pose a safety hazard, but it can also lead to costly lawsuits against the City. The City is now fully compliant with the regulatory requirements for the upkeep of traffic signs inspections.

4. Increased Maintenance Costs

Regular maintenance of roadway appurtenance assets is a cost-effective strategy that prevents the escalation of minor issues into major repairs or replacements (see **Figure 4-2**).

5. Funding Need Analysis

Financial forecasting and capital planning are a critical element of ensuring the efficient and sustainable management of infrastructure. This involves estimating future financial needs and developing a strategic plan to secure the necessary funding for maintaining, renewal, or expanding assets. By accurately forecasting financial requirements and implementing a well-structured capital plan, the City can not only ensure the long-term viability of their infrastructure systems but also effectively manage costs, reduce environmental risks, and protect public health.

The financial projections presented in the subsequent sections provide visualizations of the results from the financial model. The subsequent sections are structured as follows:

Section 5.1 summarizes historical capital and O&M expenditures, along with budget forecasts for the next 10 years (2024–2033).

Section 5.2 outlines the assumptions used in the financial model to guide reinvestment and replacement decisions for each roadway appurtenance subcategory and estimates the annual funding requirements over the 10-year period. The projected levels of service over this period are also presented.

Section 5.3 presents the full funding needs for the next 10 years, including capital, O&M, and disposal costs.

Section 5.4 summarizes the risk of funding gaps and **Section 5.5** explores possible funding sources and alternative strategies to address funding gaps.

5.1 Capital and Operating Budget

5.1.1 Capital Budget - Historical Expenditure and Future Forecast

The City has budgeted $200,000 for traffic controller system replacements for the years 2025–2029, as summarized in **Table 5-1**. Capital budget details for other asset categories and subcategories were not available at the time this AMP was developed. However, it should be noted that certain capital costs associated with roadway appurtenances are covered within the O&M budget, as discussed in **Section 5.1.2**.

Table 5-1: Capital Budget Forecast

Asset Class	Asset Category	Asset Sub-Categories	2025-2029 5-Year Average Reinvestment Budget
Roadway Appurtenances	Traffic Signal	Traffic Controller Systems	$200,000

5.1.2 Operating Budget - Historical Expenditure and Future Forecast

Table 5-2 presents the forecasted 10-year average budgets from the previous AMP (2024) and the approved 2025 budgets for roadway appurtenances. In the previous AMP, operating budget forecasts were developed based on input from the City, the replacement value of assets without installation dates, and their ESLs. When compared with the City's published 2025 O&M budget, it is observed that while the approved budgets for parking lots and general traffic and communications are slightly lower than the forecasted values, they remain within a comparable range. As such, this AMP continues to use the forecasted operating budgets from the 2024 AMP, adjusted for inflation to reflect future dollar values.

Table 5-2: Operating Budget Forecast

Asset Class	Asset Category	Details	Previous AMP 10 yr. Avg. Forecast (Inflated)	2025 Budget [5]	10 yr. Avg. Forecast (Inflated) from 2025 to 2034
Roadway Appurtenances	Traffic Signal and Traffic Equipment	Budget for replacement, excluding traffic controller systems and radio systems	$278,000	Not available	$311,000
	Traffic Signs	Budget for replacement, excluding regulatory signs	$432,000	Not available	$20,000 *
	Parking Lots	-	$274,000	$203,581	$252,000
	General	Traffic & Communications O&M	$2,454,000	$2,030,298	$2,262,000
Total					**$2,845,000**

** Note that the adjusted operating forecast for traffic signs is significantly lower than in the previous AMP. This change is due to the availability of condition assessment scores for the majority of traffic signs (92%), which allow for the estimation of their apparent ages. As a result, the replacement of these signs is now scheduled at the end of their service life and categorized under capital reinvestment needs, while operating costs account for the maintenance and replacement of the remaining 8% of traffic signs.*

5.2 Capital Reinvestment Funding Needs Analysis

This section outlines the capital funding scenarios analyse approach, assumptions, and presents service level trends regarding asset condition under various budget scenarios.

5.2.1 Lifecycle Model Approach and Assumptions

The lifecycle analysis was performed using a Power BI model, integrating key asset attributes such as asset inventory, age, expected service life, replacement values, and condition data to develop theoretical asset replacement cycles. The analysis also incorporates condition assessment results for traffic signs. A financial dashboard was developed to effectively visualize and communicate the lifecycle modeling outcomes.

The annual reinvestment needs for the roadway appurtenance assets were determined based on their age and ESL in years (i.e., replacing assets that have exceeded their ESL) in inflated dollar values, incorporating the following assumptions:

- Base year: The base year used is 2025. Any historic asset replacement values have been inflated using the experienced inflation rate from Non-Residential Building Construction Price Index (NRBCPI).
- Inflation rate: the inflation rates adopted for the financial model are presented in **Table 5-3**. The inflation for 2025 and later years is determined based on the City's input.

Table 5-3: Inflation Rate [6]

Year	Inflation Rate
2023	7.1%
2024	6%
2025 - 2034	2%

[5] 2025 Final Operating Budget Summary. City of Sault Ste. Marie. 2025 Final Operating Budget Summary for Website.xlsx
[6] Past inflation data obtained from NRBCPI using the non-residential; yearly result taken from an average of quarterly results. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810027601

- Markup: The project management and engineering, and contingency mark ups are 15% and 30% respectively.
- Disposal Rate: 1% of the annual reinvestment is used as an allocation for disposal costs.

In cases where the installation date and condition assessment scores are unavailable, an annual reinvestment rate is applied to estimate the asset replacement need. Detailed reinvestment assumptions for those assets or assets requiring a specific renewal approach are provided in **Table 5-4**.

Table 5-4: Roadway Appurtenances Asset Capital Reinvestment Assumptions

Asset Categories	Reinvestment Strategy	Assumption	Annual Reinvestment Rate (2025-2034)
Parking Lots	Resurface every 25 years	4% of parking lots resurfaced annually with a unit cost of $80/m^2	1.6%
Railway Crossings	Replace assets for a life cycle of 30 years	3.3% of railway crossing replaced annually	3.3%

5.2.2 Budget Scenarios Settings

Table 5-5 outlines the budget scenario settings used in the model for roadway appurtenance assets. Scenario 1 (S1) represents a “Do Nothing” approach with zero expenditure. Scenario 2 (S2) reflects an ideal, unconstrained budget scenario, where the City is able to replace assets at the end of their service life as needed. Since a defined capital budget for roadway appurtenances is not yet available, a constrained budget scenario was not applied. However, the model is designed to accommodate additional budget scenarios in the future as more budget information is provided.

Table 5-5: Roadway Appurtenance Budget Scenarios

Scenario	Description	Budgets
S1 Do Nothing	Spend Nothing	$0 Million
S2 Unlimited Budget	Replace assets at end of life	Unlimited

5.2.3 Roadway Appurtenance Budget Scenarios & 10-Year Service Level Forecast

This section presents the budget scenario results and the 10-year service level forecast for roadway appurtenance assets.

5.2.3.1 Roadway Appurtenance Assets Funding Needs

In the unconstrained budget scenario (S2), the City's roadway appurtenances require an average annual reinvestment rate of $1.8 million (in inflated dollar values) from 2025 to 2034, as presented in **Figure 5-1**. This is equivalent to a total of approximately $18 million over the next 10-year period. A significant portion of this funding is associated with the replacement of traffic signs projected for 2028. However, since the age of traffic signs is estimated based on condition assessment scores, it is important for the City to re-evaluate their condition in the coming years before proceeding with large-scale replacements. In addition, railway crossings notably contribute to the reinvestment needs in most years. However, due to legislative ambiguity, there may be opportunities for the City to share these costs with senior levels of government and railway companies.

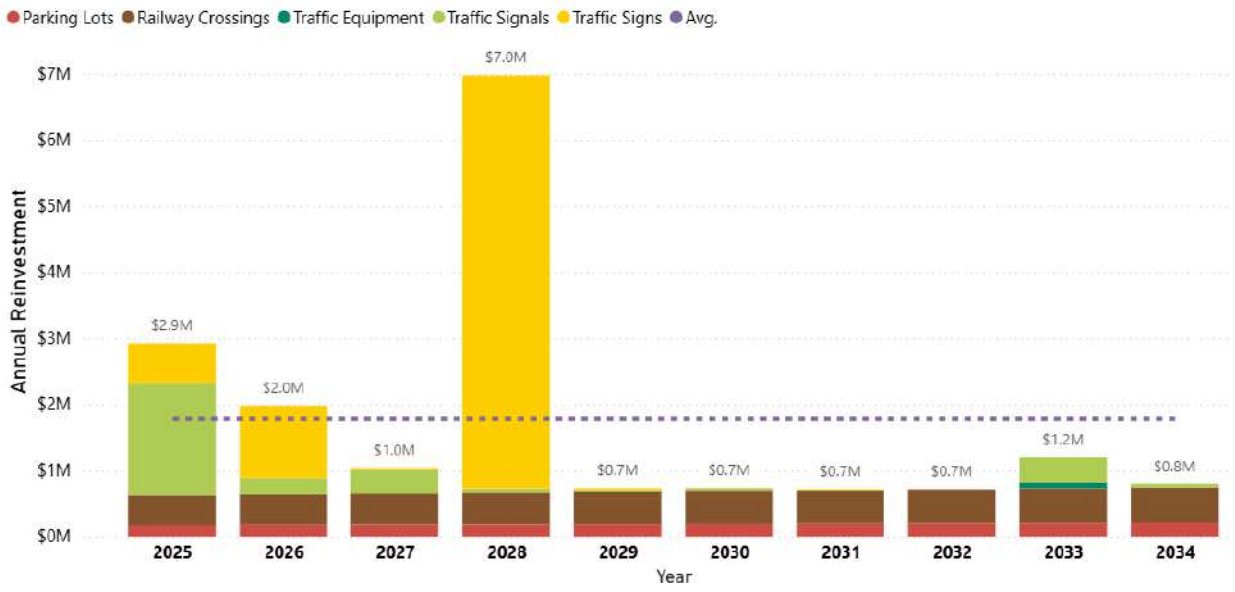


Figure 5-1: Roadway Appurtenances 10-Year Reinvestment Need

The detailed 10-year reinvestment needs for roadway appurtenances are presented in **Table 5-6** in inflated dollar values.

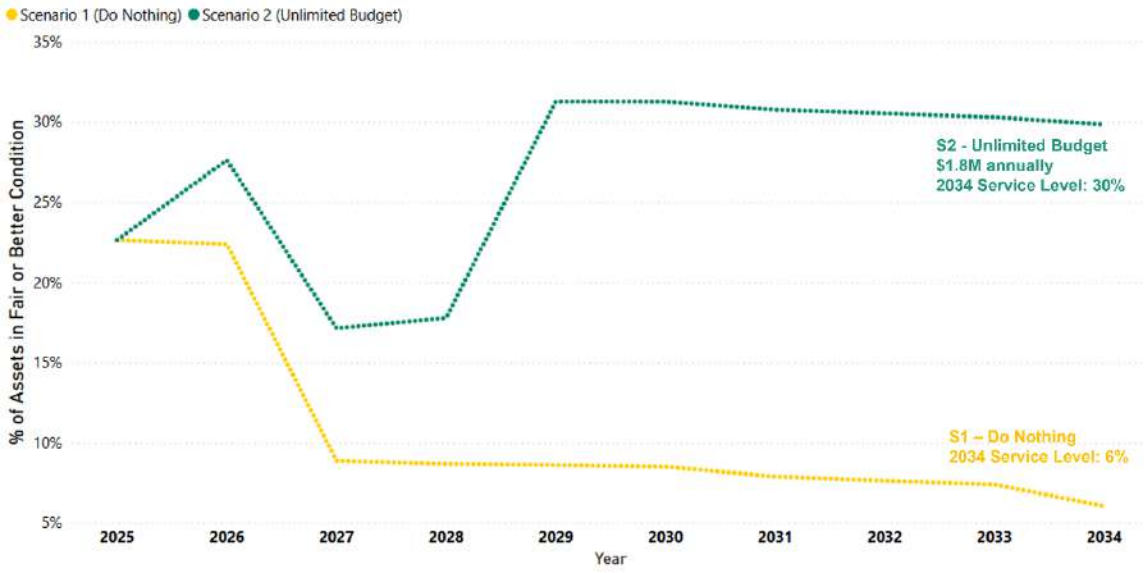
Table 5-6: Roadway Appurtenances 20-Year Total and Annual Average Reinvestment Need

Asset Category	Annual Average Need	10-Year Total
Parking Lots (City Owned and Public)	$194,000	$1,940,000
Railway Crossings	$488,000	$4,880,000
Traffic Equipment	$8,000	$80,000
Traffic Signals	$290,000	$2,900,000
Traffic Signs	$801,000	$8,010,000
Total	**$1,781,600**	**$17,816,000**

5.2.3.2 Roadway Appurtenance Assets 10-Year LoS Trend Forecast

Figure 5-2 presents the projected condition of roadway appurtenance assets under the two funding scenarios over the 10-year analysis period. Currently, 23% of roadway appurtenance assets are in fair or better condition. However, it should also be noted that the condition of assets that represent 69% of the total replacement value remains unknown due to missing install dates, highlighting a significant data gap in the overall assessment.

Under Scenario S1 – Do Nothing, the proportion of assets in fair or better condition declines to just 6% by 2034. In contrast, under Scenario S2 – Unlimited Budget, which equates to an average annual reinvestment of $1.8 million, the percentage of assets in fair or better condition improves to 30%. Given that the City's actual future budget is expected to fall somewhere between these two extremes, the resulting asset condition will likely fall within this range as well. This highlights the importance of strategic reinvestment planning to maximize asset performance within available funding levels.



Note: The service trend reflects only 31% of roadway appurtenance assets, weighted by replacement value, as the condition of the remaining assets is unknown.

Figure 5-2: Roadway Appurtenance Assets Levels of Service Trend for All Budget Scenarios

Figure 5-3 illustrates the projected condition distribution of roadway appurtenance assets from 2025 to 2034 under the unlimited budget scenario (S2). As S2 represents an ideal scenario in which the City can reinvest without financial constraints, the overall asset condition is projected to improve significantly. By 2034, 26% of roadway appurtenance assets are expected to be in very good condition. Once the City finalizes budget information for these assets, a more realistic condition distribution projection can be developed to reflect the City's actual financial capacity.

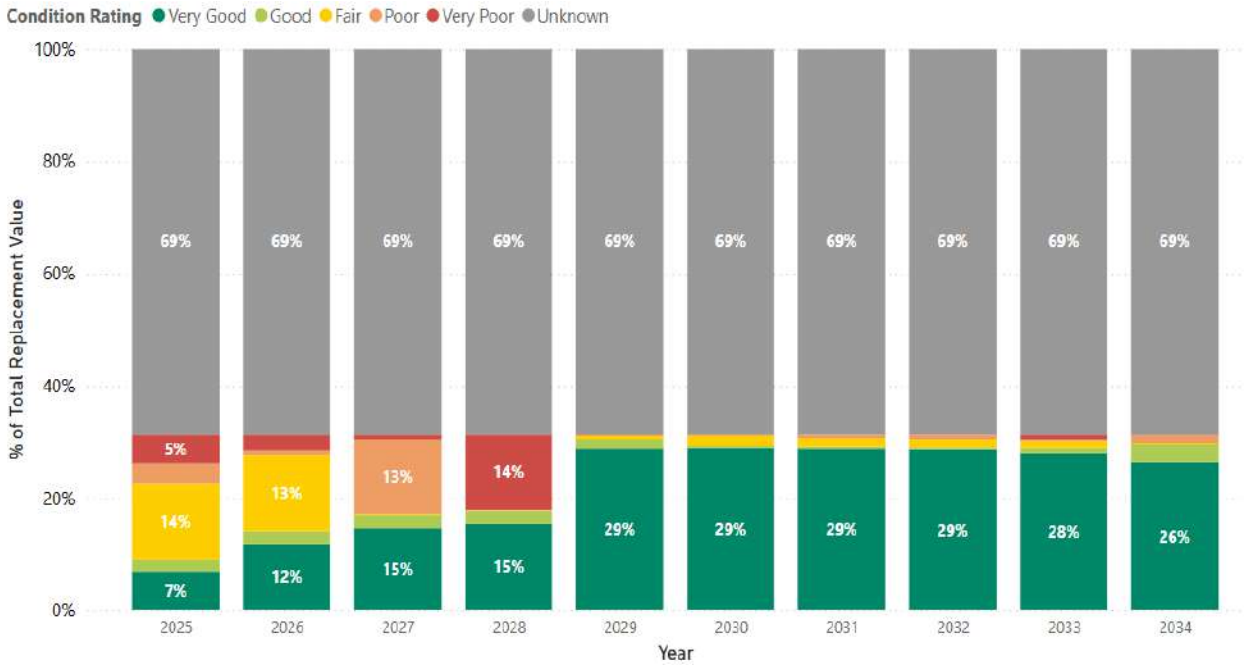


Figure 5-3: Roadway Appurtenance Assets Condition Projection under Scenario 2 - Unlimited Budget

5.3 Full Funding Need Profile

Figure 5-4 shows a full picture of the City's roadway appurtenances funding forecast for the next 10 years. This graph provides the City with clear understanding of the full funding requirements, essential for effective financial planning activities. Specifically, the reinvestment needs for Traffic Equipment, Traffic Signals, and Traffic Signs are categorized as "Replace," while those for Parking Lots and Railway Crossings are categorized as "Reinvest" (refer to **Table 5-6** for details). These reinvestment needs are presented alongside the City's projected roadway appurtenances O&M costs (refer to **Table 5-2** for details). Additionally, one percent of the annual replacement cost was added to account for the asset disposal cost. With these additions, the City's roadway appurtenances full funding requirement increases to approximately $46 million over the next 10 years, averaging $4.6 million per year in inflated dollar value.

In addition to the funding needs summarized above, the City also needs to account for the future funding requirements associated with the installation of Accessible Pedestrian Signals (APS) at signalized crossings. Expanding APS implementation would require substantial infrastructure upgrades at many intersections to meet current accessibility standards. Currently, few intersections are equipped with APS, primarily due to the incompatibility of existing infrastructure. The City has confirmed that the installation of APS will be categorized as capital construction projects and funded through Public Works, although the timeline and associated budgets are still pending approval. That being said, incorporating APS-related needs into long-term capital planning is fundamental to support the City's future progress toward accessibility and compliance with evolving standards. Proactively addressing these needs will help ensure that infrastructure upgrades align with broader City goals, while also improving safety and access for all road users.

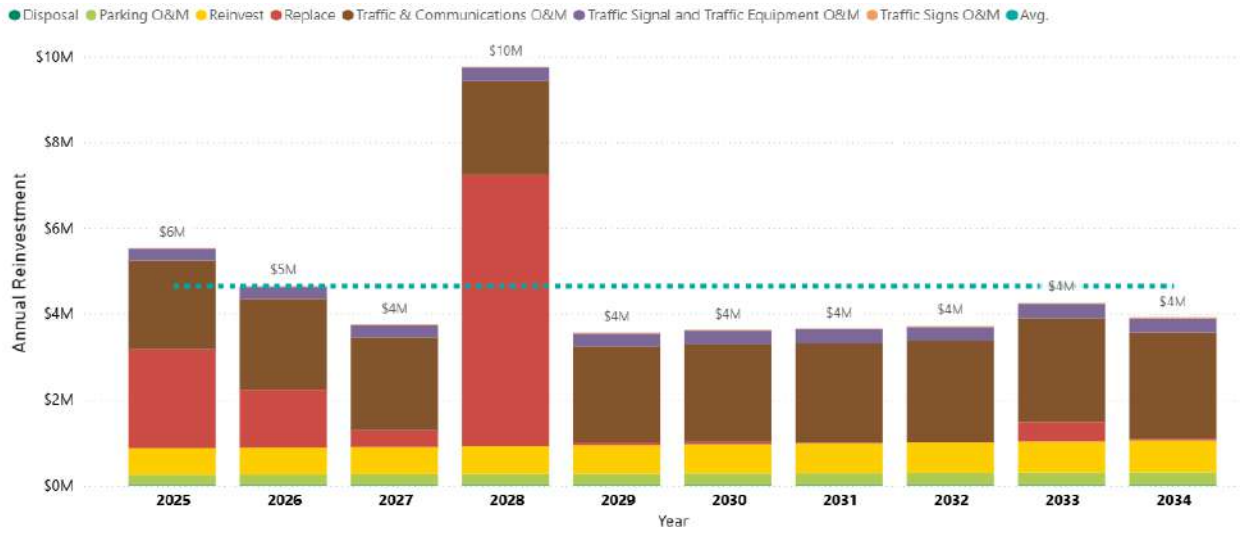


Figure 5-4: Roadway Appurtenances Full Funding Need Profile

5.4 Funding Gaps & Risk

Due to incomplete budget information, a comprehensive assessment of the funding gap for roadway appurtenance assets cannot be conducted at this time. However, the potential risks associated with inadequate funding should not be overlooked. These risks include accelerated asset deterioration, higher long-term maintenance and replacement costs, reduced service levels, and increased safety concerns. Once the City's budget information becomes fully available, it is recommended that a funding gap analysis be conducted to identify any shortfalls and support informed decision-making. This will enable the City to prioritize reinvestment needs effectively and ensure the long-term sustainability of roadway appurtenance assets.

5.5 Funding Sources & Alternative Strategies

The City primarily relies on tax levy for funding roadway appurtenances, supplemented by potential amounts from Ontario Community Infrastructure Funding (OCIF) and Canada Community-Building Fund (CCBF). In addition, AECOM suggests the following options that could be considered, acknowledging that the City's eligibility for these funds is subject to certain criteria:

- Investing in Canada Infrastructure Program
- Municipal Asset Management Program (MAMP)
- Enabling Accessibility Fund (EAF)

5.5.1 Investing in Canada Infrastructure Program

The Investing in Canada Infrastructure Program is a key component of the Government of Canada's broader Investing in Canada Plan. Administered by Infrastructure Canada, this program delivers long-term and stable funding to communities with the aim of addressing environmental challenges, fostering clean growth, and enhancing resilience to climate change. Through bilateral agreements, over $33 billion in funding is allocated to provinces and territories, supporting a diverse range of infrastructure projects nationwide[7].

The program encompasses investments across four targeted funding streams: the public transit stream, green infrastructure stream, community, culture, and recreation infrastructure stream, and the rural and northern communities' infrastructure stream. The public transit stream allocates funds for the construction, expansion, and enhancement of public transit infrastructure. The focus of these investments is on projects that aim to increase the capacity of public transit systems, enhance the quality and safety of existing or future transit infrastructure, and improve overall access to public transit systems. In pursuit of funding through this stream, the City has actively submitted proposals for the following projects[8]:

- Electrification of Transit System
- Transit Facility and Equipment Upgrades
- Purchase of Rolling Stock Assets
- Relocation of the Downtown Transit Terminal Construction and Renovation
- Transit Facility and Equipment Upgrades
- Purchase of Transit Ticket Vending Machines
- Purchase and Installation of Transit Bus Shelter

5.5.2 Municipal Asset Management Program (MAMP)

Municipal Asset Management Program (MAMP) is aimed at improving asset management practices within municipalities[9]. Designed to assist municipalities in gaining a better understanding, planning, and efficient and sustainable management of their infrastructure assets, the program may offer funding to support the development or improvement of asset management plans. This financial support is intended to incentivize municipalities to adopt and implement sustainable asset management practices.

[7]Investing in Canada Infrastructure Program. (2023). Infrastructure Canada. Infrastructure Canada - Investing in Canada Infrastructure Program. Retrieved on February 14th, 2024.

[8] Investing in Canada Infrastructure Program: Projects Under Review. (2022). Infrastructure Canada. Infrastructure Canada - Investing in Canada Infrastructure Program: Projects Under Review. Retrieved on February 14th, 2024.

[9] Municipal Asset Management Program. (n.d.). Federation of Canadian Municipalities. Municipal Asset Management Program | FCM. Retrieved on February 14th, 2024.

5.5.3 Enabling Accessibility Fund (EAF)

The Enabling Accessibility Fund (EAF) is a federal government program aimed at supporting projects that enhance accessibility for individuals with disabilities[10]. The fund provides financial assistance to eligible organizations for initiatives such as infrastructure improvements, renovations, and retrofitting to create more accessible spaces. Its goal is to contribute to a barrier-free and inclusive society by addressing physical barriers and promoting equal access in community spaces.

5.5.4 Alternative Strategies

Recognizing the constrains of internal funding and limitations and uncertainties associated with external funding, it becomes increasingly important to explore complementary approaches that do not depend solely on financial sources. In this context, alternative strategies play a critical role in enhancing the City's ability to manage service levels and asset performance within existing fiscal constraints. **Table 5-7** highlights some non-financial strategies that could help the City address the potential funding gaps for roadway appurtenance assets.

Table 5-7: Non-Financial Strategies to Address Potential Funding Gaps for Roadway Appurtenance Assets

Strategy	Description / Actions
Condition-Based Maintenance	Shift from time-based to condition-based and criticality-based maintenance where possible. Using condition assessments (e.g., visual inspections or performance metrics) helps extend asset life by targeting maintenance where it's most needed.
Preventive Maintenance Programs	Develop and implement preventive maintenance schedules to address minor defects before they lead to larger failures. Preventive measures often cost less than emergency repairs and can delay the need for full replacement.
Training and Knowledge Sharing	Provide training to O&M staff on best practices for maintaining different asset types. Encourage internal knowledge sharing to improve consistency and efficiency in asset care.
Community and Interdepartmental Engagement	Continuously collaborate with other City departments and the public to identify issues early and gather feedback on service levels. This can help align asset strategies with user needs and expectations.

[10] About Enabling Accessibility Fund. (2023). Government of Canada. Enabling Accessibility Fund - Canada.ca. Retrieved on Retrieved on February 14th, 2024.

6. Implementation Plan and Continuous Improvement

Continuous improvement is an important component of any AM program and is achieved through the implementation of recommended improvement initiatives which support sustainable service delivery. AECOM has identified a set of activities that represents the next stage of AM planning and implementation within the City, as shown in **Table 6-1**.

Table 6-1: Recommended AM Improvement Initiatives

Index	Improvement Initiative	Description
1.	Refine roadway appurtenances asset inventory.	• Continue to refine the asset inventory and close existing data gaps, to have a more accurate representation of the current state of the roadway appurtenances; and, ultimately, to make more informed and defensible decisions. – AECOM recommends the City to continue maintaining the roadway appurtenances inventory, keep updating the inventory as assets are acquired or disposed. – Continue collecting the installation date information of roadway appurtenance assets to better estimate their remaining service life. Once the gap is closed, the City will be able to conduct more accurate lifecycle analyses, forecast reinvestment needs with greater confidence, and enhance long-term asset management planning. – Develop and implement unique identifiers for all roadway appurtenance assets. It will enable more efficient asset tracking, condition monitoring, and lifecycle management.
2.	Use consistent condition grading schemes for roadway appurtenance assets and develop condition assessment process for all roadway appurtenance assets.	• The grading system should include a description directly tied to each condition grade, along with details about the asset's performance and the necessary level of corrective and preventive maintenance required for assets falling within a certain condition rating category. This process will enable the City to keep track of and better forecast asset renewal needs. – Currently, the City has condition data for regulated traffic signs, categorized as Poor, Fair, Good, and New. It is suggested that these condition categories be refined to align with the corporate-wide standard for consistency. • Prioritize condition assessments on the most critical assets. The City's execution of a controller cabinets age report has already proven to be instrumental in supporting this business case.
3.	Refine the LoS Framework and Setting LoS Target.	This AMP represents the City's LoS in alignment with the requirements of O. Reg. 588/17 July 1, 2025, deadline. The City should continue its efforts to: • Regularly record LoS performance measures to monitor changes over time and identify emerging trends. • Review and update performance measures as needed to ensure they remain relevant and effective. • Periodically assess proposed LoS to confirm alignment with shifting community expectations, regulatory changes, City priorities, available resources, and observed performance trends—supporting adaptive and responsive service delivery. Continuously enhance demand management by routinely evaluating future demand drivers that influence service delivery and asset use, integrating these insights into long-term capital planning to ensure LoS remains responsive to changing needs.
4.	Incorporate risk assessment for future iterations of the AM plan and use the risk assessment results to drive future condition assessments and financial needs forecasting.	• Conduct a criticality and risk assessment of assets to inform work prioritization. • Review risk attribute values periodically to ensure alignment with business objectives and risk appetite. • Overlay the risk model with the current state of the assets (i.e., condition) and the financial forecast. Using this approach, the City could focus its monitoring, maintenance, and renewal and replacement budget and activities on high-risk assets. Medium-risk infrastructure could be addressed through the mitigation of failure via regular monitoring, while low-risk assets could be accepted with caution.
5.	Establish a sustainable roadway appurtenances	• Establish and maintain detailed funding and budget information for roadway appurtenance assets to support effective asset management planning. Once this information is in place, it is recommended that the City re-run the financial model

Index	Improvement Initiative	Description
	funding model that fits the needs of the community	to assess funding gaps, update condition projections, and refine reinvestment strategies based on realistic budget scenarios. • In light of the annual funding need outlined in **Figure 5-4**, it is recommended that the City allocate an average of **$1.8 million** per year over the next 10 years for capital reinvestment in roadway appurtenances. Additionally, a total of **$2.8 million** should be budgeted for O&M expenditures during the same period. • Review financial modeling assumptions on reinvestment rate and replacement values and update the financial model with new information as it becomes available. The financial model is based on several key assumptions that could have a significant impact on the outcomes of the model. • To address legislative ambiguities concerning railway crossings, it is recommended that the City engage in dialogue with rail companies to clarify responsibilities and obligations. Establishing clear agreements or guidelines can help delineate duties, enhance accountability, and streamline decision-making processes. This proactive approach will mitigate potential delays, disputes, and ensure effective maintenance practices for railway crossings. • Explore funding resources and non-financial strategies that the City may take into consideration while performing strategic lifecycle and financial strategies.
6.	Continue to improve AM initiatives across the City by maintaining a high level of AM awareness through training, communication, and knowledge sharing.	• Conduct an AM Software Assessment to identify future system requirements that may include enhancing existing software, adding-on, or replacing. • Develop a Knowledge Retention Strategy & Internal Communications Plan to document staff AM knowledge and experience for reporting and succession planning purposes. Communicate AM improvement initiatives and enhance natural AM awareness internally through internal communication.
7.	Organize public and Council engagement activities	Establish a structured approach to public and Council engagement to ensure the AMP aligns with community expectations, supports informed decision-making, and enhances transparency, the City is committed to establishing a structured approach to public and Council engagement. While several engagement activities have already been undertaken, these efforts lay the foundation for a more consistent and strategic approach moving forward. • For Council engagement, the City has shared updates through presentations and media events. To further support elected officials, it is recommended that the City develop Councillor Tool Kits. These kits would provide clear, consistent messaging—covering topics such as infrastructure planning, investment priorities, asset management, service levels, and climate impacts—to help Councillors effectively respond to public inquiries. • On the public side, communication can be enhanced by creating a dedicated project webpage to centralize information such as FAQs, timelines, and contact details, while enabling two-way engagement. A targeted social media strategy, including sponsored posts on platforms like Facebook and Instagram, is also recommended to increase visibility and encourage community involvement.

APPENDIX A

Roadway Appurtenance Asset Inventory

A



Appendix A - Roadway Appurtenances Asset Inventory

The City's roadway appurtenance asset inventory is presented as a separate MS Excel file.

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SAULT STE. MARIE

CITY OF SAULT STE. MARIE

PROTECTIVE SERVICES ASSET MANAGEMENT PLAN

FINAL | 60735219 | June 2025



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List of Abbreviations

Abbreviation	Description
AM	Asset Management
AMP	Asset Management Plan
CCBF	Canada Community-Building Fund
CIBI	Canadian Infrastructure Benchmarking Initiative
CMMS	Computerized Maintenance Management System
DSSAB	District Social Services Administration Board
Ea.	Each
EDU	Explosive Disposal Unit
ESL	Expected Service Life
ESU	Emergency Services Unit
FTE	Full-Time Equivalent
FPPA	Fire Protection and Prevention Act
FPPE	Fire Prevention and Public Education
GIS	Geographic Information System
ICI	Industrial, Commercial, and Institutional
KPI	Key Performance Indicator
LoS	Level of Service
MAMP	Municipal Asset Management Program
NFPA	National Fire Protection Association
O&M	Operations and Maintenance
OCIF	Ontario Community Infrastructure Fund
O. Reg.	Ontario Regulation
RSL	Remaining Service Life
SME	Subject Matter Experts

1 Introduction

AECOM Canada ULC (AECOM) was retained by The City of Sault Ste. Marie (the "City") to update the asset management plan developed in 2024 to comply with the third phase (Phase III) of the Ontario Regulation 588/17 (O. Reg. 588/17) requirements in respect to its core municipal infrastructure assets. The scope of work is outlined in AECOM's proposal dated September 20, 2024, and subsequent project correspondence.

1.1 Background

Sault Ste. Marie is a City located on the St. Mary's River, North of the United States of America, bordering on two of the Great Lakes with an estimated population of 76,731 (2021)[1]. The City provides a wide range of public services to their constituents, with the public expectation that these services function efficiently at a certain level. The provision of these services requires the management of the physical assets to meet desired service levels, manage risks, and provide long-term financial sustainability. These assets include, but are not limited to roads, bridges, sidewalks, wastewater assets, stormwater management assets, landfill, fleets, buildings, and parks.

In accordance with the terms of reference for this assignment, it is understood that the City is proceeding with an asset management plan to comply with the third phase of the regulatory requirements in respect to its non-core municipal infrastructure assets, in accordance with O. Reg. 588/17, by July 1, 2025. The non-core assets to be covered in the scope, as defined by the regulation, include the City's protective services, solid waste, parks and cemetery, facilities, fleet, roadway appurtenances, and active transportation.

1.2 Scope and Objectives

In 2015, the City's first Asset Management Plan (AMP) was published. In 2019, by the City Council approval, the Strategic Asset Management (AM) Policy for the City came into effect. In 2022, the City published its core asset AMPs. Following that, the City developed the AMPs for its non-core assets in 2024.

Organizations that implement good AM practices will benefit from improved business and financial performance, effective investment decisions, and better risk management. Stakeholders can expect lower total asset life cycle costs, higher asset performance, and confidence in sustained future performance.

The AMPs capture the City's infrastructure assets and deliver a financial and technical roadmap for the management of the City's assets. The intent of this plan is to provide the means for the City to maximize value from its assets, at the lowest overall expense while, at the same time, enhance service levels for its residents.

The objective of Phase III is to update all the core and non-core AMPs to comply with the July 1st, 2025, deadline set by O. Reg. 588/17. Phase III will update the AMP by incorporating the latest asset information, with a focus on:

- Updating the current AMPs to integrate proposed Levels of Service (LoS).
- Defining the lifecycle activities and associated costs required to achieve those LoS.
- Identify the available funding and any funding shortfalls.
- Document the risk(s) of failing to meet the proposed LoS for all asset classes over a 10-year period.

This AMP is an update of the 2024 AMP for the City's Protective Services assets, in-scope assets are shown in **Table 1-1**. Other core and non-core AMPs are presented under separate reports.

[1] Statistics Canada, 2021 Census of Population, Sault Ste. Marie, Census agglomeration. Information accessed May 8, 2025. Link: https://www12.statcan.gc.ca/census-recensement/2021/as-sa/fogs-spg/page.cfm?lang=E&topic=1&dguid=2021S0504590

Table 1-1: In-Scope Protective Services Assets

Asset Category	Asset Sub-Categories
Police Services	Administration, Communication Services, Explosive Disposal Unit (EDU), Emergency Services Unit (ESU), Forensics, Information Services, Intelligence, Investigations, Patrol, Support, Traffic
Fire Services	Firehall #1, Firehall #2, Firehall #3, Firehall #4, Fire Department

The following elements are included within the scope of this AMP:

- Asset hierarchy, a summary of the asset inventory, including the replacement cost of the assets, the average age of the assets, the condition of the assets, and data gaps analysis (**Sections 2**).
- The City's LoS objectives, stakeholder identification, current LoS determined, proposed service levels, LoS forecast, and future demand drivers (**Section 3**).
- Asset lifecycle management strategies, lifecycle activities and funding needs to achieve proposed LoS, risk of not meeting proposed LoS, available funding and funding gap, and alternative (non-financial) strategies to manage funding shortfall (**Section 4** and **Section 5**)

1.3 Asset Management Provincial Requirements

The O. Reg. 588/17 came into effect in 2018 and stipulates specific AM requirements to be in place within Ontario municipalities by certain key dates (**Table 1-2**). The development of this AMP is one of the steps to guide the City towards meeting the July 1st, 2025 deadline.

Table 1-2: O. Reg. 588/17: AM Planning for Municipal Infrastructure

Deadline Date	Regulatory Requirement
July 1st, 2019	All municipalities are required to prepare their first Strategic AM Policy.
July 1st, 2022	All municipalities are required to have an AM Plan for its entire core municipal infrastructure (i.e., water, protective services, stormwater, roads, and bridges & culverts).
July 1st, 2024	All municipalities are required to have an AM Plan for infrastructure assets not included under their core assets.
July 1st, 2025	All AM Plans must include information about the LoS that the municipality proposes to provide, the lifecycle activities and associated costs needed to achieve those LoS, available funding, any funding shortfalls, and the risk of failing to meet the proposed LoS.

2 State of Infrastructure

Protective services encompass a diverse range of assets crucial to both the police department and fire department to ensures the optimal use of resources, enhancing operational efficiency and readiness. The City's protective services include essential assets such as vehicles, equipment, and communication devices, which are vital for emergency responses. The inventory of protective services is a comprehensive catalog detailing the quantity, condition, and specifications of these components within the City. By analyzing the inventory and assessing the data gaps, this section facilitates informed decision-making and strategic resource allocation, providing essential insights into the maintenance needs and financial requirements.

2.1 Asset Hierarchy

To fulfill the requirements of O. Reg. 588/17 and to pave the way for robust long range asset management planning, the City necessitates a logically segmented asset breakdown structure (hierarchy) within the ambit of this AMP. Achieving this requires a sufficiently granular classification of protective services' assets, enabling the identification of individual assets due for renewal. Striking the right balance is also crucial, as there is a fine trade-off between ensuring adequate granularity to provide essential information and avoiding excessive granularity that could make the effort to collect and manage information more burdensome than the usefulness derived from it.

In **Figure 2-1**, the hierarchy of protective services is illustrated, showcasing the two main departments: police services and fire services. Each category is further broken down into subcategories. This asset hierarchy establishes a logical indexing of the City's protective services' assets, categorizing them into primary (parent) and secondary (child- and grandchild) assets. Such a structure forms the foundational framework for subsequent discussions and analysis, enabling the drill-down to a specific asset within the hierarchy to support maintenance planning or track costs at the asset level or higher levels.

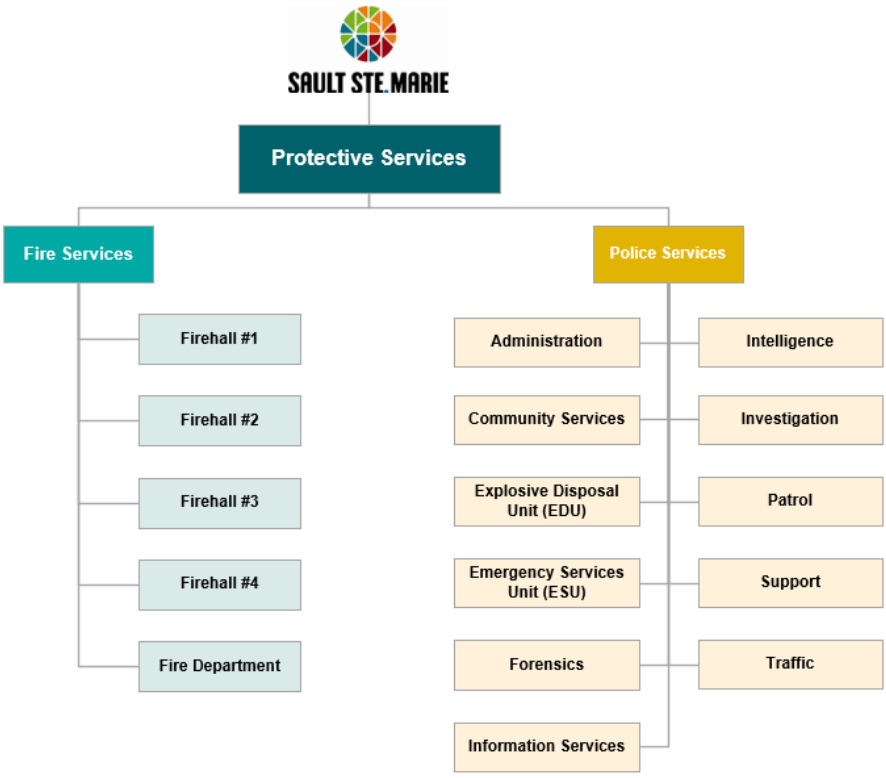


Figure 2-1: City of Sault Ste. Marie Protective Services Asset Hierarchy*

**Buildings and facilities are addressed in the Facilities AMP.*

2.2 Current State of the Assets

2.2.1 Asset Inventory

Table 2-1 presents the summary of the City's protective services inventory.

Table 2-1: Protective Services Inventory Summary

Asset Group	Asset Category	Asset Sub-Category	Quantity	Unit of Measure
Protective Services	Police Services	Administration	27	Ea.
		Communication Services	1	Ea.
		Explosive Disposal Unit (EDU)	5	Ea.
		Emergency Services Unit (ESU)	29	Ea.
		Forensics	13	Ea.
		Information Services	2	Ea.
		Intelligence	3	Ea.
		Investigations	28	Ea.
		Patrol	54	Ea.
		Support	112	Ea.
		Traffic	12	Ea.
	Fire Services	Firehall #1	35	Ea.
		Firehall #2	5	Ea.
		Firehall #3	5	Ea.
		Firehall #4	14	Ea.
		Fire Department	46	Ea.
		Total of Police Services	**286**	Ea.
		Total of Fire Services	**105**	Ea.
		Total	**391**	Ea.

2.2.2 Current Asset Replacement Value

The asset replacement value is the estimated cost that would be incurred to replace an existing asset with a new one of similar functionality, at current market prices. This value represents the monetary amount required to reproduce or procure an asset equivalent to the one being assessed. Examining the distribution of asset replacement values allows the City to comprehend which asset categories hold the highest value for both the City and the public.

Table 2-2 presents the unit replacement cost and the total replacement value for distinct protective services asset categories within the City. Notably, the Patrol sub-category for police services constitutes the most significant portion, accounting for a replacement value of approximately $10 million, followed by the Support sub-category at $5 million, Investigations at $916,000, and Emergency Services Unit (ESU) at $895,000. For fire services, assets at firehall #1 has the highest replacement value at $8.2 million, with Firehall #4's $6.2 million coming in at second. The combined replacement value for all of protective services amounts to approximately $41 million.

It is noted that the replacement costs are estimated based on a Class 4[2] cost estimation approach. These estimates are typically prepared with limited information, resulting in fairly wide accuracy ranges. Class 4 estimates serve various purposes, including project screening, feasibility assessment, concept evaluation, and preliminary budget approval.

They are utilized for detailed strategic planning, business development, project screening at more advanced stages, alternative scheme analysis, confirmation of economic and technical feasibility, and approval to proceed to the next stage.

Typically, depending on the construction complexity of the project, relevant reference information, and other associated risks, the accuracy ranges for Class 4 estimates fall within the following bounds (could exceed based on various criteria):

- On the lower side, -10% to -20%
- On the higher side, +20% to +30%

It is worth noting that the total replacement values have been marked up by 15%, out of which 5% accounts for engineering and project management cost and 10% for contingency cost.

Table 2-2: Protective Services Current Replacement Value

Asset Group	Asset Category	Asset Sub-Category	Total Replacement Value (2025)
Protective Services	**Police Services**	Administration	$881,000
		Communication Services	$28,000
		Explosive Disposal Unit (EDU)	$218,000
		Emergency Services Unit (ESU)	$895,000
		Forensics	$155,000
		Information Services	$18,000
		Intelligence	$130,000
		Investigations	$916,000
		Patrol	$10,357,000
		Support	$4,980,000
		Traffic	$132,000
	Fire Services	Firehall #1	$8,220,000
		Firehall #2	$3,204,000
		Firehall #3	$2,371,000
		Firehall #4	$6,179,000
		Fire Department	$2,435,000
		Total of Police Services	**$18,710,000**
		Total of Fire Services	**$22,409,000**
		Total	**$41,119,000**

[2] Association for the Advancement of Cost Engineering (AACE) International Recommended Practice No. 18R-97. Cost Estimate Classification System - As Applied In Engineering, Procurement, and Construction for the Building and General Construction Industries, 2020, Retrieved in March 2024

2.2.3 Age and Remaining Service Life

In practice, various assets will deteriorate at different rates and not necessarily linearly over time. However, it is pivotal to keep in mind the level of effort required to predict failure compared with the asset value. More sophisticated deterioration modelling may be warranted for very high value assets, whilst the cost of deterioration modeling for low-value assets may very well exceed the replacement cost of the asset. The actual service life can vary significantly from the estimated service life (ESL). The latter is defined as the period over which an asset is available for use and able to provide the required LoS at an acceptable risk and serviceability (i.e., without unforeseen costs of disruption for maintenance and repair). In some instances, a variation in expected vs. actual service life is evident due to the following factors:

- **Operating conditions and demands:** Some assets are operated intermittently or even infrequently or are being operated at a lower demand than their designed capacity. Thus, the actual operating "age" of the asset is reduced.
- **Environment:** Some assets are exposed to very aggressive environmental conditions (e.g., corrosive chemicals), while other assets are in relatively benign conditions; thus, the deterioration of assets is affected differently.
- **Maintenance:** Assets are maintained through refurbishment or replacement of components, which prolongs the service life of the asset.
- **Technological Obsolescence:** Some assets can theoretically be maintained indefinitely, although considerations such as cost to maintain the asset, its energy efficiency, and the cost to upgrade to an updated technology that would result in cost savings are likely to render this approach uneconomical.

Initially, the average age was calculated based on the purchased and installation year of each individual asset. Then, based on the age of the asset and the ESL (collected from a State of Infrastructure Workshop with the City, and additional information provided by the City), the remaining service life (RSL) was calculated. It should be noted that in the case that age was higher compared to ESL, RSL was considered as zero.

Table 2-3 and **Figure 2-2** present the weighted average age, weighted average ESL, and remaining service life for various asset sub-categories within the City's protective services system. The average age of the assets ranges from 5 to 21 years with average ESLs that vary from 9 to 19 years.

Table 2-3: Protective Services Average Age, ESL, and Remaining Service Life

Asset Group	Asset Category	Asset Sub-Category	Weighted Average Age	Weighted Average ESL	Remaining Service
Protective Services	Police Services	Administration	8	19	11
		Communication Services	8	15	7
		Explosive Disposal Unit (EDU)	19	18	0
		Emergency Services Unit	11	16	4
		Forensics	21	18	0
		Information Services	14	10	0
		Intelligence	8	15	7
		Investigations	9	16	7
		Patrol	2	11	10
		Support	7	13	7
		Traffic	13	16	3
	Fire Services	Firehall #1	8	14	6
		Firehall #2	8	15	7
		Firehall #3	13	15	3

Asset Group	Asset Category	Asset Sub-Category	Weighted Average Age	Weighted Average ESL	Remaining Service
		Firehall #4	11	15	4
		Fire Department	5	9	4

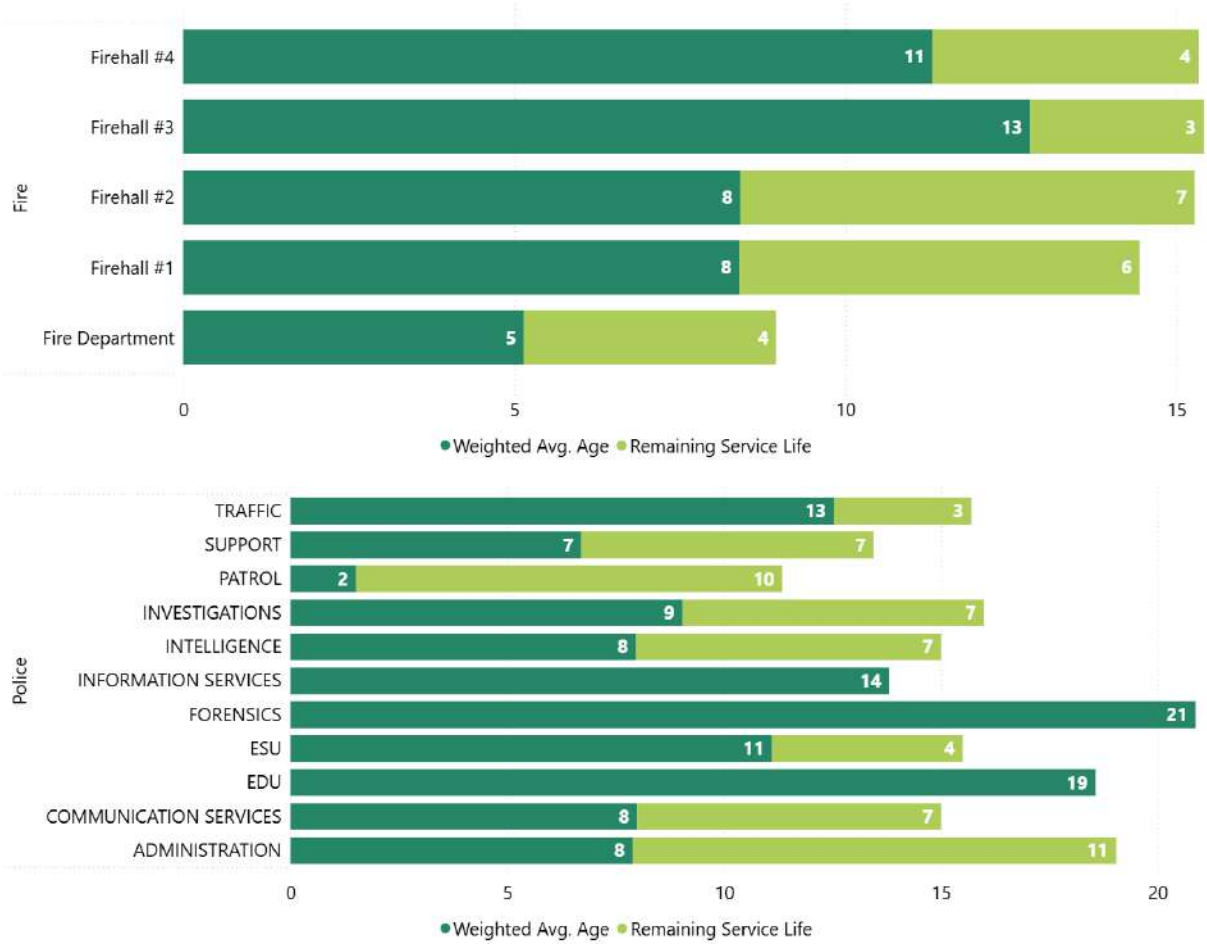


Figure 2-2: Protective Services Weighted Average Age and Remaining Service Life

Figure 2-3 shows the installation profile of the City's protective services according to asset sub-categories. Most assets are fairly new for both police and fire services. Most of the assets for fire services are after 2000, as only $800,000 worth of assets are remaining from pre-2000. For police services, the vast majority of assets are installed / purchased after 2020, with only $1.6 million for 2000 to 2009, and $4.8 million for 2010 to 2019.

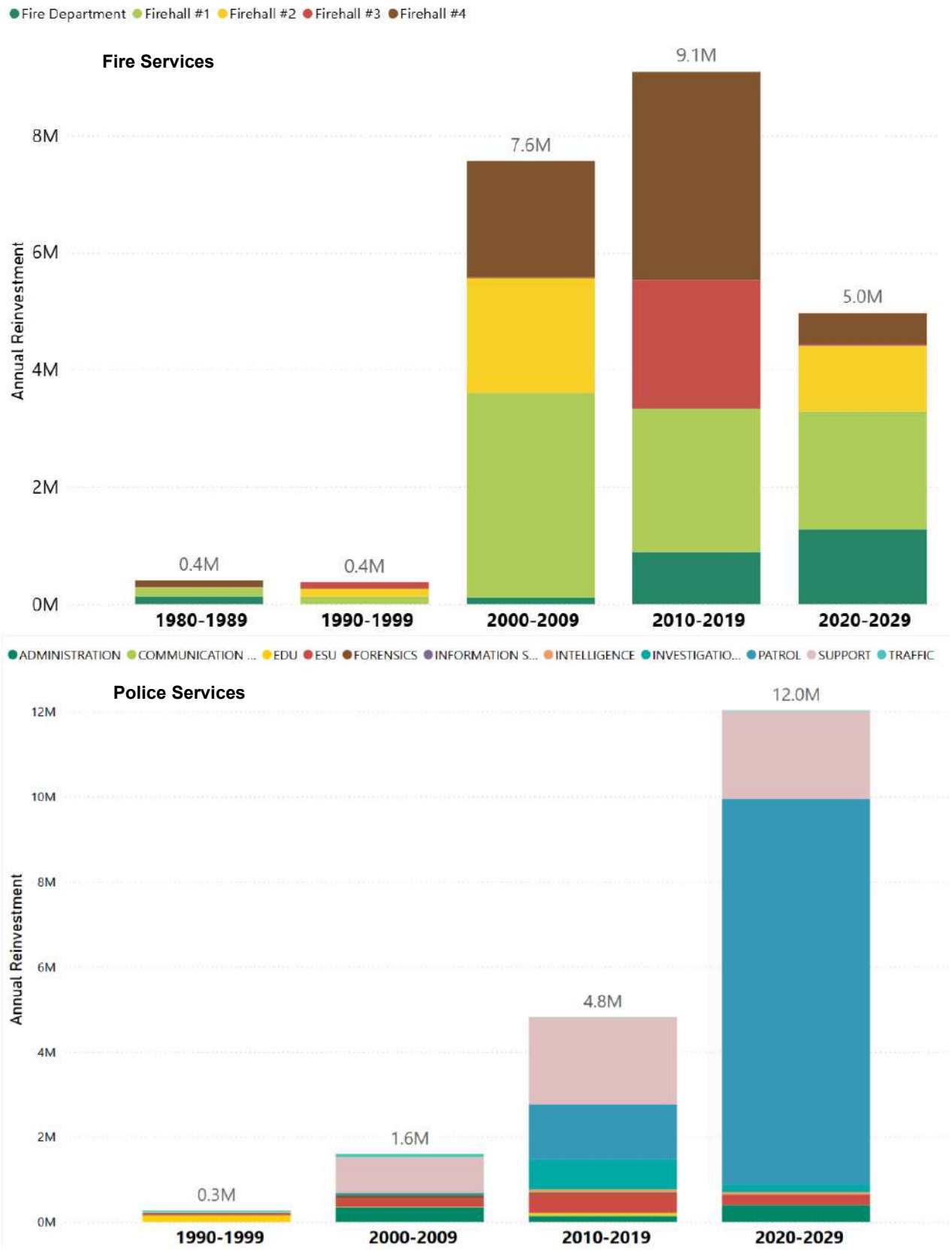


Figure 2-3: Protective Services Installation Profile

2.2.4 Asset Condition

All assets are expected to deteriorate over their lifetime, and their assigned condition reflects the physical state of the asset. There are no regular condition assessments for protective services assets that produce reliable condition gradings for AM purposes. To fill the gap with an interim data set to enable any financial forecasting to take place, the two-parameter Weibull distribution function was used to assess the current condition and to project the future condition of the City's assets. The Weibull distribution has been used extensively in reliability studies and lifetime prediction models in industries ranging from automotive to the oil & gas and provides a suitable distribution for this type of analysis.

The underlying premise of the Weibull-shaped deterioration is that while some assets fail prematurely due to severe conditions or improper installation, other assets are very long-lived and function well beyond their theoretical ESL. To perform a high order network-level analysis, it was assumed that assets would fail (and require replacement) within a deterioration envelope / curve approximated by a Weibull probability distribution. The two-parameter Weibull cumulative distribution has two parameters for scale and shape, as set out in Equation [1]:

$$f(x;\alpha,\beta) = e^{-\left(\frac{x}{\beta}\right)^{\alpha}} \quad [1]$$

Where: x = Age
α = Shape parameter (or slope)
β = Scale parameter

A set of Weibull cumulative distribution functions were leveraged to simulate a set of deterioration curves for assets with different ESLs as shown in **Figure 2-4**.

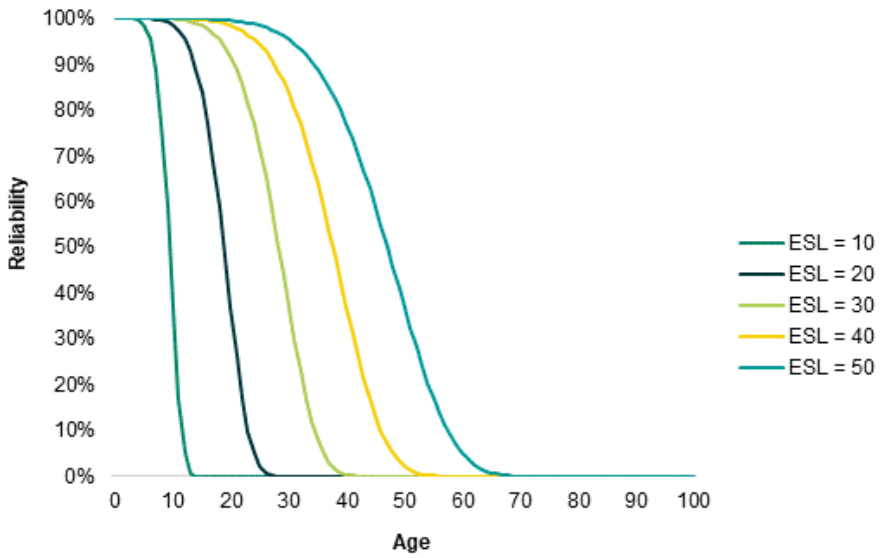


Figure 2-4: Asset Deterioration Curve Samples

Table 2-4 and **Figure 2-5** present the condition ratings of the City's protective services assets with respective replacement values. As stated previously, a substantial number of assets lack installation date information and condition. The assumed condition ratings span from "Very Good" to "Very Poor," with "Very Good" and "Good" collectively contributing 92% of the overall replacement value.

As a considerable assumption for the basis of this AM plan it is recommended that the City consider a routine condition assessment program to increase the reliability of condition grades and therefore also increase the reliability of the financial forecasts.

Table 2-4: Protective Services Condition Summary

Rank	Condition Rating	Replacement Value	% of Replacement Value
1	Very Good	$19,864,000	48%
2	Good	$18,246,000	44%
3	Fair	$331,000	1%
4	Poor	$950,000	2%
5	Very Poor	$1,730,000	4%
Total		**$41,121,000**	**100%**

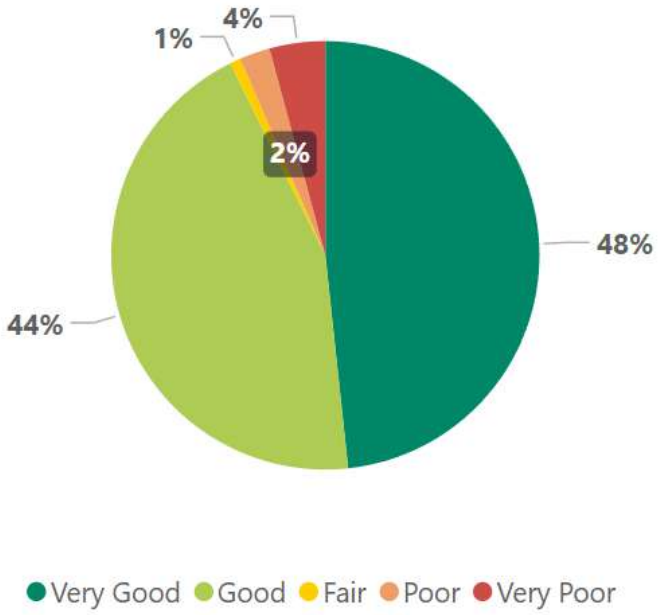


Figure 2-5: Protective Services Condition Summary

2.2.4.1 Fire Services Condition Summary

Table 2-5 and **Figure 2-6** show the condition summary for fire services. As fire service assets are heavily regulated, the vast majority of assets are in good and very good conditions, totalling over 98%, with only 1.6% assets in fair or worse condition.

Table 2-5: Fire Services Condition Summary

Rank	Condition Rating	Replacement Value	% of Replacement Value
1	Very Good	$4,705,000	21%
2	Good	$17,342,000	77%
3	Fair	$91,000	0.4%
4	Poor	$270,000	1.2%
5	Very Poor	$0	0%
Total		**$22,408,000**	**100%**



Figure 2-6: Fire Services Condition Summary by Sub-Category

2.2.4.2 Police Services Condition Summary

Table 2-6 and Figure 2-7 show the condition summary for police services. The vast majority of police assets have fairly short ESLs and are in very good condition, with over 81% of assets. However, there are approximately 10% of assets in poor and very poor condition due to being past ESL.

Table 2-6: Police Services Condition Summary

Rank	Condition Rating	Replacement Value	% of Replacement Value
1	Very Good	$15,156,000	81%
2	Good	$904,000	4.8%
3	Fair	$240,000	1.3%
4	Poor	$679,000	3.6%
5	Very Poor	$1,730,000	9.3%
Total		**$18,709,000**	**100%**

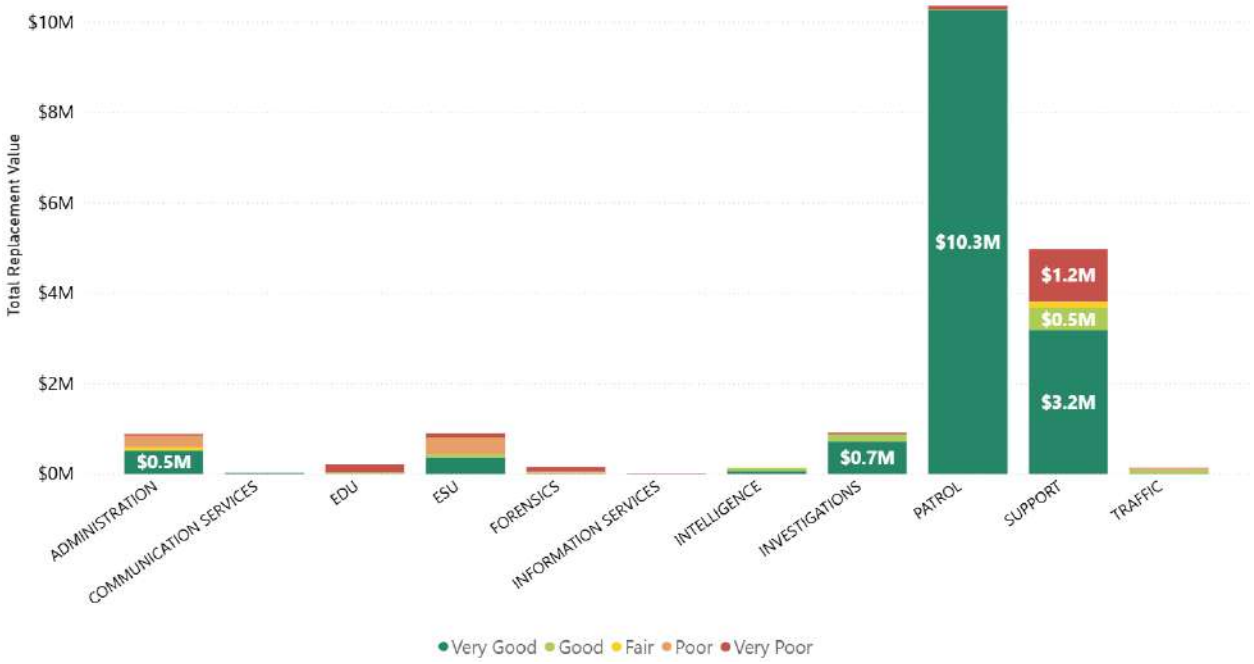


Figure 2-7: Police Services Condition by Sub-Category

2.3 Asset Data Gap Analysis

This section summarizes the current state of the City's asset data by assessing the quality of the asset inventory. Specifically, this section identifies existing data gaps, determines the overall confidence in the current asset data, and introduces good practices of data management.

2.3.1 Data Gap Observations

The City's protective services assets were not previously stored in a single inventory. The multiple spreadsheets provided by the City that did exist only housed a partial listing of the assets. The police assets in particular had numerous data gaps because of a recent cyber attack in 2021, when the City lost capital asset listings and related records. AECOM addressed these data gaps and filled in key information where possible, such as ESL and replacement costs. This has been supplemented by additional data sources such as RS Means and AECOM's prior experience from working with other municipalities.

Table 2-7 provides a summary of observed data gaps in the compiled protective services asset inventory across key data attributes that help to make informed decisions over the asset lifecycle for this AMP.

Table 2-7: Observations on Asset Data Completeness

Asset Group	Inventory Completeness (%)					
	Asset ID	Location	Install Date	Condition	Expected Service Life	Replacement Cost
Protective Services	87%	100%	92%	100%	100%	100%

Improvement activities that support continuous improvement of the asset inventory are:

- Asset ID: Add asset IDs to assets currently without them, especially for Fire Services, as only 20% of Fire Services assets are identified with unique asset IDs.

- Installation date: It is recommended to collect accurate installation date information for all assets and include them in the next iteration of the AMP. In the current iteration, many installation years are calculated based on the estimated service years remaining provided by the City, subtracted from the expected service lives estimated by AECOM.
- Condition: Consider a routine condition assessment program, and track asset condition over time in the CMMS, especially for assets regulated by legislations.

2.3.2 Data Confidence

The quality of asset data is critical to effective AM, accurate financial forecasts, and informed decision-making. For this reason, it is important to know what the reliability of the information is for the State of Infrastructure analysis of the protective services assets. **Table 2-8** provides a description for the data confidence grades used to classify the reliability of the asset data used in this data gap analysis. Through consultation with City staff during a State of Infrastructure Workshop, the asset attribute data for the in-scope protective services assets were assigned the grades outlined in **Table 2-9**.

Table 2-8: Data Confidence Grading Scale

Confidence Grades	Description
A - Highly reliable	Data is based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate ± 2%
B - Reliable	Data is based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10%
C - Uncertain	Data is based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy is estimated ± 25%
D - Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy ± 40%
E - Unknown	None or very little data held.

Table 2-9: High-Level Asset Data Confidence Grades

Asset Group	Inventory Confidence					
	Asset ID	Location	Install Date	Condition	Expected Service Life	Replacement Cost
Protective Services	NA	A	B	C	B	B

- Location data has been reviewed and confirmed by the City and are in a reliable state.
- Installation dates as mentioned previously, have been calculated from estimated service life remaining and ESL. The accuracy of the data to the year of installation where available is high but over half are calculated resulting in a lower confidence grade.
- Condition data is graded C as a lot of it is extrapolated from the installation data (which itself has a confidence grade of B). There are some condition data provided by the City, and these are high in accuracy confidence.
- Expected service life is deemed to be reliable as it is founded on available data accumulated for such a purpose (professional construction cost estimating software) and is supplemented with the City's input on estimated service life remaining.
- Replacement cost is also graded reliable as it is derived from a combination of similar cost used by other municipalities and supplemented with the City's own purchasing data. To include a tolerance for the imperfect data the upper range for mark up is used due to the immaturity of the asset inventory. As the inventory is used and further refined the City may decide to reduce the mark up applied to replacement values.

2.3.3 Data Management Practice

The asset data lifecycle is a sequence of stages that data goes through from its initial creation (i.e., data capture and entry) to its eventual archival and/or deletion at the end of its useful life[3]. A clear definition and understanding of the organization's process for acquiring, storing, utilizing, assessing, improving, archiving, and deleting data (see **Figure 2-8**) will ensure good data management practices and help to sustain levels of data quality required to support AM activities.



Figure 2-8: Asset Information Lifecycle

The seven key stages of the asset data lifecycle are described in more detail below:

1. **Acquiring New Data**: The majority of new asset data arises from asset creation, refurbishment and overhaul activities. New data may also come by way of inheritance or transfers from other business units, organizations, or third parties. As such, it is important to have clearly defined processes in place not only to add or update asset data, but to migrate and merge data from other sources.
   - New assets for protective services should be consistently added to the inventory and a minimum required data set defined to maintain inventory accuracy and reliability.
2. **Storing Data**: The way asset data is stored is an important consideration for overall data quality. Having a planned approach to data storage will inevitably reduce the likelihood of duplication and inconsistencies across datasets within the organization. Depending on the needs of the organization, this stage may involve procuring a new software to adequately house the data, along with a data backup and recovery plan to ensure that the necessary data protection and privacy standards are met.
   - Assets are typically stored in the CMMS or fleet management system. For protective services assets, due to having a lot of mobile fleet and equipment assets, it is important to store data and track the assets back to the physical location where the asset is stored and the division it's kept with.
3. **Utilizing / Analysing Data**: This aspect of the asset information lifecycle is where users encounter the data to support data-driven activities within the organization. Data can be viewed, processed, edited, and published to allow users to access the data outside the organization. Critical data that has been modified should be fully traceable to maintain the integrity of the data. As such, it is important to communicate to the users why asset data is so important, and how it is used to inform decisions within the organization.
   - Currently no analysis of the use of protective services assets is carried out. Use of the core asset AM plans (such as sanitary and water) and mature inventoried non-core (such as fleet) should be considered to drive a better understanding of protective services asset performance. This includes improved understanding of estimated service lives and true replacement cost value from the City's experience.

[3] TechTarget Network, Definition: Data Life Cycle, 2020.

4. **Assessing Data**: Assessing the data quality helps to determine the level of confidence in the information and ensures that decision-makers are making informed decisions based on the quality of data available to them. Moreover, it is important to fully understand the availability and quality of the asset data before issuing information publicly. Some of the results of data degradation, due to improper or lack of assessment, may include:
   - Poor asset performance due to lack of information and understanding of asset behaviour.
   - Non-compliance with statutory regulations or safety requirements.
   - Safety incidents due to risks not being identified or reported.
   - Asset failure due to gaps in maintenance planning.
5. **Improving Data**: Improving data quality involves establishing clear targets which are intended to be communicated widely across the organization. It is imperative that the organization understands the costs, benefits, and risks associated with any data improvements since the cost of the improvement may outweigh the overall benefit. It is also important to note that *more* data does not necessarily mean *better* data. It is very possible to collect data that does not add value to the organization. As such, it is critical that the organization aligns its data improvement targets with its AM objectives and considers the data-driven decisions staff need to make at the operational and strategic level, to ensure that the *right* data is being improved upon.
6. **Archiving Data**: Archiving data is the process of storing data that is no longer active or required but is able to be retrieved in case it is needed again. Data that is archived is stored in a location where no usage or maintenance occurs. It is recommended that a data archive strategy exists within an organization in order to lay out the data archival requirements, which considers the following:
   - What data should be archived and why?
   - Are there any legal obligations for retaining data records?
   - How long should data records be retained?
   - What is the risk associated with not being able to retrieve data records?
   - Who should be able to access archived data records?
   - What is the expected timeframe to retrieve archived data records?

   Clearly communicating these requirements across the organization is key to ensuring staff are educated on why records are being archived, how they can access archived data records, and for how long archived data records can still be accessed.
7. **Deleting Data**: The deletion of data is the final component of the asset information lifecycle. Typically, within organizations there is a resistance to permanently delete data, otherwise known as data “squirrelling”, due to the overall capacity of storing data increasing and the cost decreasing. However, within the organization’s data archive strategy, a retention period should be specified to indicate when data should be deleted, along with any processes to follow, such as obtaining prior missing period.
   - When assets are formally disposed of, their entry in the inventory should be archived to maintain data integrity and to further build the City’s understanding of its protective services assets. Several instances of inactive assets were found during the creation of the inventory from available sources.

3 Level of Service

3.1 Purpose

Level of Service (LoS) supports every aspect of the overall AM system. The objective of establishing clearly defined service levels is to help the City meet stakeholder values, achieve its strategic goals, make informed decisions, and implement effective asset lifecycle activities.

Documenting LoS is a proven practice that will enable the City to:

- Link corporate strategic objectives to customer expectations and technical operations.
- Balance customer needs and expectations while evaluating the effectiveness of operations and whether the right LoS is being provided at the right cost.
- Transition from an “Asset Stewardship” approach that focuses on making decisions based on maintaining assets in an acceptable condition to a “Serviceability” approach that is geared towards making decisions based on balancing the costs, risks, and goals for the LoS being provided by the City’s assets.
- Communicate the physical nature of infrastructure that the City owns and is financially responsible for while promoting the use of LoS to enable effective consultation with stakeholders regarding alternative funding options according to desired LoS outcomes.
- Make recommendations on strategies that the City can take now to minimize future renewal costs while ensuring that adequate LoS can be delivered without burdening future generations.
- Assess internal (e.g., program changes) and external (e.g., climate change) factors that have the potential to impact the City’s ability to deliver services and how these factors may impact the LoS being provided.
- Implement a corporate continuous improvement program to further optimize AM across all service areas.

The O. Reg. 588/17 requires that all AMPs include the current and proposed LoS.

3.2 Objectives

Defining LoS objectives is important for drawing a line of sight between the City’s corporate objectives and the tangible asset performance outcomes. To do so, the LoS objectives must take into consideration stakeholder interests to develop asset performance measures that aim to meet the needs and expectations of the community. By doing this, the City will ensure that their assets are striving towards optimal performance, not only operationally, but economically, socially, and sustainably as well. Every stakeholder has certain interests in the service being provided and in general. The City’s corporate objective is to lift up the community and build pride, and attract people (visitors, employers and employees).

The City’s Comprehensive Background Report (2021) for the New Official Plan outlined the overarching themes that reflect the City’s value, as shown in **Table 3-1**. Each overarching theme is also assigned a corporate service objective.

Table 3-1: The City’s Overarching Themes and LoS Objectives

Overarching Themes	LoS Objective
Healthy Community	Supports healthy living, active transportation, access to passive and active recreation, social interaction and the creation of spaces that are comfortable, safe and accessible for all ages and abilities (the “8 to 80 Cities” concept).
Environmental Sustainability	Supports energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions and climate change adaptation.
Integrated Mobility	Supports accessibility and choice of a diversity of transportation modes.

Overarching Themes	LoS Objective
Sense of Place	Fosters a welcoming place for all that establishes connection and provides a memorable experience to visitors.
Sustainable Growth	Stimulates reinvigoration of neighbourhoods to provide a complete range of housing, services, employment and recreation.
Economic Resiliency	Supports the growth and diversification of the city's economy.
Social Equity	Contributes to creating a welcoming and inclusive community, focusing on the removal of systemic barriers so that everyone has access to an acceptable standard of living and can fully participate in all aspects of community life.
Cultural Vitality	Celebrates the Sault's history, diverse communities and natural and cultural heritage, with the Downtown as the Sault's core destination for arts and culture.

3.3 Stakeholder Identification

A stakeholder is any person or organization that can affect, be affected by, or perceive themselves to be affected by a decision or an activity. Stakeholder analysis is the process of understanding stakeholder needs, expectations and perceptions relative to the stakeholder's level-of-interest and level-of-influence over the organization. The organization typically engages with their stakeholders to:

- Establish which activities or services matter most.
- Understand their risk appetite and risk threshold.
- Understand their willingness to pay for services.

Protective services stakeholders encompass a wide range of individuals and groups, both internal—such as staff and Council—and external, including the public, regulatory agencies, suppliers, and neighboring municipalities. During the Level of Service (LoS) workshops, several key stakeholder groups were identified as essential to the planning and delivery of protective services. While not exhaustive, this list offers a strong foundation for the City to advance to the next phase of service planning.

- Council.
- Residents.
- Industrial, Commercial, Institutional (ICI).
- Regulatory Agencies (i.e., Ministry of the Environment, Conservation and Parks [MECP], Fisheries and Oceans Canada [DFO]).
- Government Agencies (i.e., Environment and Climate Change Canada [ECCC] and Michigan Department of Environment, Great Lakes, and Energy [EGLE]).
- Neighbouring Municipalities or Downstream Municipalities (i.e., First Nations including Garden River First Nation, Batchewana First Nation, and Echo Bay, and municipalities from the US including Chippewa County, Michigan, and the City of Sault Ste Marie, Michigan).
- Environmental groups (i.e., Bi-National Public Advisory Council [BPAC] [US & Canada joint committee], Clean North, International Joint Commission, and Stream keepers).
- Developers.
- Other City Departments (e.g., Planning Department).
- Contractors and suppliers (e.g., EDS).

3.4 Legislated and Regulatory Requirements

Protective service assets are critical to the City's ability to provide essential services to the community, and for protecting the health and safety of the public. As such, key legislative requirements exist for the City's infrastructure assets, which ensure that minimum requirements are met and standards are in place that promote a high quality of life (i.e., protective citizens when situations arise, etc.). A sample of key Federal and Provincial legislated requirements are outlined below in **Table 3-2**. Monitoring and development programs relevant to protective services assets are also listed.

Table 3-2: Legislated and Regulatory Requirements

Protective Service	Federal	Provincial
Fire Services	• National Fire Code of Canada • National Fire Protection Association (International Organization, Legislation adopted in Canada)	• Ontario Fire Code • Fire Protection and Prevention Act (FPPA) • Ontario Regulation 379/18 (Training and Certification) • Emergency Management and Civil Protection Act
Police Services	• Royal Canadian Mounted Police Act	• Community Safety and Policing Act (formerly known as the Police Services Act, prior to April 2024)

3.5 O. Reg. 588/17 Levels of Service Metrics

Currently, O. Reg. 588/17 only identifies LoS metrics for core assets. A number of key LoS performance measures for protective services assets have been identified in consultation with City staff through workshops, are detailed in **Section 3.5**.

3.6 Current and Proposed Levels of Service

Establishing LoS targets is an important part of continual improvement and performance management. Without targets, it is difficult to ascertain whether goals are being met, or the extent of the gap if they are not. Incorporating targets into the City's LoS Framework helps to ensure that targets are reasonable, aligned with customer expectations, and evaluated on an objective basis by considering cost-benefit trade-offs.

One of the key challenges in setting targets in a municipal environment is that they can often become biased and/or politically motivated. Therefore, it is important to review LoS targets with internal and external stakeholders, especially the customers who will be impacted the most by changes in service delivery. An important aspect of evaluating LoS targets is determining how willing the user is to pay for the service. Regulatory requirements are an exception; however, they only provide the minimum service standard. Cost is still an important parameter to consider when assessing the merits of service improvements. To deal with the financial realities, it is necessary to:

- Calculate how much the service costs based on current LoS.
- Determine the lifecycle activities and cost associated with varying the LoS.
- Assess the customers' willingness to pay.

It is important that any targets set be realistic and achievable. O. Reg. 588/17 requires AMPs to include proposed LoS by July 1, 2025.

A summary of the City's Protective Services service level metrics is presented in **Table 3-4**. Each metric was indicated with its current trend and proposed trend for the next 10 years, represented by legends, taking into account the nature of the measure, data availability, and whether the trend impacts positively or negatively on the proposed LoS. The LoS trend legends are described in **Table 3-3**.

Table 3-3: LoS Trend Legend

Symbol	Name	Description
	Positively Increasing	KPI is improving steadily over time, showing progress toward goals.
	Positively Stable	KPI is at a strong, desirable level and consistently maintained.
	Positively Decreasing	KPI is improving as lower values indicate better performance.

Symbol	Name	Description
	Negatively Increasing	KPI is worsening over time, signaling a need for corrective action.
	Negatively Stable	KPI remains poor with no improvement or further decline.
	Negatively Decreasing	KPI is declining in a way that reflects worsening performance.

In the context for fire services, LoS for fire departments differ significantly from other municipal assets because they are governed by strict regulations and public safety requirements. These standards are not optional and must be met at all times, regardless of financial pressures. As such, the City will have no discretion to reduce spending in this area without compromising compliance or safety. This makes protective services unique in that the cost to maintain service levels is not a matter of choice but a mandated necessity.

Through workshops and conversations with subject matter expects (SME), the primary concern raised is not about a potential decline in service levels—those will always be maintained—but rather about the increasing costs associated with doing so. These rising costs are being driven by several external factors. Delivery fees for parts and services are climbing, and the market for specialized vendors is shrinking. Some suppliers are going out of business, while others are merging, leading to reduced competition and fewer options for procurement. This often forces the City to source materials and services from farther away, which adds to the overall expense.

Additionally, the nature of fire department operations requires certain services to be performed at distant locations. For example, bunker gear must be shipped to Sudbury for inspection or repair, and much of the department's equipment, including fire trucks, is sourced from the United States. While the City currently benefits from having skilled technicians capable of maintaining its fleet, the rapid evolution of vehicle technology may soon necessitate significant investments in new training and equipment. This looming need for adaptation adds another layer of financial pressure.

In summary, while the LoS for fire departments will remain consistent due to regulatory obligations, the cost of maintaining that standard is escalating. These increases are largely beyond the City's control and will have broader implications for municipal budgeting and resource allocation.

Table 3-4: Protective Services Current and Proposed Levels of Service

LoS #	Service Area	LoS Measure	Unit of Measure	LoS Category	Current Performance	Performance Trend		Lifecycle Activities to Meet Proposed LoS	Budget Impact to Meet Proposed LOS	Risk of Not Meeting Proposed LoS
						Current	Proposed			
1	Fire & Rescue	Total Fire Operating Cost per 1,000 Population	$ / 1,000 People	Customer	N/A	→	→	• Attempt to source trucks locally to avoid international shipping, tariffs, and currency exchange risks with the U.S. • Conduct regular financial audits and cost-benefit analyses to optimize spending. • Implement strategic workforce planning to balance staffing levels with service demands.	• Increased operational budget	• Not keeping up with standards, decreased community and staff safety. • Reduced ability to respond effectively to emergencies due to underfunding. • Increased strain on personnel and equipment, leading to burnout and breakdowns. • Public dissatisfaction and erosion of trust in emergency services.
2	Fire & Rescue	Percentage of Fire & Rescue Equipment in Very Good or Good Condition	%	Technical	98%	→	→	• Keep track of current guidelines and standards. • Schedule routine inspections and preventive maintenance for all equipment. • Replace aging or underperforming equipment based on condition assessments. • Maintain an up-to-date asset inventory and condition tracking system.	• Increased maintenance costs	• Poor condition assets are a safety risk for both staff and community. • Equipment failure during critical incidents, endangering lives and property. • Increased repair costs due to deferred maintenance. • Reduced operational readiness and response capability.
3	Fire & Rescue	Percentage of Fire & Rescue Equipment required for health and safety	%	Technical	N/A	→	→	• Ensure compliance with NFPA and other safety standards through regular audits. • Provide ongoing training for staff on proper use and care of safety equipment. • Establish a proactive replacement schedule for health and safety gear.	• Increased compliance costs	• Unsafe conditions for operators or inability to provide service due to lack of equipment. • Increased risk of injury or death to firefighters due to faulty or outdated gear. • Legal and regulatory penalties for non-compliance. • Loss of accreditation or insurance coverage for the department.
4	Fire & Rescue	Hours/mileage of operation per vehicle	Hours / Vehicle	Technical	N/A	→	→	• Rotating vehicle assignments to distribute wear evenly across the fleet and extend fleet lifespan. • Monitor vehicle usage through telematics and adjust deployment strategies. • Conduct regular servicing based on usage thresholds rather than fixed intervals.	• Increased operational costs	• Increased hours or mileage of vehicles indicate an aging fleet. Older vehicles have more costly repairs due to age. • Accelerated wear and tear leading to more frequent breakdowns. • Higher long-term maintenance and replacement costs. • Reduced availability of vehicles during emergencies.
5	Fire & Rescue	Mileage of operation per vehicle	km / Vehicle	Technical	N/A	→	→	• Fuel usage tracking in correlation with mileage to detect inefficiencies. • Track mileage data to identify overused vehicles and redistribute workloads. • Implement route optimization software to reduce unnecessary mileage. • Schedule timely maintenance based on mileage benchmarks.	• Increased fuel and maintenance costs	• Increased hours or mileage of vehicles indicate an aging fleet. Older vehicles have more costly repairs due to age. • Premature vehicle aging and increased downtime. • Higher fuel and maintenance expenses. • Reduced fleet reliability and emergency response efficiency.
6	Fire & Rescue	Cost of maintenance/repairs per vehicle	$ / Vehicle	Technical	N/A	→	↑	• Train in-house technicians and mechanics to handle more repairs internally. • Train mechanics to adapt to the changing vehicle technology. • Use predictive maintenance tools to identify issues before they escalate. • Standardize parts and service procedures to reduce variability and cost.	• Increased repair costs	• Increased downtime of vehicles, limiting service delivery. • Escalating repair costs due to reactive maintenance. • Longer vehicle downtimes affecting service delivery. • Budget overruns impacting other critical areas of fire operations.
7	Fire & Rescue	Fuel cost per vehicle	$ / Vehicle	Technical	N/A	→	→	• Using GPS and dispatch software to reduce unnecessary travel and idle time. • Implement fuel-efficient driving practices and training for operators.	• Increased fuel budget	• Escalating operational costs due to inefficient fuel use. • Budget overruns that impact other critical fire services.

LoS #	Service Area	LoS Measure	Unit of Measure	LoS Category	Current Performance	Performance Trend		Lifecycle Activities to Meet Proposed LoS	Budget Impact to Meet Proposed LOS	Risk of Not Meeting Proposed LoS
						Current	Proposed			
								• Invest in hybrid or alternative fuel vehicles to reduce dependency on gasoline/diesel. • Monitor and analyze fuel usage data to identify inefficiencies or anomalies.		• Increased environmental impact and potential reputational damage.
8	Fire & Rescue	Frontline fire apparatus should be replaced on a schedule of every 20 years (with certain exceptions, but no extensions beyond 30 years)	Yes / No	Technical	Yes	→	→	• Maintain a long-term capital replacement plan aligned with lifecycle benchmarks. • Conduct regular condition assessments to prioritize replacements. • Secure funding in advance through capital budgeting or reserve funds. • Start the truck procurement process early to give time for approval, funding, and delivery.	• Increased capital expenditure	• Increased risk of mechanical failure during emergency response. • Higher maintenance costs and downtime for aging apparatus. • Non-compliance with safety and insurance standards. • Equipment breakdown, leading to a potential loss of fire & rescue services.
9	Fire & Rescue	Personal protective equipment (PPE) should be replaced every 10 years or if it becomes damaged or irreparable as per NFPA 1851, this including turnout gear, helmets, respiratory masks, breathing apparatus, hearing and eye protection, boots, gloves, etc.	Yes / No	Technical	Yes	→	→	• Utilize a tracking policy to keep track of equipment condition and age. Mark all equipment for clear identification. • Maintain a PPE inventory system with age and condition tracking. • Schedule regular inspections and testing of all PPE. • Budget for phased replacement to avoid large one-time costs.	• Increased PPE budget	• Equipment breakdown, leading to a potential loss of fire & rescue services. • Increased risk of injury or exposure for firefighters. • Legal liability and non-compliance with NFPA standards. • Reduced morale and trust among frontline personnel.
10	Police Service	Number of Police Staff (Officers and Civilians) per 100,000 Population	#	Customer	356	↑	↑	• Conduct strategic workforce planning and recruitment campaigns based on projected population growth and crime trends. • Implement recruitment and retention strategies to maintain staffing levels. • Use data analytics to optimize deployment and workload distribution.	• Increased staffing costs	• Increased response times and reduced public safety. • Increased workload and stress for overworked staff leading to burnout and higher turnover. • Decline in community trust and satisfaction with police services.
11	Police Service	Number of complaints against police officers	#	Customer	48	↑	→	• Provide regular ethics, conduct, and de-escalation training. • Public education on complaint processes and rights. • Implement transparent complaint review and accountability systems. • Foster community engagement and communication initiatives.	• Increased legal and administrative costs	• Reputational damage to the City. • Erosion of public trust and legitimacy of the police force. • Increased legal and reputational risks for the department. • Lower morale and internal conflict within the force.
12	Police Service	Number of police officer training hours	Hour	Technical	15,324	↑	→	• Development of structured training programs covering core and advanced topics. • Invest in modern training tools such as simulators and e-learning platforms. • Track and audit training hours to ensure compliance and effectiveness.	• Increased training budget	• Reduced preparedness for emerging threats. • Reduced preparedness and effectiveness in critical situations. • Increased risk of misconduct or procedural errors, as well as liability risks. • Missed opportunities for professional development and career progression.

Performance Trend Legend:

↑ Positively Increasing	→ Positively Stable	↓ Positively Decreasing	↑ Negatively Increasing	→ Negatively Stable	↓ Negatively Decreasing

3.7 2025-2034 10-Year Levels of Service Forecast

Considering the City's characteristics, growth projections, and strategic objectives, the proposed performance trend for each LoS metric for the next 10 years is projected and outlined in **Table 3-5**. This table indicates whether each measure is expected to trend upward, downward, or remain stable, taking into account the nature of the measure, data availability, and whether the projected trend impacts positively or negatively on the proposed LoS.

Table 3-5: 2025-2034 10-Year Levels of Service Forecast

LoS #	Service Area	LoS Measure	Unit of Measure	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Proposed Trend	Basis for Forecast
1	Fire & Rescue	Total Fire Operating Cost per 1,000 Population	$ / 1,000 People					Positively Stable						→	Operating costs are being effectively managed through stable staffing, efficient resource use, and proactive budgeting, keeping per capita expenses consistent over time.
2	Fire & Rescue	Percentage of Fire & Rescue Equipment in Very Good or Good Condition	%					Positively Stable						→	Based on Lifecycle Modelling using the City's Forecasted Budget. Ongoing maintenance and replacement programs are effectively sustaining equipment quality.
3	Fire & Rescue	Percentage of Fire & Rescue Equipment required for health and safety	%					Negatively Stable						→	City's subject matter expert opinion. Rising costs and supply chain delays are making timely replacement of safety-critical gear more difficult.
4	Fire & Rescue	Hours/mileage of operation per vehicle	Hours / Vehicle					Positively Stable						→	Improved fleet management and route optimization are helping maintain consistent usage levels.
5	Fire & Rescue	Mileage of operation per vehicle	km / Vehicle					Positively Stable						→	Balanced vehicle deployment and tracking systems are preventing overuse of specific units.
6	Fire & Rescue	Cost of maintenance/repairs per vehicle	$ / Vehicle					Positively Stable						↑	Preventive maintenance strategies are reducing unexpected repair costs.
7	Fire & Rescue	Fuel cost per vehicle	$ / Vehicle					Positively Stable						→	Fuel efficiency initiatives and stable fuel pricing are keeping costs predictable.
8	Fire & Rescue	Frontline fire apparatus should be replaced on a schedule of every 20 years (with certain exceptions, but no extensions beyond 30 years)	Yes / No					Positively Stable						↑	Adherence to a structured capital replacement plan is ensuring timely apparatus renewal.
9	Fire & Rescue	Personal protective equipment (PPE) should be replaced every 10 years or if it becomes damaged or irreparable as per NFPA 1851, this including turnout gear, helmets, respiratory masks, breathing apparatus, hearing and eye protection, boots, gloves, etc.	Yes / No					Positively Stable						→	City's subject matter expert opinion. Compliance with NFPA 1851 and proactive inventory management are supporting consistent PPE turnover.
10	Police Service	Number of Police Staff (Officers and Civilians) per 100,000 Population	#					Positively Increasing						↑	Strategic hiring and recruitment efforts are responding to population growth and service demand.
11	Police Service	Number of complaints against police officers	#					Negatively Increasing						→	Rising population and crime rates are leading to more interactions between police and the public, increasing the likelihood of complaints being filed.
12	Police Service	Number of police officer training hours	Hour					Positively Increasing						→	Emphasis on professional development and accountability is driving expanded training programs.

Performance Trend Legend:

↑ Positively Increasing	→ Positively Maintain	↓ Positively Decreasing	↑ Negatively Increasing	→ Negatively Maintain	↓ Negatively Decreasing

3.8 Future Demand Drivers

Demand management is a critical component of managing the desired LoS in a sustainable manner, now and into the future. Understanding demand drivers enables the City to proactively develop effective, long-term strategies that are suitable for the City's unique political, environmental, social and technological landscape.

Factors identified during the LoS workshop that would impact protective services service levels now and into the future include, but are not limited to, the following:

- Aging assets (e.g., fire apparatus nearing end-of-life, outdated police communication systems, aging PPE, or specialized equipment like bomb robots and surveillance drones)
- Regulatory changes (e.g., updates to NFPA standards, policing oversight requirements, or occupational health and safety regulations)
- Staff availability (e.g., shortages in certified fire technicians, forensic specialists, or officers trained in emerging technologies like digital evidence systems)
- Succession management & skills transfer (e.g., ensuring experienced officers and fire personnel can pass on critical operational knowledge and certifications before retirement)
- Funding (e.g., ensuring asset management plans support sustainable service delivery while meeting public safety mandates)
- Contractor availability (e.g., limited availability of certified vendors for specialized equipment maintenance or facility upgrades)
- Climate change (e.g., increased wildfire risk, more frequent extreme weather events requiring emergency response, or flooding impacting station infrastructure)
- Supply chain (e.g., delays in acquiring fire trucks, PPE, or police technology due to shortages or vendor consolidation)
- Fluctuations in contract pricing (e.g., rising costs for vehicle leases, equipment servicing, or construction projects due to inflation or tariffs)
- Population growth (e.g., increased demand for emergency response services, requiring more staff, vehicles, and facilities to maintain service levels)

On November 2, 2021, the City's Planning Division released the Comprehensive Background Report for updating the Official Plan[4]. The City's Official Plan guides the local decision-making on land use, development and public infrastructure over the next 20 years. The City's population is expected to reach approximately 80,000 people by 2031, and 83,300 people by 2036. Employment is projected to grow by about 6,000 jobs, from approximately 31,000 jobs in 2016 to 36,900 jobs in 2036.

When additional assets to accommodate this population and employment growth are introduced to the City's portfolio, additional human resources, training and funding are required to maintain and operate, and renew or replace those assets. O. Reg. 588/17 requires municipalities by July 1, 2025, to estimate capital expenditures and significant operating costs to achieve the proposed LoS and accommodate projected increases in demand caused by population and employment growth. This includes the estimated capital expenditures and significant operating costs related to new construction and / or to upgrade existing municipal infrastructure assets. This has been addressed in **Section 5.2**.

[4] City of Sault Ste Marie. 1996. Official Plan.

4 Asset Management Strategies

4.1 Asset Lifecycle Management Introduction

Asset lifecycle management focuses on the specific activities that should be undertaken during all phases of the asset lifecycle. Considering entire asset lifecycles can ensure that the City makes sound decisions that consider present and future service delivery needs.

The overarching goal of lifecycle management is to maximize the long-term benefits and services that our assets deliver while minimizing the associated costs and risks in the long run. Every asset has a lifecycle cost, which is the total cost of all the activities undertaken throughout its service life. Part of the purpose of the asset management planning process is to fully understand and predict the long-range financial requirements for the City's infrastructure to facilitate planning and resource management in the most cost-effective manner possible. **Figure 4-1** illustrates how costs typically accumulate over an asset's life. It is worth noting that the accumulation of the ongoing operations and maintenance, renewal & replacement and disposal costs is many multiples of the initial acquisition costs. As such, it is important to fully understand the entire lifecycle costs across an asset's entire life before proceeding with asset acquisition.

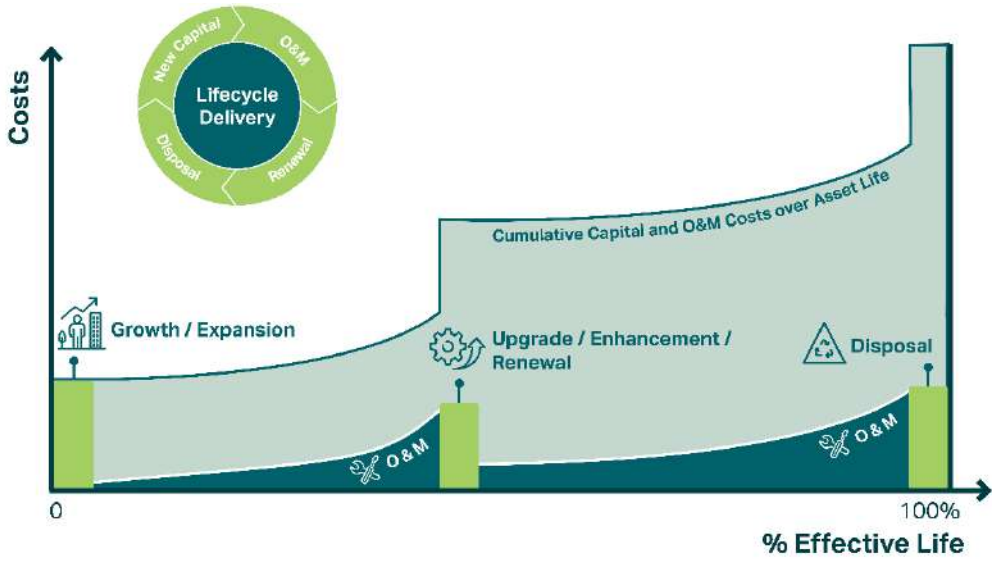


Figure 4-1: Lifecycle Cost Accumulation Over Asset Life

Asset lifecycle management strategies are typically organized into the following categories.

1. **Asset Acquisition / Procurement / Construction**: Acquisition includes expansion activities and upgrading activities to extend services to previously unserved areas or expand services to meet growth demands and to meet functional requirements. When acquiring new assets, the City should evaluate credible alternative design solutions that consider how the asset is to be managed at each of its lifecycle stages. Asset management and full life cycle considerations for the acquisition of new assets include, but are not limited to the following:



   - The asset's operability and maintainability.
   - Availability and management of spares.
   - Staff skill and availability to manage the asset.
   - The manner of the asset's eventual disposal.

2. **Asset Operations and Maintenance (O&M)**: As new asset is commissioned, the City accepts the responsibility of operating and maintaining the asset according to O&M standards to ensure that the asset is safe and reliable. Operations staff provide the day-to-day support required to operate asset. In few cases, operation costs are minor, but for most there are significant increases. Maintenance expenses include periodic preventive maintenance to ensure that the asset can provide reliable service throughout the life of the asset and corrective maintenance that is required to repair defective assets as and when needed. Inadequate funding for O&M will have an adverse impact on the lifespan of assets. The amount of O&M resources required in any period is a function of the current inventory of asset and total O&M needs required for each asset. As the inventory grows, total O&M requirements will also grow.



3. **Renewal and Replacement:** The third portion of full life cycle costing relates to the renewal and replacement of assets that have deteriorated to the point where it no longer provides the required service. Renewal cost is sometimes incurred during the life of an asset where an investment is made to improve the condition and / or functionality of the asset e.g., upgrading in-vehicle technology in police cruisers or refurbishing fire apparatus components. Replacement activities that are expected to occur once an asset has reached the end of its useful life and rehabilitation is no longer an option.



4. **Decommissioning and Disposal:** There will inevitably come a point in time when an asset must be removed from service and, depending on the type of asset, there may be significant costs associated with its decommissioning and disposal. Factors that may influence the decision to remove an asset from service include changes to legislation that cause the asset to be in non-compliance, the inability of the asset to cope with increased service levels, technology advances that render the asset obsolete, the cost of retaining the asset is greater than the benefit gained, or the current risk associated with the asset's failure is not tolerable.



Normally, major costs that may be incurred during disposal and decommissioning derive from the environmental impact of the disposal and, if required, the rehabilitation and decontamination of land. In some cases, there will be residual liabilities and risks to consider if a decision is made to partially abandon the asset as opposed to fully disposing of its components (e.g., destruction of retired police assets through agreement with the steel plant). However, some cost savings may be achieved through the residual value of the asset or by exploring alternative uses for the asset. In all cases, it is important to consider disposal and decommissioning as the strategy employed has the potential to attract significant stakeholder attention. For that reason, the costs and risks associated with disposal and decommissioning should be equally considered in the City's capital investment decision-making process.

4.2 Protective Services Assets Management Strategies

The asset management strategies that are employed by the City to manage the protective services assets throughout their lifecycle is summarized in **Table 4-1**.

Table 4-1: Lifecycle Management Strategies for Protective Services Assets

Asset Group	Lifecycle Activity	Description of Activities Practiced by the City	Benefits and Risks Associated with the Activities
Protective Services	**Acquisition**	**Fire Services** • Procure frontline apparatus and vehicles based on a 20-year replacement schedule. • Acquire PPE in compliance with NFPA 1851 (every 10 years or as needed). • Invest in fuel-efficient or hybrid vehicles to manage fuel costs. • Purchase health and safety equipment aligned with regulatory standards.	**Benefits:** • Ensures compliance with safety standards (e.g., NFPA). • Supports operational readiness with modern, reliable equipment. • Enables long-term planning through structured capital investment. **Risks:** • High upfront costs may strain capital budgets. • Supply chain issues can delay procurement. • Risk of acquiring equipment that becomes obsolete quickly due to tech changes.
		Police Services • Vehicles are acquired through the Police Purchasing Co-op to ensure discounted pricing and suitability for police operations. These are then leased back through ARI Financial. • Annual capital budgets (approx. $1M) are used to acquire essential equipment such as firearms, forensic tools, and IT systems. • Long-term leases like the 10-year Axon package are used for body-worn cameras and digital evidence systems. Capital reserves also support infrastructure projects like building renovations.	**Benefits:** • Access to purpose-built vehicles and equipment through co-op purchasing. • Supports staffing and operational needs with modern tools. • Enables proactive planning for capital and infrastructure needs. **Risks:** • Leasing costs can fluctuate with market conditions and tariffs. • Budget limitations may restrict timely acquisition. • Risk of over-reliance on long-term leases without flexibility.
	Operations and Maintenance	**Fire Services** • Conduct regular inspections and preventive maintenance on vehicles and equipment. • Monitor fuel usage and vehicle mileage to optimize deployment. • Maintain PPE through routine cleaning, inspection, and minor repairs. • Track and manage operating costs per 1,000 population to ensure budget stability.	**Benefits:** • Extends asset life and reduces emergency repairs. • Maintains high service reliability and safety. • Helps control long-term costs through preventive care. **Risks:** • Rising costs of parts and labor may exceed budget. • Inadequate maintenance can lead to equipment failure. • Overuse of aging assets increases risk of breakdowns.
		Police Services • All vehicles are leased and maintained under a structured plan by the Fleet Manager. Frontline vehicles are leased for 2 years due to high usage, while others are leased for 3–5 years and rotated to balance mileage. • Approximately $250,000 is allocated annually for vehicle maintenance, built into the operating budget alongside lease costs (~$1.03M). • Most operational needs, including equipment upkeep and minor capital replacements, are covered within the department's own budget, reducing reliance on external funding.	**Benefits:** • Leased fleet ensures vehicles are well-maintained and rotated efficiently. • Built-in maintenance budgets support predictable cost management. • Self-sufficient budgeting allows for responsive operations. **Risks:** • High usage of frontline vehicles may still lead to unexpected wear. • Maintenance costs could rise with inflation or supply shortages. • Dependence on leasing partners for service timelines.

Asset Group	Lifecycle Activity	Description of Activities Practiced by the City	Benefits and Risks Associated with the Activities
	Renewal and Replacement	**Fire Services** • Conduct regular inspections and preventive maintenance on vehicles and equipment. • Monitor fuel usage and vehicle mileage to optimize deployment. • Maintain PPE through routine cleaning, inspection, and minor repairs. • Track and manage operating costs per 1,000 population to ensure budget stability.	**Benefits:** • Keeps fleet and PPE within safe and effective service life. • Reduces long-term maintenance costs. • Enhances firefighter safety and public trust. **Risks:** • Deferred replacements can lead to safety hazards. • Budget constraints may delay necessary upgrades. • Poor timing can result in overlapping capital needs.
		Police Services • Vehicles are replaced at the end of their lease terms and either sold to the City or auctioned online, ensuring a continuous refresh of the fleet. • Items like handguns are replaced when they reach end-of-life and can no longer be serviced (e.g., 180 new 9mm pistols in 2025). • Building reserves are used for major renovations and future planning for a new police headquarters.	**Benefits:** • Regular fleet turnover ensures reliability and safety. • Capital reserves allow for timely replacement of critical equipment. • Supports modernization of facilities and technology. **Risks:** • Delays in replacement can impact service delivery or safety. • Budget constraints may limit ability to replace aging assets. • Risk of underestimating future capital needs.
	Disposal	**Fire Services** • Conduct regular inspections and preventive maintenance on vehicles and equipment. • Monitor fuel usage and vehicle mileage to optimize deployment. • Maintain PPE through routine cleaning, inspection, and minor repairs. • Track and manage operating costs per 1,000 population to ensure budget stability.	**Benefits:** • Removes outdated or unsafe equipment from service. • Frees up space and reduces liability. • May recover value through resale or recycling. **Risks:** • Improper disposal can lead to environmental or legal issues. • Disposal costs may be underestimated. • Loss of backup equipment if not carefully planned.
		Police Services • Vehicles are replaced at the end of their lease terms and either sold to the City or auctioned online, ensuring a continuous refresh of the fleet. • Items like handguns are replaced when they reach end-of-life and can no longer be serviced (e.g., 180 new 9mm pistols in 2025). • Building reserves are used for major renovations and future planning for a new police headquarters.	**Benefits:** • Online auctions and resale to the City generate revenue. • Secure disposal of sensitive or obsolete equipment (e.g., bomb suits). • Keeps asset registry current and accurate. **Risks:** • Improper disposal of sensitive equipment could pose security risks. • Disposal logistics may be complex or costly. • Potential loss of value if assets are not disposed of at the right time.

5 Funding Need Analysis

Financial forecasting and capital planning are a critical element in ensuring the efficient and sustainable management of infrastructure. This involves estimating future financial needs and developing a strategic plan to secure the necessary funding for the maintenance, renewal, or expansion of assets. By accurately forecasting financial requirements and implementing a well-structured capital plan, the City can not only ensure the long-term viability of their infrastructure systems but also effectively manage costs, reduce environmental risks, and protect public health.

The financial projections presented in the subsequent sections provide visualizations of the results from the financial model. The subsequent sections are structured as follows:

Section 5.1 summarizes historical capital and O&M expenditures, along with budget forecasts for the next 10 years (2025–2034).

Section 5.2 outlines the assumptions used in the financial model to guide reinvestment and replacement decisions for each sub-category and estimates the annual funding requirements over the 10-year period. The projected levels of service over this period are also presented.

Section 5.3 presents the full funding needs for the next 10 years, including capital, O&M, and disposal costs.

Section 5.4 summarizes the risk of funding gaps and **Section 5.5** explores possible funding sources and alternative strategies to support the protective services AM lifecycle activities.

5.1 Capital and Operating Budget

Based on the review of the budget documents provided by the City, including:

- Summary Capital Budget - 2020 to 2024
- Long Term Financial Plan Model - Final Client Version

This section presents the annual average budgets allocated for capital reinvestment as well as operations and maintenance.

5.1.1 Capital Budget - Historical Expenditure and Future Forecast

Historical capital expenditures for protective services have typically included long-term investments and major purchases such as fire trucks, police vehicles, PPEs, firearms, communication systems, and facility upgrades. These are assets with a useful life beyond one year and often require planned replacement cycles. **Table 5-1** present the capital reinvestment budget forecast.

Table 5-1: Capital Reinvestment Budget Forecast

Asset Class	Asset Category	Asset Sub-Categories	2025-2029 5-Year Average Reinvestment Budget
Protective Services	Police Services	Administration, Communication Services, Explosive Disposal Unit (EDU), Emergency Services Unit (ESU), Forensics, Information Services, Intelligence, Investigations, Patrol, Support, and Traffic	$1,085,000
	Fire Services	Firehall #1, Firehall #2, Firehall #3, Firehall #4, and Fire Department	$725,000*
		Total	**$1,810,000**

**$560k in 2025, $190k in 2026, $1.4M from 2027 to 2034 (except 2028).*

5.1.2 Operating Budget - Historical Expenditure and Future Forecast

The City's historical operating expenditures for protective services have includes day-to-day expenses necessary to keep services running. This covers salaries, training, fuel, leasing costs, routine maintenance, utilities, and consumables like medical supplies or office equipment. It also includes service contracts and software subscriptions that support ongoing operations. **Table 5-2** present the operating budget forecast.

Table 5-2: Operating Budget Forecast

Asset Class	Asset Category	Asset Sub-Categories	2025-2029 5-Year Average O&M Budget
Protective Services	Police Services	Administration, Communication Services, Explosive Disposal Unit (EDU), Emergency Services Unit (ESU), Forensics, Information Services, Intelligence, Investigations, Patrol, Support, and Traffic	$8,805,000
	Fire Services	Firehall #1, Firehall #2, Firehall #3, Firehall #4, and Fire Department	$17,901,000
		Total	**$26,706,000**

5.2 Capital Reinvestment Funding Needs Analysis

This section outlines the capital funding scenarios analyse approach, assumptions, and presents service level trends regarding asset condition under various budget scenarios.

5.2.1 Lifecycle Model Approach and Assumptions

The lifecycle analysis was implemented within an PowerBI Model. The analysis involves integrating key asset attribute information including asset inventory, age, expected service lives, replacement values, and condition to create a theoretical asset replacement cycle for each asset. A financial dashboard was developed to present the lifecycle modeling results.

The annual reinvestment needs for the protective services assets were determined based on their age and ESL in years (i.e., replacing assets that have exceeded their ESL, in inflated dollar values, incorporating the following assumptions on inflations:

- The base year used is 2025. Any historic asset replacement values have been inflated using the experienced inflation rate from Non-Residential Building Construction Price Index (NRBCPI).
- Inflation rate: the inflation rates adopted for the financial model are presented in **Table 5-3**. The inflation for 2025 and later is determined based on the City's input.

Table 5-3: Inflation Rate[5]

Year	Inflation Rate
2022	7%
2023	7.1%
2024	6%
2025	2%
2026	2%
2027	2%

[5] Past inflation data obtained from NRBCPI using the non-residential; yearly result taken from an average of quarterly results. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810027601

Year	Inflation Rate
2028	2%
2029	2%
2030 - 2034	2%

5.2.2 Fire Services Budget Scenarios & 10-Year Service Level Forecast

This section presents the budget scenario analysis and the 10-year service level forecast for fire services.

5.2.2.1 Budget Scenarios Setting for Fire Services

Table 5-4 budget scenarios setting for fire services. Scenario 1 (S1) is a "Do Nothing" approach with zero expenditure; S2 assumes an ideal, unconstrained budget enabling asset replacement at end-of-life; S3 reflects the City's defined budget at $1.4 million annually; and S4 reflects a mid-point between S2 and S3 as an alternative option.

Table 5-4: Fire Services Budget Scenarios

Scenario		Description	Budgets
S1	Do Nothing	Spend Nothing	$0 million
S2	Unconstrained Budget	Replace assets at end of life	Unlimited
S3	City's Planned Budget	City's Current Planned Budget	$1.4 million annual budget
S4	Approximate Midpoint between S2 and S3 Budget	Budget level between S2 and S3 to offer an alternative	$1.7 million annual budget

5.2.2.2 Fire Services Assets Funding Need

The average annual reinvestment estimates for the City's fire services is $2.2 million over the next 10 years in inflated dollar values. This is equivalent to a total of approximately $21.9 million over the next 10-year period, as presented in **Figure 5-1**. There aren't any significant backlogs for reinvestment in 2025. The theoretical expenditure spikes are presented in the year 2028 and 2030 in **Figure 5-1**.

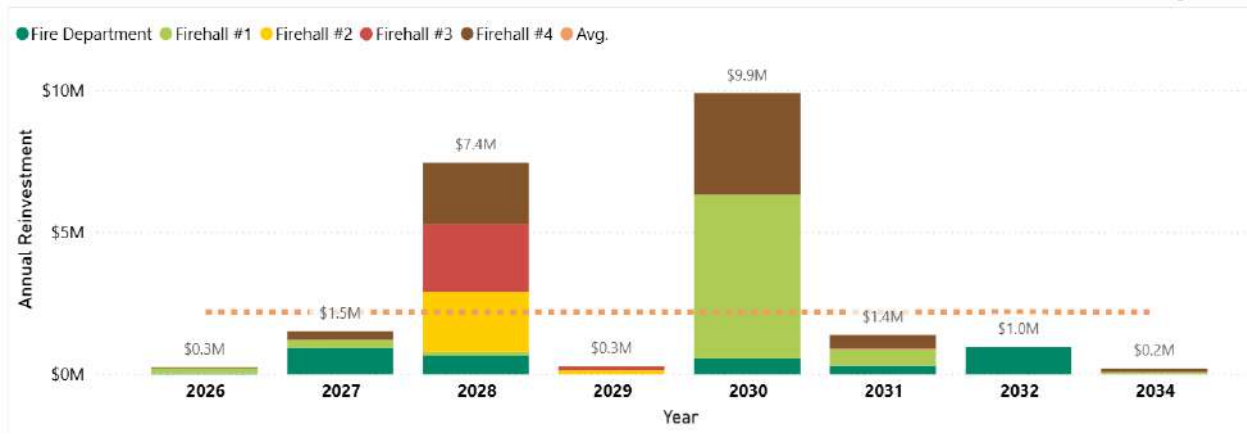


Figure 5-1: 10-Year Funding Need for Fire Services – Unlimited Budget Scenario

The detailed 10-year reinvestment needs for fire services are presented in **Table 5-5** in inflated dollar values.

Table 5-5: Fire Services 10-Year Total and Annual Average Capital Reinvestment Need

Asset Category	Annual Average Need	10-Year Total
Fire Department	$339,000	$3,386,000

Asset Category	Annual Average Need	10-Year Total
Firehall #1	$703,000	$7,031,000
Firehall #2	$226,000	$2,256,000
Firehall #3	$254,000	$2,544,000
Firehall #4	$669,000	$6,686,000
Total	**$2,191,000**	**$21,903,000**

5.2.2.3 Fire Services 10-Year Service Level Trend Forecast

Figure 5-2 presents the projected condition of fire services under the four funding scenarios over a 10-year period. Currently, 98% of assets are in fair or better condition. Under the "Do Nothing" scenario, the service level declines steadily to 16% by 2034. With an unlimited budget of approximately $2.2 Million annually, the asset condition improves to 99%. Under the City's current budget of $1.4 million annually, the service level declines more moderately, reaching 43% by 2034. If the City is to increase the annual budget to $1.7 million per year (S4), the service level improves to 67%, compared to only 43% under scenario 3.

These projections indicate that the City's current funding is not sufficient to sustain current service levels for fire services over the long term. While the decline under the current budget is gradual, it still reflects increasing deferred maintenance and future risk. Additional investment or complementary strategies may be needed to close this gap and preserve long-term system performance.

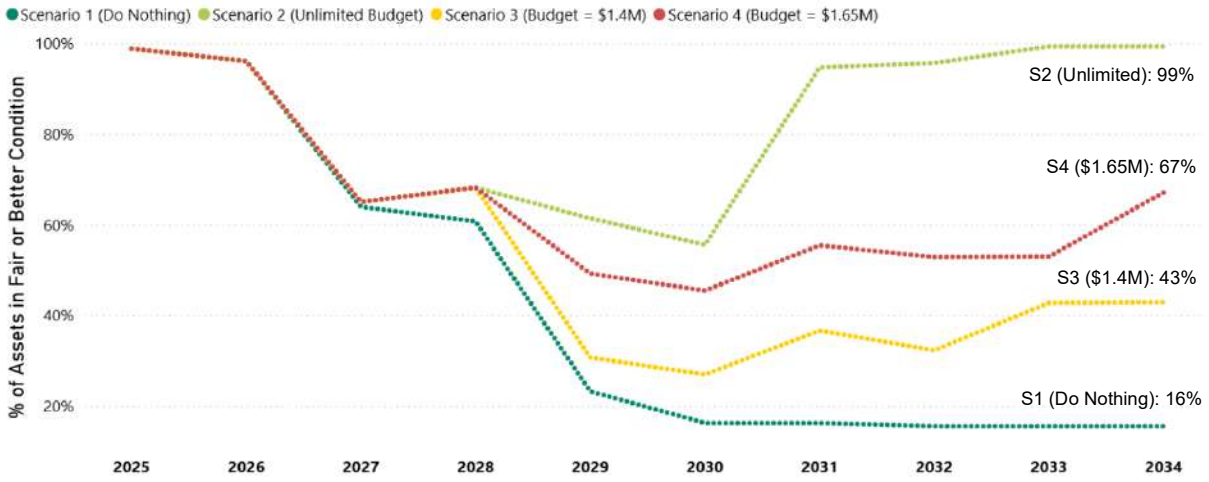


Figure 5-2: Fire Services Levels of Service Trend in the Next 10-Year for All Budget Scenarios

Figure 5-3 illustrates the projected condition distribution of fire services from 2025 to 2034, assuming the City maintains the current annual investment of $1.4 million. Currently, 98% of assets are in very good condition, with only a small proportion rated as poor or very poor. However, under continued funding at this level, the condition of the asset base is expected to decline steadily. By 2034, only 43% of assets are projected to remain in fair or better condition, while the share of assets in very poor condition increases from 0% to 57%.

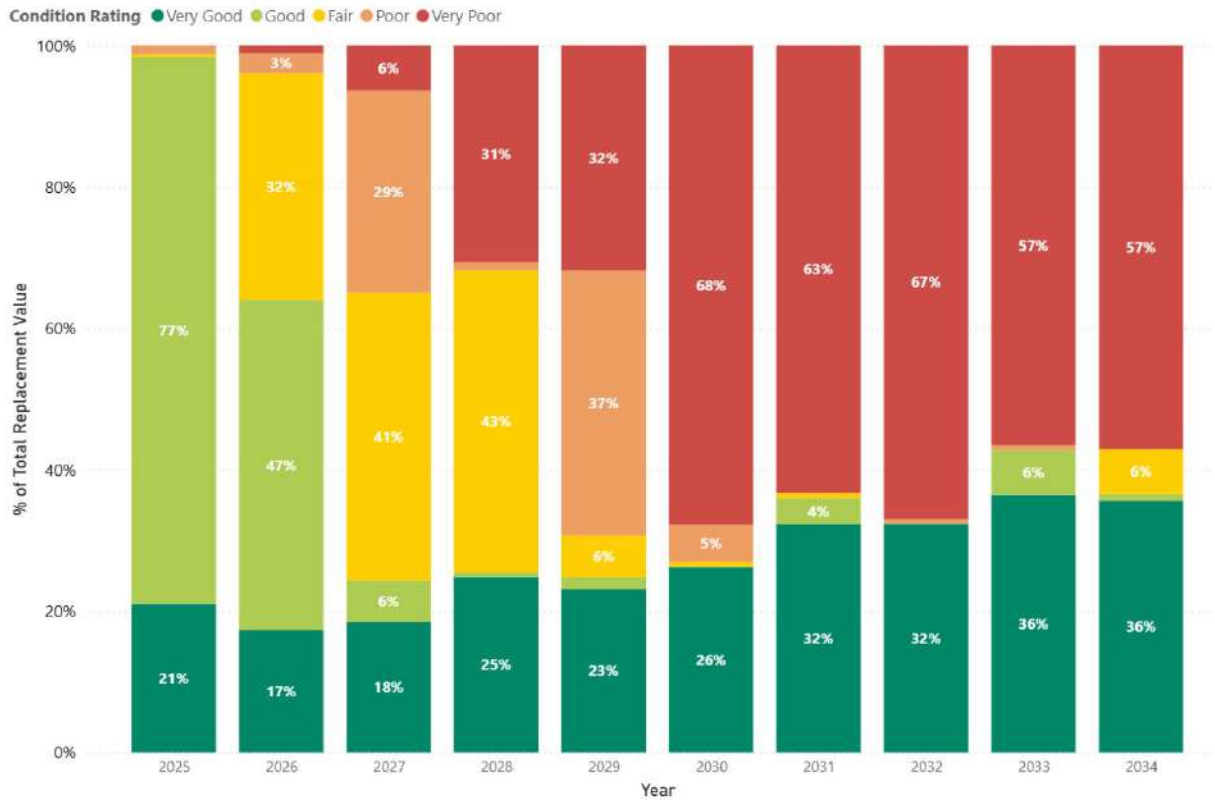


Figure 5-3: Fire Services Condition Projection under Scenario 3 – City's Current Budget ($1.4M per Year)

As illustrated, rising costs are placing increasing pressure on fire services, where service levels are mandated by strict safety regulations and cannot be reduced to save money. Unlike other municipal services, fire protection must meet non-negotiable standards, regardless of financial constraints. However, the cost of maintaining these standards is escalating due to factors such as supply chain disruptions, vendor consolidation, and increased delivery fees. Specialized equipment often needs to be sourced from distant locations, and services like PPE inspection must be performed off-site, adding to operational expenses.

With the service levels in mind, the current investment levels are not sufficient to keep pace with these rising costs. As shown in **Figure 5-2**, the City should consider increasing the annual capital budget for fire services from the current $1.4M per year (scenario 3) to $2.2M per year (scenario 2). Without increased funding, the City risks higher long-term costs from emergency repairs, outdated equipment, and reduced operational efficiency. Sustained investment is essential to ensure fire services remain safe, compliant, and responsive.

5.2.3 Police Services Budget Scenarios & 10-Year Service Level Forecast

This section presents the budget scenario results and the 10-year service level forecast for police services.

5.2.3.1 Budget Scenarios Setting for Police Services

Table 5-7 shows budget scenario setting for protective services facilities. S1 is a "Do Nothing" approach with zero expenditure; S2 assumes an ideal, unconstrained budget enabling asset replacement at end-of-life or rehab where applicable; S3 reflects the City's current capital expenditure budget at $1.1 million annually; and S4 reflects the $250k capital reserve budget for comparison.

Table 5-6: Police Services Budget Scenarios

Scenario		Description	Budgets
S1	Do Nothing	Spend Nothing	$0 million
S2	Unconstrained Budget	Replace assets at end of life or rehab where applicable	Unlimited
S3	City's Planned Budget	City's Current Capital Expenditure Budget	$1.1 million annual budget
S4	City's Capital Reserve	City's Current Annual Capital Reserve Budget	$250 k annual budget

5.2.3.2 Police Services Funding Need

The average annual reinvestment estimates for the City's police services is $835 k over the next 10 years in inflated dollar values. This is equivalent to a total of approximately $8.4 million over the next 10-year period, as presented in **Figure 5-4**. A funding need spike is observed in 2034, where total reinvestment needs reach $2.6 million, primarily driven by the need to renew the Axon package, which includes critical digital policing tools such as body-worn cameras and evidence management systems. While the annual lease cost is built into the existing budget, the anticipated renewal in 2034 will result in a significant spike in expenditure. This is due to expected increases in technology costs, potential changes in service scope, and inflationary pressures. Without proactive financial planning, this renewal could place considerable strain on the capital or operating budget, highlighting the need for long-term forecasting and reserve contributions to manage the impact effectively.

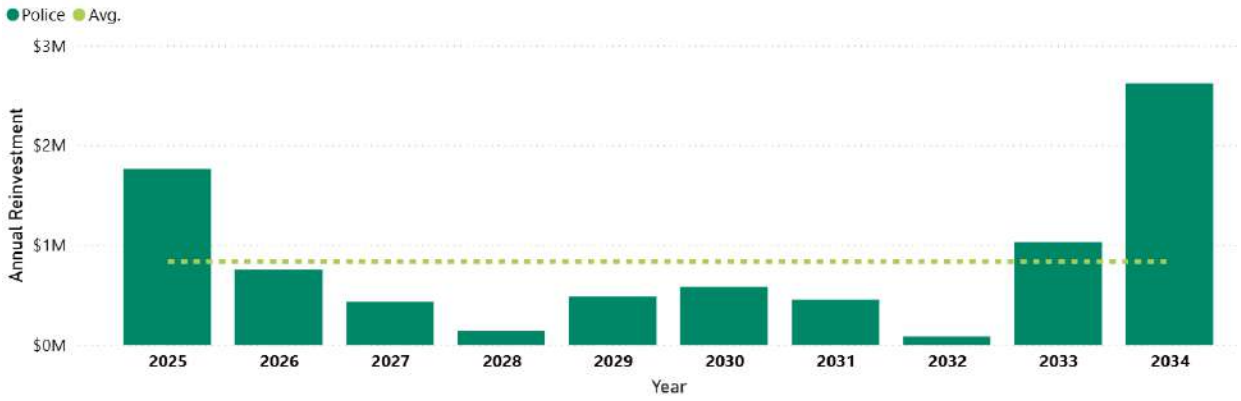


Figure 5-4: 10-Year Funding Need for Police Services – Unlimited Budget Scenario

The detailed 10-year reinvestment need for police services is shown in **Table 5-7** in inflated dollar values.

Table 5-7: Police Services 10-Year Total and Annual Average Capital Reinvestment Need

Asset Type	Annual Average Need	10-Year Total
Administration	$57,000	$573,000
Communication Services	$3,000	$32,000
Explosive Disposal Unit (EDU)	$23,000	$226,000
Emergency Services Unit (ESU)	$72,000	$715,000
Forensics	$15,000	$154,000
Information Services	$2,000	$18,000
Intelligence	$8,000	$82,000
Investigations	$83,000	$828,000
Patrol	$190,000	$1,899,000
Support	$369,000	$3,691,000
Traffic	$13,000	$133,000

Asset Type	Annual Average Need	10-Year Total
Total	**$835,000**	**$8,351,000**

5.2.3.3 Police Services 10-Year Service Level Trend Forecast

This analysis models the service level in terms of condition of police services over a 10-year horizon under four funding scenarios shown in **Figure 5-5**. Currently, approximately 87% of the City's police services' assets are in fair or better condition. In a "do nothing" scenario, the condition of the asset base declines significantly, with only 54% of assets projected to remain in fair or better condition by 2034, this shows the worst possible condition forecast. In a scenario assuming unlimited funding results in a stabilized condition level of approximately 81% by 2034. Notably, the City's current budget scenario—based on an annual investment of approximately $1.1 million—yields identical results, also achieving a projected service level of 81% by 2034, but the backlog at the end of the 10 year period will be noticeably different, as indicated by the $2.65 million difference in total spending between S2 and S3.

This finding indicates that the City's current level of capital reinvestment in police services is adequate for maintaining asset condition over the next decade.

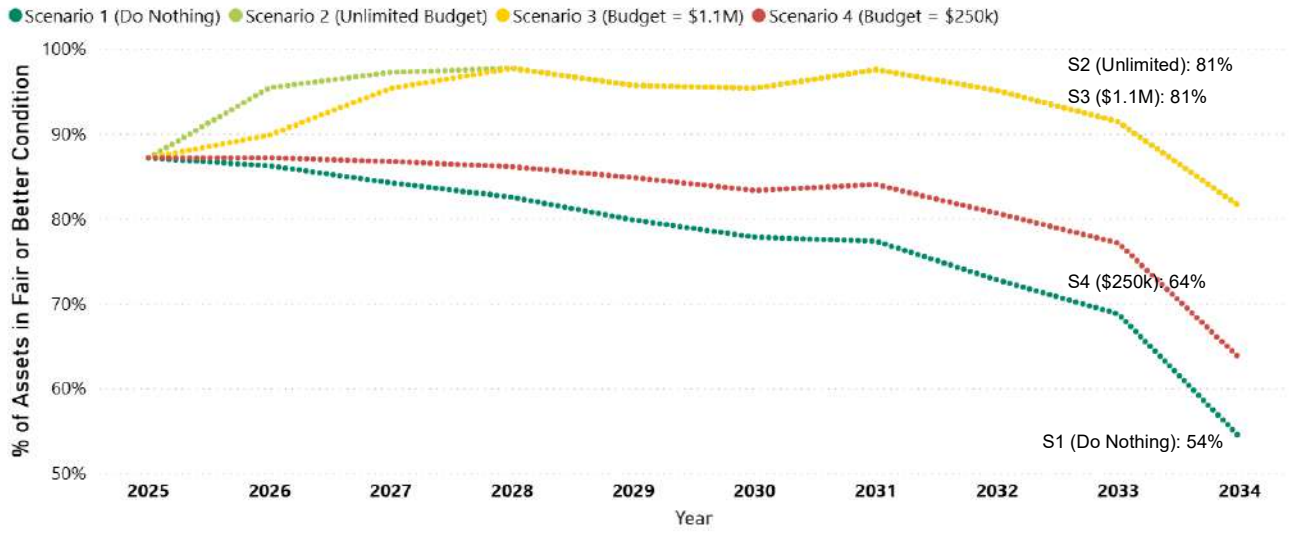


Figure 5-5: Police Services Levels of Service Trend in the Next 10-Year for All Budget Scenarios

Figure 5-6 shows the detailed condition distribution profile under the City's planned budget scenario for police services. Notably, the percentage of assets in poor and very poor condition peaks in 2034, which reflects the 10-year Axon package lease set to expire in 2034.

Police Services maintains the condition of its assets through a proactive and well-structured approach that includes leasing vehicles through the Police Purchasing Co-op for durability and cost efficiency, rotating fleet usage to balance wear, and budgeting for regular maintenance. Capital reserves are used strategically to replace aging equipment—such as firearms and specialized tools—before they reach end-of-life, ensuring operational readiness and safety. This self-sufficient model, with built-in funding for both maintenance and capital needs, helps keep assets in good condition while minimizing unexpected costs.

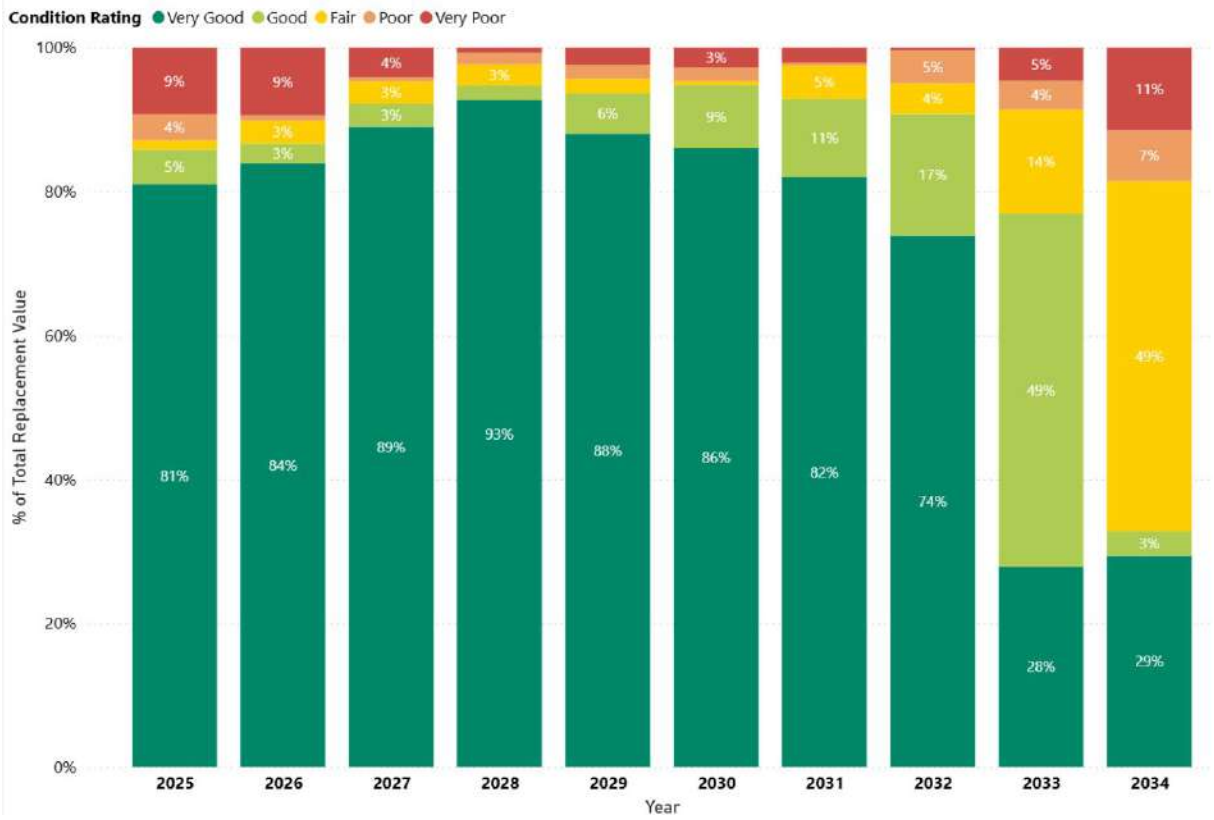


Figure 5-6: Police Services Condition Projection under Scenario 3 - City's Planned Budget ($1.1M per Year)

5.3 Full Funding Profile

Figure 5-7 and **Figure 5-8** show full pictures of the City's protective services funding need forecast over the next 10 years, which provides the City the full funding requirements in order to perform effective financial planning activities. The total annual reinvestment cost from **Figure 5-1** and **Figure 5-4** have been overlaid with the City's annual average O&M cost. In addition, 1% of the annual reinvestment need is used as an allocation for asset disposal costs.

The City's protective services full funding requirement increases to approximately $20 million and $9.6 million over the next 10 years in inflated dollar value, for fire and police services respectively.

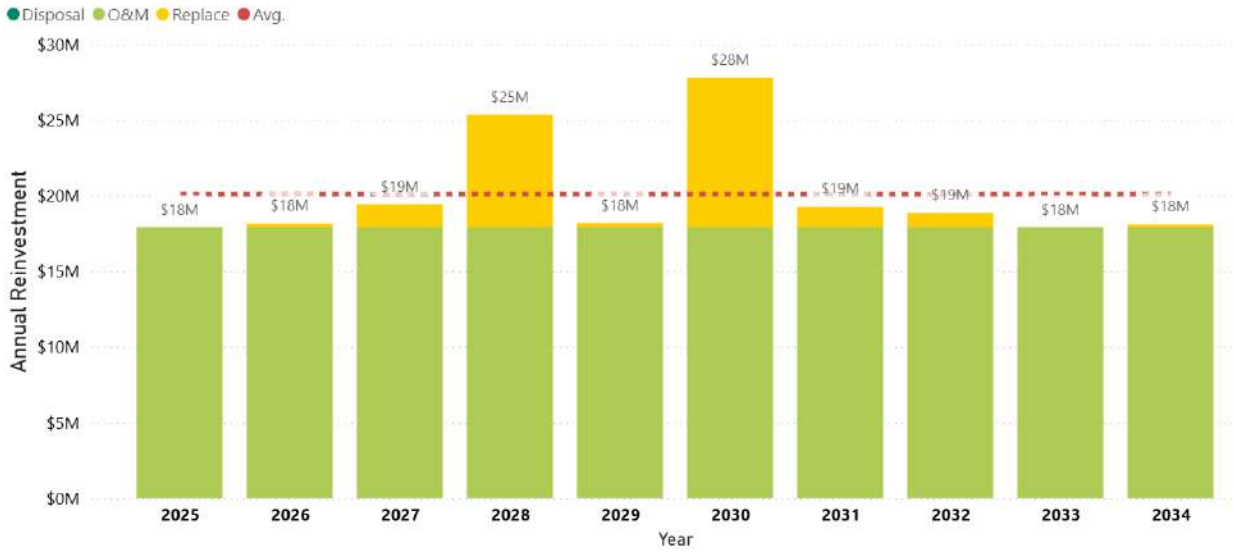


Figure 5-7: Full Funding Profile for Fire Services

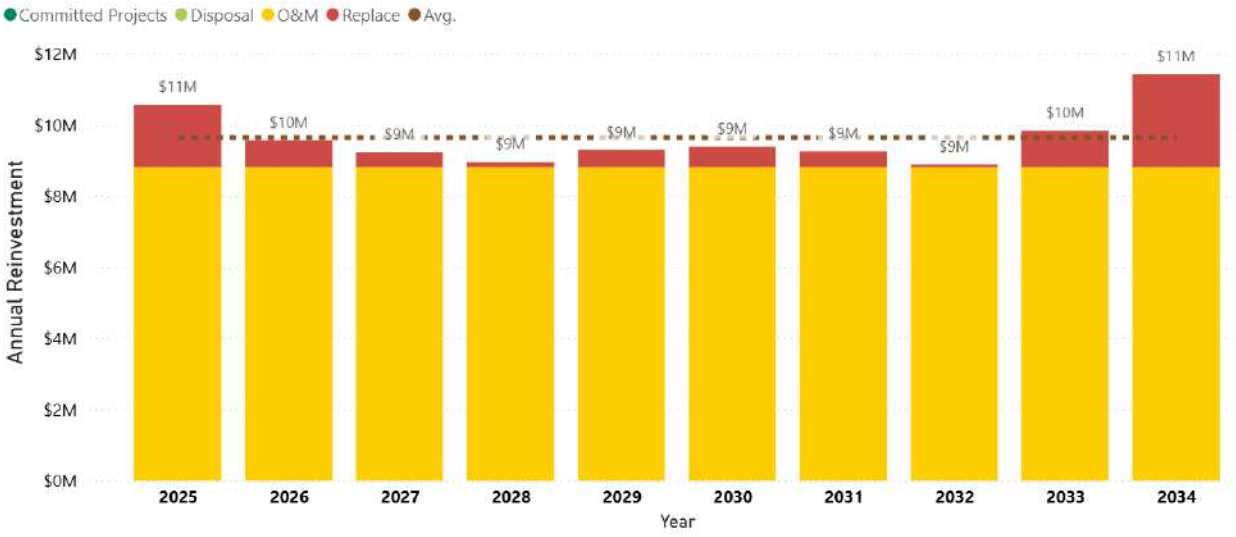


Figure 5-8: Full Funding Profile for Police Services

5.4 Funding Gaps & Risk

The City intends to continue to invest in the growth and renewal of the Protective Services assets over the next 10 years. **Table 5-8** compares the City planned capital reinvestment budget against the capital reinvestment funding needs. The shortfall between the City planned capital reinvestment budget against the capital reinvestment funding needs is referred to as the "funding gap".

Table 5-8: Protective Services Funding Gap – Capital Reinvestment Funding Needs vs. Budget Forecast

Asset Class	10-Year Need Total ($million)	10-Year City Budget Total ($million)	10-Year Gap Total ($million)
Fire Services	$201	$190	$11
Police Services	$96.4	$98.9	Adequate

As described in **Section 3.6**, risks are identified for each service level performance measure.

Table 5-9 provides a high-level overview of the key risks associated with funding gaps, as well as the potential consequences and impacts of not meeting the proposed service levels.

Table 5-9: Risk of Delayed Intervention for Protective Services

Key Risk	Asset	Potential Consequences/Impacts
Safety and Compliance Risks	All Protective Services assets	• Failure to meet safety standards or replace outdated gear increases the risk of injury or death to staff and the public. • Non-compliance with regulations (e.g., NFPA standards) can lead to legal penalties, loss of accreditation, or insurance issues. • Poor condition of assets compromises both firefighter and police officer safety during critical incidents.
Operational and Service Delivery Risks	All Protective Services assets	• Equipment failure, aging fleets, and increased downtime reduce emergency response capability and operational readiness. • Deferred maintenance and reactive repairs escalate costs and limit service availability. • Inability to provide timely service due to lack of functioning vehicles or gear undermines public safety.
Financial and Resource Risks	All Protective Services assets	• Rising maintenance, fuel, and replacement costs strain operating budgets and may lead to budget overruns. • Underfunding capital renewal leads to higher long-term costs and emergency expenditures. • Tariffs, inflation, and supply chain issues further increase the cost of maintaining service levels.
Workforce and Organizational Risks	All Protective Services assets	• Overworked staff and aging equipment contribute to burnout, turnover, and reduced morale. • Missed training opportunities and outdated tools reduce preparedness and increase liability risks. • Internal dissatisfaction and lack of professional development can lead to internal conflict and inefficiency.
Public Trust and Reputational Risks	All Protective Services assets	• Service failures, safety incidents, and increased complaints erode public trust in protective services. • Perceived or actual decline in service quality can damage the City's reputation and legitimacy. • Legal issues and community dissatisfaction may lead to increased scrutiny and reduced support.

5.5 Funding Sources & Alternative Strategies

The City's protective services primarily funded through the property tax levy. While the City affirms the current security of this funding source and expresses confidence in its sustainability over the next 10 to 20 years, there is a noted awareness of potential challenges. The City acknowledges concerns about rising costs and supplier issues, underscoring the importance of continuous strategic planning and financial. In response to these challenges, the City is actively seeking funding opportunities through various means and has successfully established the following connections:

- The City currently provides servicing for the District Social Services Administration Board (DSSAB) fleet, with associated costs offset by them.
- The City secures green funding for small equipment pieces, including lawnmowers, grass-cutting equipment, and snow equipment, along with some funding allocated for firefighting equipment.
- The City receives a provincial grant supporting 12 officers' Full-Time Equivalents (FTEs).
- The City obtains funding through the Community Safety Program.
- The City generates income from record checks or freedom of information requests.

In addition to the City's current funding sources, AECOM also suggests the following options that could be considered, acknowledging that the City's eligibility for these funds is subject to certain criteria:

- Canada Community-Building Fund (CCBF).
- Ontario Community Infrastructure Fund (OCIF).
- Municipal Asset Management Program (MAMP).
- Fire Prevention and Public Education (FPPE) Grant.
- Proceeds of Crime Front-Line Policing Grant.

Recognizing the constrains of internal funding and limitations and uncertainties associated with external funding, it becomes increasingly important to explore complementary approaches that do not depend solely on financial sources. In this context, alternative or non-financial strategies play a critical role in enhancing the City's ability to manage service levels and asset performance within existing fiscal constraints. **Table 5-10** highlights the City's non-financial strategies to address the identified protective services funding gap. These strategies are designed to support long-term financial sustainability through alternative delivery methods, changes in practices or policies, and system optimization, without relying solely on increased funding.

Table 5-10: Non-Financial Strategies to Address Funding Gaps for Protective Services

Category	Strategy	Description / Actions
Planning & Prioritization	Asset Lifecycle Planning	Use condition assessments and usage data to prioritize replacements and maintenance based on risk and criticality.
	Multi-year Capital Forecasting	Develop long-term capital plans that align with service level goals and anticipated asset renewal needs.
	Scenario Planning	Prepare for different funding levels by identifying essential vs. deferrable investments.
Operational & Engineering Solutions	Fleet Optimization	Rotate vehicles across departments to balance wear and extend asset life.
	Preventive Maintenance Programs	Strengthen maintenance schedules to reduce emergency repairs and extend equipment lifespan.
	Shared Services	Explore shared procurement, maintenance, or training with neighboring municipalities or regional partners.
Regulatory & Policy	Policy Review & Alignment	Ensure internal policies align with current standards (e.g., NFPA, policing best practices) to avoid unnecessary over-compliance costs.
	Procurement Policy Enhancements	Update procurement policies to prioritize lifecycle cost over lowest upfront cost.
Redundancy & Optimization	Standardization of Equipment	Reduce variety in equipment types to simplify training, maintenance, and procurement.
	Cross-Training Staff	Increase operational flexibility by training staff to handle multiple roles or equipment types.
	Technology Integration	Use data analytics and AM software to optimize resource allocation and decision-making.

5.5.1 Canada Community-Building Fund (CCBF)

The CCBF, previously known as the Federal Gas Tax Fund, is a permanent source of upfront funding distributed twice a year to territories and provinces. The delivery of the CCBF to municipalities varies by province or territory, with allocation following a per-capita basis for provinces, territories, and First Nations[6].

The CCBF is administered in Ontario through a bilateral agreement with the Government of Ontario, the Association of Municipalities of Ontario (AMO), and municipalities. This program allocates approximately $816 million annually to 641 communities in Ontario, with an additional top-up of $816.5 million provided in 2020 to expedite communities' recovery from the COVID-19 pandemic. Notably, as of 2022, the City has received over $9 million through the CCBF, granting the City flexibility to strategically invest across 19 distinct project categories[7].

5.5.2 Ontario Community Infrastructure Fund (OCIF)

The OCIF is a program designed to support municipalities with small populations (less than 100,000), along with those situated in northern and rural areas. Its primary objective is to aid communities in overcoming challenges related to infrastructure maintenance and improvement while facilitating the development and updating of their asset management plans. Eligible communities receive annual allocations and have the option to accumulate these grants for up to five years to address substantial infrastructure projects. The fund is an essential component of the provincial government's commitment to fostering strong, resilient, and well-equipped communities across Ontario[8].

5.5.3 Municipal Asset Management Program (MAMP)

The MAMP is aimed at improving AM practices within municipalities. Designed to assist municipalities in gaining a better understanding, planning, and efficient and sustainable management of their infrastructure assets, the program may offer funding to support the development or improvement of AM plans. This financial support is intended to incentivize municipalities to adopt and implement sustainable AM practices[9].

5.5.4 Fire Prevention and Public Education (FPPE) Grant

The FPPE Grant is a funding initiative that typically awards $1,000 to three fire departments in good standing with the Ontario Municipal Fire Prevention Officer's Association (OMFPOA). The awarded money is intended to be used towards on fire prevention and public education[10].

5.5.5 Proceeds of Crime Front-line Policing Grant

The Proceeds of Crime Front-Line Policing Grant stands as the cornerstone of the Ontario government's commitment to investing over $6 million in the mission to combat crime and cultivate safer communities. This grant is set to be extended to 16 police services across the province, empowering them to implement 21 crime prevention and community safety initiatives aimed at addressing issues such as gun and gang violence, human trafficking, and sexual violence and harassment. This strategic allocation of funds underscores the government's dedication to proactively utilize resources garnered from criminal activities to strengthen law enforcement efforts and foster safer communities[11].

[6] The Canada Community-Building Fund. (2022). Infrastructure Canada. Infrastructure Canada - The Canada Community-Building Fund. Retrieved on February 15th, 2024.

[7] Ontario's 2021–22 federal Canada Community-Building Fund allocations and top-up amounts. (2021). Infrastructure Canada. Backgrounder: Ontario's 2021–22 federal Canada Community-Building Fund allocations and top-up amounts - Canada.ca. Retrieved on February 15th, 2024.

[8] Ontario Community Infrastructure Fund. (2023). Ministry of Infrastructure, Ontario. Ontario Community Infrastructure Fund | ontario.ca. Retrieved on February 15th, 2024.

[9] Municipal Asset Management Program. (n.d.). Federation of Canadian Municipalities. Municipal Asset Management Program | FCM. Retrieved on February 15th, 2024.

[10] Fire Prevention and Public Education Grant. (2023). Ontario Municipal Fire Prevention Officer's Association. Grants - Ontario Municipal Fire Prevention Officer's Association (omfpoa.com). Retrieved on February 15th, 2024.

[11] Ontario Investing $6 Million to Boost the Fight Against Crime. (2020). Government of Ontario. Ontario Investing $6 Million to Boost the Fight Against Crime | Ontario Newsroom. Retrieved on February 15th, 2024.

6 Implementation Plan and Continuous Improvement

Continuous improvement is an important component of any AM program and is achieved through the implementation of recommended improvement initiatives which support sustainable service delivery. While the City's protective services assets are in a relatively good condition at the moment, there are future challenges that must be considered. It is important to address these challenges thoroughly and promptly to leave a positive legacy for future generations.

A suite of improvement initiatives has been identified for the next update of AM planning for the City's protective services assets, as outlined below:

- **Recommendation 1: Refine asset hierarchy and inventory**

  To improve asset management in protective services, the City should continue refining its asset hierarchy and inventory by closing existing data gaps to ensure a more accurate understanding of asset conditions. This includes consolidating all inventory records into a single, centralized database—such as migrating data from multiple spreadsheets into one master file—for better consistency and accessibility. Additionally, tracking installation years and recording the physical location of each asset will support more effective planning and management across all lifecycle phases, from acquisition to disposal.

- **Recommendation 2: Develop a Data Governance Framework and Information Management Strategy to provide a holistic and consistent approach to the City's protective services data management practices**.

  A Data Governance Framework includes developing an Asset Information and Data Standards Strategy to clearly define what asset data exists, who is accountable for managing it, methods of data collection, and safeguarding data quality. The successful deployment of a Data Governance Framework aims to achieve the following benefits:

  - Enhanced data integrity to support reliable analysis.
  - Improved data management workflows and processes.
  - Improved AM reporting.
  - Clearly defined data management roles & responsibilities.

  Asset data will be centralized, digitized, and made accessible to all staff, enabling more efficient and coordinated asset management. Annual updates will be conducted to maintain accurate information on asset attributes such as age and condition. Asset management staff will also have the capability to collect and update data in the field in real time, ensuring timely and accurate records. Additionally, workflows will be documented and digitized to streamline processes and support consistent, data-driven decision-making.

  To ensure the confidentiality, integrity, and availability of sensitive asset data, the following data security measures should be considered:

  - Role-Based Access Controls (RBAC): Implement tiered access permissions to ensure that only authorized personnel can view or modify specific datasets.
  - Data Encryption: Apply encryption protocols for data at rest and in transit to protect against unauthorized access and breaches.
  - Audit Trails and Monitoring: Establish logging mechanisms to track data access and changes, supporting accountability and early detection of anomalies.
  - Regular Security Assessments: Conduct periodic vulnerability assessments and penetration testing to identify and mitigate potential security risks.
  - Data Backup and Recovery Plans: Implement automated backup systems and disaster recovery protocols to ensure data resilience and business continuity.

- Staff Training and Awareness: Provide ongoing training for staff on data security best practices, including phishing prevention, secure data handling, and incident reporting.

These security measures will help safeguard the City's data assets, support compliance with relevant regulations, and build public trust in the City's digital infrastructure.

- **Recommendation 3: Develop a formalized protective services assets condition assessment process and use consistent condition grading schemes for these assets.**

  The City should develop a formalized condition assessment process for protective services assets using a consistent and specialized grading system tailored to fire and police infrastructure. Currently, asset conditions are not tracked with a standardized methodology, making it difficult to forecast renewal needs accurately. The grading system should include clear descriptions for each condition level, linked to asset performance and the corresponding corrective or preventive maintenance required. Prioritizing assessments for the most critical assets ensures consistency, supports risk-based decision-making, and strengthens the City's ability to present a defensible case for investment to senior management and Council.

- **Recommendation 4: Refine the Level of Service (LoS) Framework.**

  The AMP represents the City's LoS in alignment with the requirements of O. Reg. 588/17 July 1, 2025 deadline. The City will continue its efforts to:

  – Regularly record LoS performance measures to monitor changes over time and identify emerging trends.

  – Review and update performance measures as needed to ensure they remain relevant and effective.

  – Periodically assess proposed LoS to confirm alignment with shifting community expectations, regulatory changes, City priorities, available resources, and observed performance trends—supporting adaptive and responsive service delivery.

  – Continuously enhance demand management by routinely evaluating future demand drivers that influence service delivery and asset use, integrating these insights into long-term capital planning to ensure LoS remains responsive to changing needs.

  The City should begin collecting current asset performance data for KPIs that are not yet tracked, enabling a more complete understanding of how protective services assets are performing. This data should be analyzed to identify trends and establish annual performance benchmarks.

- **Recommendation 5: Incorporate risk assessment for future iterations of the AM plan, and use the risk assessment results to drive future condition assessments and financial needs forecasting**

  To strengthen future iterations of the AM Plan, the City should incorporate a comprehensive risk assessment process that evaluates asset criticality and informs work prioritization. This includes regularly reviewing risk attribute values to ensure they align with evolving business objectives and the City's risk tolerance. By overlaying the risk model with current asset condition data and financial forecasts, the City can strategically allocate resources—focusing monitoring, maintenance, and renewal efforts on high-risk assets, mitigating failure in medium-risk assets through regular oversight, and cautiously accepting low-risk assets. This risk-based approach will enhance decision-making and improve the accuracy of long-term financial planning.

- **Recommendation 6: Continue to find ways to improve AM initiatives across the City by maintaining a high level of AM awareness through training, AM buy-in, communication, and knowledge sharing.**

  Continue to enhance AM initiatives across the City by fostering a strong and sustained culture of AM awareness, engagement, and collaboration. This includes maintaining a high level of organizational commitment through targeted training, leadership buy-in, effective communication, and knowledge sharing. ISO 55010[12] identifies the that the financial and non-financial functions of AM within organizations are generally inadequately aligned. The lack of alignment between financial and non-financial functions can be attributed to silos in an organization, including reporting structures, functional / operational business processes, and related technical data. Financial and non-financial alignment needs to work both "vertically" and "horizontally", as follows:

[12] International Organization for Standardization (2019): ISO 55010 - Asset management — Guidance on the alignment of financial and non-financial functions in asset management

- Vertical Alignment: financial and non-financial asset-related directives by management are informed by accurate upward information flows, effectively implemented across the appropriate levels of the organization.
- Horizontal alignment: financial and non-financial information that flows between departments conducting functions such as operations, engineering, maintenance, financial accounting, and management, etc. should use the same terminology and refer to the assets identified in the same way.

- **Recommendation 7: Update AM Plan Regularly**

  The City should regularly update its AMP to ensure it remains responsive and effective. This includes reviewing and adjusting performance measures and LoS targets at least every 2 to 5 years, while lifecycle strategies—covering operations and maintenance, renewals, upgrades, growth, and regulatory compliance—should be updated annually. In parallel, financial strategies such as asset valuations, long-term capital planning, operating budgets, and revenue sources must also be reviewed each year to reflect current conditions and future needs. This ongoing cycle of updates supports informed decision-making and long-term sustainability.

- **Recommendation 8: Implement a CMMS / Work Management System.**

  The City will conduct an AM Software Strategy following the completion of this AM plan to identify future system requirements that may include enhancing existing software, adding-on, or replacing.

- **Recommendation 9**: **Refine and Regularly Update the Protective Services Lifecycle Funding Model.**

  The current protective services funding model is built on available data, assumptions, and generalized asset information, providing a high-level estimate of future funding needs. As such, it is essential to refine the model periodically by incorporating updated data—such as asset condition assessments, project cost information, and implementation schedules—to improve its accuracy. Project timing and costs should also be reviewed and adjusted as projects near execution to ensure realistic planning and budgeting.

- **Recommendation 10: Grant application program**

  The City should establish an internal program dedicated to developing grant applications that align with organizational goals and the specific criteria of various funding programs (as outlined in **Section 5.5**). This includes crafting proposals that clearly articulate project objectives, expected outcomes, and financial plans that demonstrate transparency and long-term sustainability. Applications should highlight the City's capacity to deliver through realistic timelines, defined milestones, and robust project management strategies. Supporting documentation must be well-organized to strengthen the application, and each submission should undergo a thorough final review to ensure compliance with the grant's requirements. This structured approach will enhance the City's ability to secure external funding and support critical initiatives.

- **Recommendation 11: Develop a Knowledge Retention Strategy to document staff AM knowledge and experience for succession planning purposes.**
- To ensure continuity and resilience in AM operations, it is essential to develop a structured Knowledge Retention Strategy. This strategy should focus on systematically capturing the tacit knowledge, technical expertise, and institutional insights held by experienced staff.

- **Recommendation 12: Develop a Change Management & Communications Plan.**

  AM buy-in and support are needed from all levels of the City to ensure that AM standards, practices, and tools are properly adopted and incorporated into day-to-day work activities. A successful Change Management & Communications Plan will depend on the following factors:

  - AM buy-in from Council, senior management, staff, and departments.
  - AM objectives are realistic and achievable.
  - AM improvement initiatives are appropriately resourced.
  - A network of AM champions is developed and empowered across the City.

- **Recommendation 13: Public and Council Engagement Activities.**

  Establish a structured approach to public and Council engagement to ensure the AMP aligns with community expectations, supports informed decision-making, and enhances transparency, the City is committed to establishing a structured approach to public and Council engagement. While several engagement activities have already been undertaken, these efforts lay the foundation for a more consistent and strategic approach moving forward.

  For Council engagement, the City has held presentations and conducted media events to share key project updates. It is recommended the development of Councillor Tool Kits could equip elected officials with clear and consistent messaging, including project overviews and frequently asked questions, to help them confidently respond to inquiries from residents. Suggested content for the tool kits includes:

  - Overview of the City's Protective Services Infrastructure
  - Unique Conditions and Localized Challenges
  - Investment in Infrastructure: Past, Present, and Future
  - How the City Plans and Delivers Maintenance
  - Why Continued Investment in Infrastructure Is Critical
  - Asset Types and How They Guide Investment Priorities
  - Introduction to Asset Management Principles
  - Service Levels: What Residents Can Expect
  - How Climate Change Impacts Infrastructure and their Maintenance
  - Leveraging Technology to Improve Infrastructure Management
  - Funding Sources and Budget Allocation
  - How Infrastructure Are Prioritized and Selected for Maintenance

  On the public engagement side, the City has shared information through existing channels, and this could be enhanced through a dedicated project webpage. This webpage would serve as a central hub for infrastructure planning updates, offering frequently asked questions, downloadable resources, project timelines, contact information, and an interactive feature to encourage two-way communication. A targeted social media strategy is also recommended to further broaden outreach—leveraging platforms such as Facebook and Instagram, including the use of sponsored posts to promote project milestones and public input opportunities.

  The recommended engagement strategies would help foster public trust, define customer-focused performance targets, and ensure that the AMP reflects the evolving priorities of both Council and the broader community.

APPENDIX A

Protective Services Asset Inventory

A



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FACILITY ASSET MANAGEMENT PLAN

FINAL | 60735219 | June 2025



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List of Abbreviations

Abbreviation	Description
AM	Asset Management
AMP	Asset Management Plan
CIBI	Canadian Infrastructure Benchmarking Initiative
CMMS	Computerized Maintenance Management System
DCC	Development Cost Charge
Ea.	Each
ESL	Expected Service Life
FIPPA	Freedom of Information and Protection of Privacy Act
GIS	Geographic Information System
HVAC	Heating, Ventilation, and Air Conditioning
LoS	Level of Service
MFIPPA	Municipal Freedom of Information and Protection of Privacy Act
MH	Morrison Hershfield Limited
O&M	Operations and Maintenance
O. Reg.	Ontario Regulation
PUC	Public Utilities Commission
RSL	Remaining Service Life
SCADA	Supervisory Control and Data Acquisition
sq. ft.	Square Feet

1 Introduction

AECOM Canada ULC (AECOM) was retained by The City of Sault Ste. Marie (the "City") to update the asset management plan (AMP) developed in 2024 to comply with the third phase (Phase III) of the Ontario Regulation 588/17 (O. Reg. 588/17) requirements in respect to its core municipal infrastructure assets. The scope of work is outlined in AECOM's proposal dated September 20, 2024, and subsequent project correspondence.

1.1 Background

Sault Ste. Marie is a City located on the St. Mary's River, North of the United States of America, bordering on two of the Great Lakes with an estimated population of 73,368 (2016). The City provides a wide range of public services to their constituents with the expectation from the public that these services are expected to function efficiently at a certain level. The provision of these services requires the management of the physical assets to meet desired service levels, manage risks, and to provide long term financial sustainability. These assets include, but are not limited to roads, bridges, sidewalks, wastewater assets, stormwater management assets, landfill, fleets, buildings, and parks.

In accordance with the terms of reference for this assignment, it is understood that the City is proceeding with an AMP to comply with the third phase of the regulatory requirements in respect to its core municipal infrastructure assets, in accordance with O. Reg. 588/17, by July 1, 2025. The non-core assets to be covered in the scope, as defined by the regulation, include the City's protection services, solid waste, parks and cemetery, facilities, fleet, roadway appurtenances, and active transportation.

1.2 Scope and Objectives

In 2015, the City's first AMP was published. In 2019, by the City Council approval, the Strategic Asset Management (AM) Policy for the City came into effect. In 2022, the City published its core asset AMPs. Following that, the City developed the AMPs for its non core assets in 2024.

Organizations that implement good AM practices will benefit from improved business and financial performance, effective investment decisions, and better risk management. Stakeholders can expect lower total asset life cycle costs, higher asset performance, and confidence in sustained future performance.

The AMPs capture the City's infrastructure assets and deliver a financial and technical roadmap for the management of the City's assets. The intent of this plan is to provide the means for the City to maximize value from its assets, at the lowest overall expense while, at the same time, enhance service levels for its residents.

The objective of Phase III is to update all the core and non-core AMPs to comply with the July 1st, 2025, deadline set by O. Reg. 588/17. Phase III will update the AMP by incorporating the latest asset information, with a focus on:

- Updating the current AMPs to integrate proposed Levels of Service (LoS).
- Defining the lifecycle activities and associated costs required to achieve those LoS.
- Identify the available funding and any funding shortfalls.
- Document the risk(s) of failing to meet the proposed LoS for all asset classes over a 10-year period.

This AMP is an update of the 2024 AMP for the City's Facility management system, as shown in **Table 1-1**. Other core and non core AMPs are presented under separate reports.

Table 1-1: In-Scope Facility Assets

Asset Category	Sub-Assets
Cemetery	• Greenwood Cemetery
Community Center	• John Rhodes Community Centre • Northern Community Centre • Sault Event Centre (GFL Memorial Centre) • SSM Museum • Ermatinger Old Stone House & Clergue Blockhouse • Main Branch Public Library • Downtown Plaza • Senior Citizens Drop-in Centre • Soo Market
Fire	• Central Fire Station #1 • Fire Station #2 • Fire Station #3 • Fire Hall #4 / EMS Complex
IT	• Copier • Dispatch System • GPS • Laptops • Misc • Monitors • PC • Plotter • Printers • Scanner • Server Storage • Servers • Surveying Camera
Marina	• Bellevue Marina • Robert Bondar Park Marina
Police	• Police Headquarters
Public Works	• Carpentry Shop Building 'B' • CCTV Building Public Works Yard • Civic Centre • Equipment Storage Garage Public Works Yard • Lab Building Public Works Yard • Public Works Administration Building • Public Works Garage Building A
Transit	• Transit Bus Depot • Transit Terminal Building

The following elements are included within the scope of this AMP:

- Asset hierarchy, a summary of the asset inventory, including the replacement cost of the assets, the average age of the assets, the condition of the assets, and data gaps analysis (**Sections 2**).
- The City's levels of service (LoS) objectives, stakeholder identification, current levels of service determined in accordance with the qualitative descriptions and technical metrics outlined in O. Reg 588/17, proposed service levels, LoS forecast, and future demand drivers (**Section 3**).
- Asset lifecycle management strategies, lifecycle activities and funding needs to achieve proposed LoS, risk of not meeting proposed LoS, available funding and funding gap, and alternative (non-financial) strategies to manage funding shortfall (**Section 4** and **Section 5**)

1.3 Asset Management Provincial Requirements

The O. Reg. 588/17 came into effect in 2018 and stipulates specific AM requirements to be in place within Ontario municipalities by certain key dates (**Table 1-2**). The development of this AMP is one of the steps to guide the City towards meeting the July 1st, 2025, deadline.

Table 1-2: O. Reg. 588/17: AM Planning for Municipal Infrastructure

Deadline Date	Regulatory Requirement
July 1st, 2019	All municipalities are required to prepare their first Strategic AM Policy.
July 1st, 2022	All municipalities are required to have an AM Plan for its entire core municipal infrastructure (i.e., water, wastewater, stormwater, roads, and bridges & culverts).
July 1st, 2024	All municipalities are required to have an AM Plan for infrastructure assets not included under their core assets.
July 1st, 2025	All AM Plans must include information about the LoS that the municipality proposes to provide, the lifecycle activities and associated costs needed to achieve those LoS, available funding, any funding shortfalls, and the risk of failing to meet the proposed LoS.

2 State of Infrastructure

The City's facilities encompass a wide and diverse range of buildings and infrastructure that are essential to the daily operations, safety, and overall vibrancy of the community. These facilities serve various critical functions and include cemetery, marinas, community centers, fire stations, library, police, public works buildings, transit infrastructure, and IT-related assets.

For this project, AECOM utilized data from the Asset Management Facility Condition Assessments 2020 Update, which serves as a comprehensive and up-to-date catalog detailing the quantity, condition, and key specifications of the City's facility assets. By analyzing this inventory and identifying any data gaps, this section supports evidence-based decision-making. It provides valuable insights into ongoing maintenance needs, lifecycle planning, and associated financial requirements, ultimately enabling the City to strategically prioritize investments and optimize resource allocation across its facility portfolio.

2.1 Asset Hierarchy

To fulfill the requirements of O. Reg. 588/17 and to support robust long-range AM planning, the City requires a logically segmented asset breakdown structure (hierarchy) within the scope of this AMP. This necessitates a sufficiently detailed classification of facilities. Striking the right balance is critical, as there is a trade-off between achieving the necessary level of granularity to inform decision-making and avoiding excessive detail that could make data collection and management disproportionately burdensome.

Figure 2-1 illustrates the asset hierarchy for the City's facilities, highlighting two main categories: Facility and IT. Each category is further subdivided into relevant subcategories. This hierarchical structure provides a logical indexing system for the City's facilities, organizing them into primary (parent) and secondary (child and grandchild) asset groupings. It serves as a foundational framework for the analysis and discussions that follow, enabling users to drill down to specific assets for the purposes of maintenance planning, cost tracking, and strategic decision-making at various levels.

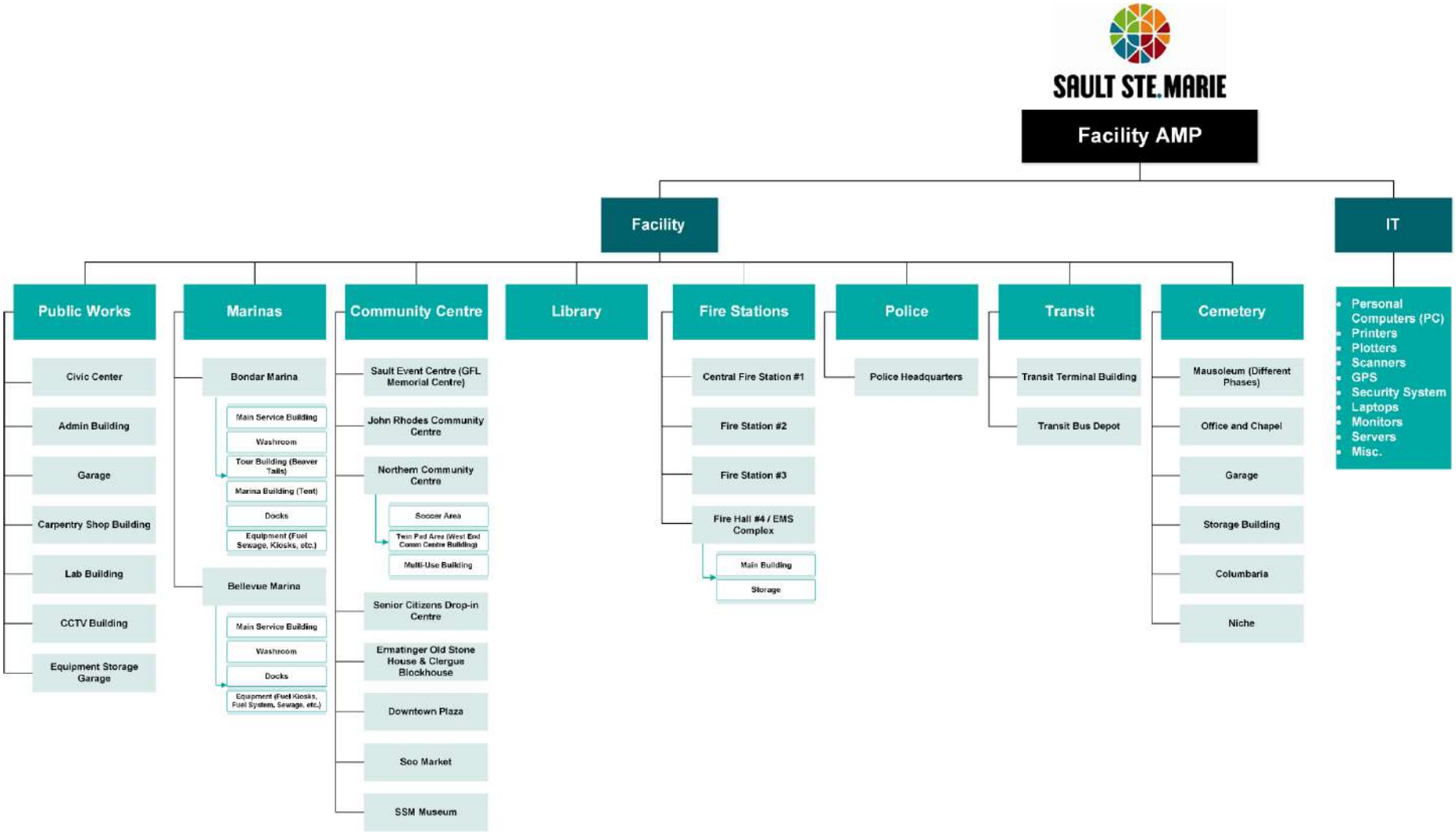


Figure 2-1: City of Sault Ste. Marie Facility Asset Hierarchy

2.2 Current State of the Assets

2.2.1 Asset Inventory

Table 2-1 presents the summary of the City's facility inventory. City's facility inventory includes a diverse range of facilities and IT assets, which have been categorized as Cemetery (1 facility), Community Center (9 facilities), Fire (4 facilities), IT, Marina (2 facilities), Police (1 facility), Public Works (7 facilities), and Transit (2 facilities), totalling 26 facilities.

Table 2-1: Facility Asset Inventory Summary

Asset Group	Asset Category	Asset Sub-Category	Count	Quantity	Unit
Facility	Cemetery	Greenwood Cemetery	1	2,410	Ea.
	Community Center	Downtown Plaza	1	2,314	sq. ft
		Ermatinger Old Stone House & Clergue Blockhouse	1	7,686	sq. ft
		John Rhodes Community Centre	1	155,000	sq. ft
		Main Branch Public Library	1	33,525	sq. ft
		Northern Community Centre	1	143,114	sq. ft
		Sault Event Centre (GFL Memorial Centre)	1	134,075	sq. ft
		Senior Citizens Drop-in Centre	1	14,470	sq. ft
		Soo Market	1	7,746	sq. ft
		SSM Museum	1	17,672	sq. ft
	Fire	Central Fire Station #1	1	18,120	sq. ft
		Fire Hall #4 / EMS Complex	1	38,460	sq. ft
		Fire Station #2	1	4,311	sq. ft
		Fire Station #3	1	4,311	sq. ft
	IT	Copier	1	1	Ea.
		Dispatch System	1	1	Ea.
		GPS	3	3	Ea.
		Laptops	84	153	Ea.
		Misc	62	269	Ea.
		Monitors	50	900	Ea.
		PC	76	1,914	Ea.

Asset Group	Asset Category	Asset Sub-Category	Count	Quantity	Unit
		Plotter	2	2	Ea.
		Printers	86	112	Ea.
		Scanner	3	3	Ea.
		Server Storage	1	1	Ea.
		Servers	76	92	Ea.
		Surveying Camera	4	4	Ea.
	Marina	Bellevue Marina	1	-	Ea.
		Robert Bondar Park Marina	1	-	Ea.
	Police	Police Headquarters	1	42,113	sq. ft
	Public Works	Carpentry Shop Building 'B'	1	4,750	sq. ft
		CCTV Building Public Works Yard	1	1,216	sq. ft
		Civic Centre	1	93,510	sq. ft
		Equipment Storage Garage Public Works Yard	1	21,804	sq. ft
		Lab Building Public Works Yard	1	1,236	sq. ft
		Public Works Administration Building	1	10,100	sq. ft
		Public Works Garage Building A	1	61,100	sq. ft
	Transit	Transit Bus Depot	1	44,000	sq. ft
		Transit Terminal Building	1	2,200	sq. ft

2.2.2 Current Asset Replacement Value

The City's Facility portfolio comprises a wide range of assets with a total replacement value of approximately $563 Million as of 2025 (**Table 2-2**). Community Centers represent the largest investment area at over $281 Million, including major sites like the John Rhodes Community Centre and Northern Community Centre (each valued at $64.2 Million). Other key assets include IT infrastructure ($20.7 Million), Public Works buildings ($92.6 Million), and the Transit system ($40.7 Million). Marinas, Fire Stations, Police Headquarter, and Cemetery also contribute significantly to the overall value, supporting essential municipal services and public amenities.

It is also worth noting that the total replacement values are presented in inflated dollars and have been marked up by 45%, out of which 15% accounts for engineering and project management cost, and 30% for contingency cost.

Table 2-2: Facility Current Replacement Value

Asset Group	Asset Category	Asset Sub-Category	Total Replacement Value (2025)
Facility	Cemetery	Greenwood Cemetery	$51,169,000
	Community Center	Downtown Plaza	$11,770,000
		Ermatinger Old Stone House & Clergue Blockhouse	$26,750,000
		John Rhodes Community Centre	$64,200,000
		Main Branch Public Library	$13,309,000
		Northern Community Centre	$64,200,000
		Sault Event Centre (GFL Memorial Centre)	$49,462,000
		Senior Citizens Drop-in Centre	$10,700,000
		Soo Market	$3,531,000
		SSM Museum	$37,450,000
	Fire	Central Fire Station #1	$6,475,000
		Fire Hall #4 / EMS Complex	$13,276,000
		Fire Station #2	$1,592,000
		Fire Station #3	$1,531,000
	IT	Copier	$181,000
		Dispatch System	$2,327,000
		GPS	$390,000
		Laptops	$821,000
		Misc	$1,095,000
		Monitors	$1,434,000
		PC	$5,718,000
		Plotter	$60,000
		Printers	$1,390,000
		Scanner	$199,000
		Server Storage	$27,000
		Servers	$6,465,000
		Surveying Camera	$640,000
	Marina	Bellevue Marina	$13,869,000
		Robert Bondar Park Marina	$24,529,000
	Police	Police Headquarters	$15,540,000
	Public Works	Carpentry Shop Building 'B'	$2,456,000
		CCTV Building Public Works Yard	$900,000
		Civic Centre	$64,200,000
		Equipment Storage Garage Public Works Yard	$5,308,000
		Lab Building Public Works Yard	$903,000
		Public Works Administration Building	$3,558,000

Asset Group	Asset Category	Asset Sub-Category	Total Replacement Value (2025)
		Public Works Garage Building A	$15,229,000
	Transit	Transit Bus Depot	$37,450,000
		Transit Terminal Building	$3,210,000
		Total	**$563,314,000**

It is noted that the replacement costs are estimated based on Class 5[1] cost estimation approach. These estimates are typically prepared with limited information, resulting in fairly wide accuracy ranges. Class 5 estimates serve various purposes, including project screening, feasibility assessment, concept evaluation, and preliminary budget approval. They are utilized for detailed strategic planning, business development, project screening at more advanced stages, alternative scheme analysis, confirmation of economic and technical feasibility, and approval to proceed to the next stage.

Typically, depending on the construction complexity of the project, relevant reference information, and other associated risks, the accuracy ranges for Class 5 estimates fall within the following bounds (could exceed based on various criteria):

- On the lower side, -20% to -50%
- On the higher side, +30% to +100%

2.2.3 Age and Remaining Service Life

In practice, various assets will deteriorate at different rates and not necessarily linearly over time. However, it is pivotal to keep in mind the level of effort required to predict failure compared with the asset value. More sophisticated deterioration modelling may be warranted for very high value assets, whilst the cost of deterioration modeling for low-value assets may very well exceed the replacement cost of the asset. The actual service life can vary significantly from the estimated service life (ESL). The latter is defined as the period over which an asset is available for use and able to provide the required LoS at an acceptable risk and serviceability (i.e., without unforeseen costs of disruption for maintenance and repair). In some instances, a variation in expected vs. actual service life is evident due to the following factors:

- **Operating conditions and demands:** Some assets are operated intermittently or even infrequently or are being operated at a lower demand than their designed capacity. Thus, the actual operating “age” of the asset is reduced.
- **Environment:** Some assets are exposed to very aggressive environmental conditions (e.g., corrosive chemicals), while other assets are in relatively benign conditions; thus, the deterioration of assets is affected differently.
- **Maintenance:** Assets are maintained through refurbishment or replacement of components, which prolongs the service life of the asset.
- **Technological Obsolescence:** Some assets can theoretically be maintained indefinitely, although considerations such as cost to maintain the asset, its energy efficiency, and the cost to upgrade to an updated technology that would result in cost savings are likely to render this approach uneconomical.

Initially, the average age was calculated based on the purchased and installation year of each individual asset. Then, based on the age of the asset and the ESL (collected from a State of Infrastructure Workshop with the City, and additional information provided by the City), the remining service life (RSL) was calculated. It should be noted that in the case that age was higher compared to ESL, RSL was considered as zero.

Table 2-3 and **Figure 2-2** present the weighted average age, weighted average ESL, and RSL for various asset sub-categories within the City’s Facility system. Among all facility sub-categories, Cemetery assets have the highest remaining service life at 68 years, reflecting their relatively young average age (23 years) compared to their long-

[1] Association for the Advancement of Cost Engineering (AACE) International Recommended Practice No. 18R-97. Cost Estimate Classification System - As Applied In Engineering, Procurement, and Construction for the Building and General Construction Industries, 2020, Retrieved in February 2024

expected service life (91 years). All other facility types—including Community Centers, Fire, Police, Public Works, and Transit—have significantly lower remaining service lives, generally between 17 and 36 years, indicating they are closer to the end of their useful life. IT assets have fully consumed their useful life, with a remaining service life of 0 years, suggesting they are due for immediate replacement or upgrade.

Table 2-3: Facility Average Age, ESL, and Remaining Service Life

Asset Group	Asset Sub-Category	Weighted Average Age	Weighted Average ESL	Remaining Service Life
Facility	Cemetery	23	91	68
	Community Center	30	57	27
	Fire	39	56	17
	IT	16	6	0
	Marina	20	56	36
	Police*	41	58	17
	Public Works	39	58	19
	Transit	41	58	17

* The model shows 17 years of remaining useful life based on available data and assumptions from the Morrison Hershfield report. However, there are differing views on the actual condition of the building. This assumption should be revisited and refined in future updates, pending additional documentation.

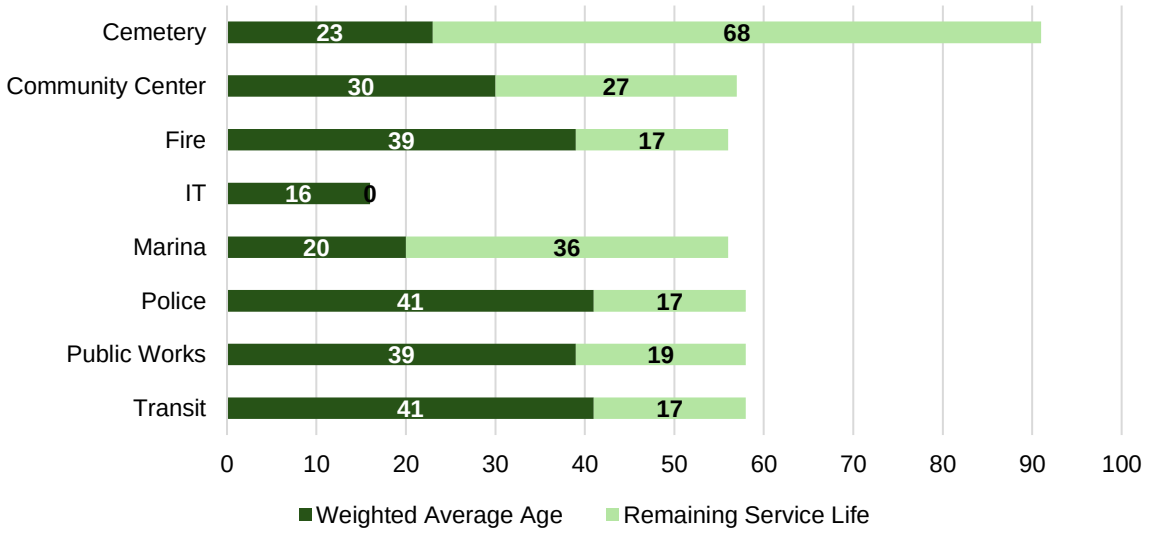


Figure 2-2: Facility System Weighted Average Age and Remaining Service Life

Figure 2-3 and **Figure 2-4** shows the installation profile of the City's facilities and IT assets according to asset sub-categories. The facility installation profile illustrates that the majority of facility investments, based on total replacement cost, occurred between 1990 and 2009. As shown in **Figure 2-3**, community centers represent the largest share of investment across the most decades, with significant spikes in the 1990–1999 and 2000–2009 periods, each exceeding $120 Million. Other facility types such as cemeteries, IT, marina, public works, and transit contributed to a lesser extent, with minimal investment observed prior to 1960 and reduced level of investment in recent decades (2010–2029). **Figure 2-4** focuses on library, fire, and police facilities and shows a similar trend, with the highest replacement costs also occurring in the 1990–1999 and 2000–2009 decades. Key installations during this time included Fire Hall #4 / EMS Complex, the Main Branch Public Library, and Police Headquarters. Overall, the data suggests that the City

experienced its most significant facility expansion during the 1990s and 2000s, with recent decades showing a reduced level of investment in new facility construction or major investments.

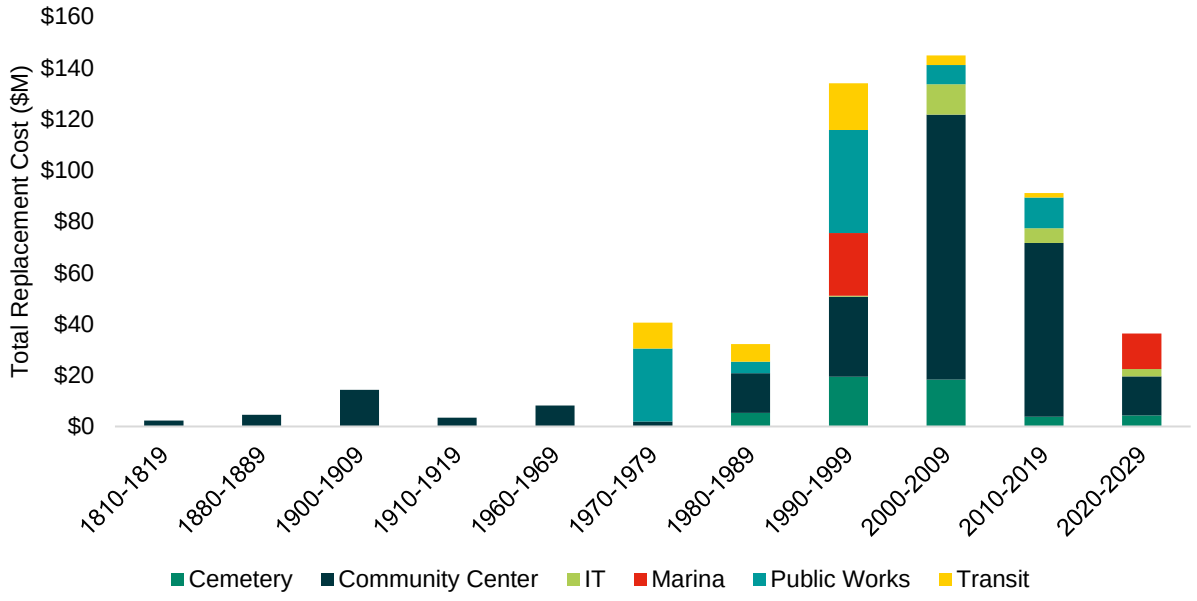


Figure 2-3: Facility Installation Profile (Excluding Library, Fire, and Police)

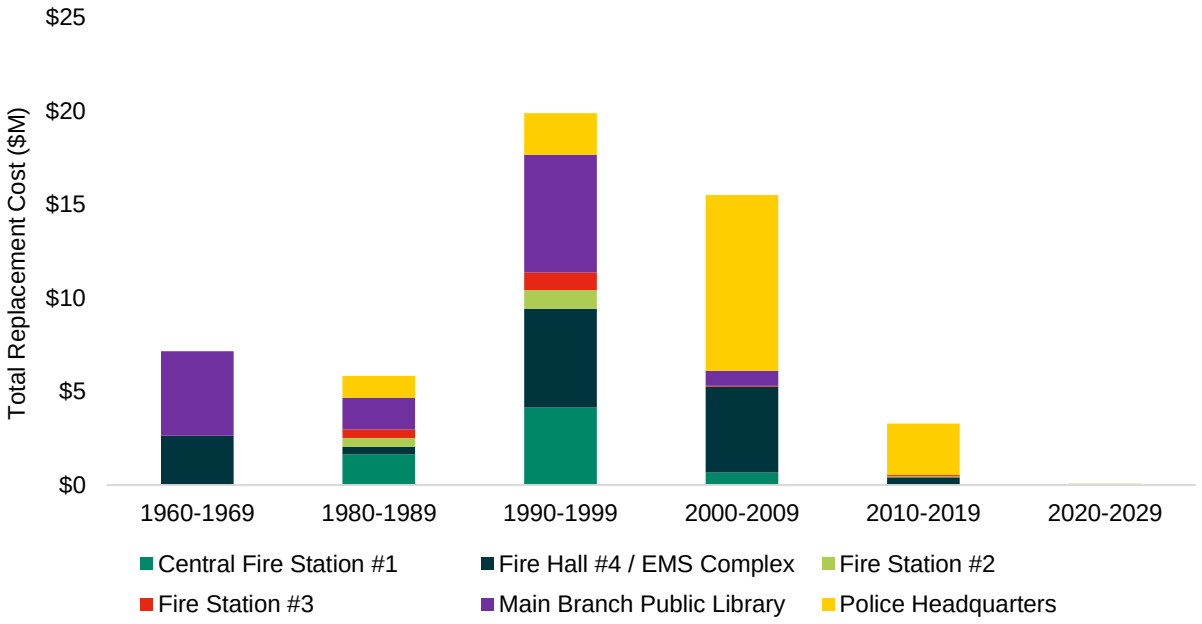


Figure 2-4: Facility Installation Profile (Library, Fire, and Police)

2.2.4 Asset Condition

All assets are expected to deteriorate over their lifetime, and their assigned condition reflects the physical state of the asset. In terms of facilities, Morrison Hershfield Limited (MH)[2] conducted a comprehensive building condition

[2] Asset Management Facility Condition Assessments 2020 Update, Prepared by Morrison Hershfield Limited (MH)

assessment for facilities in the City. AECOM utilized this information to provide a summarized overview of the condition of various facilities.

Where needed a two-parameter Weibull distribution function was used to assess the current condition of the facility assets. The Weibull distribution has been used extensively in reliability studies and lifetime prediction models in industries ranging from automotive to the oil & gas and provides a suitable distribution for this type of analysis.

The underlying premise of the Weibull-shaped deterioration is that while some assets fail prematurely due to severe conditions or improper installation, other assets are very long-lived and function well beyond their theoretical ESL. To perform a high order network-level analysis, it was assumed that assets would fail (and require replacement) within a deterioration envelope / curve approximated by a Weibull probability distribution. The two-parameter Weibull cumulative distribution has two parameters for scale and shape, as set out in Equation [1]:

$$f(x;\alpha,\beta) = e^{-\left(\frac{x}{\beta}\right)^{\alpha}} \quad [1]$$

Where: x = Age
α = Shape parameter (or slope)
β = Scale parameter

A set of Weibull cumulative distribution functions were leveraged to simulate a set of deterioration curves for assets with different ESLs as shown in **Figure 2-5**.

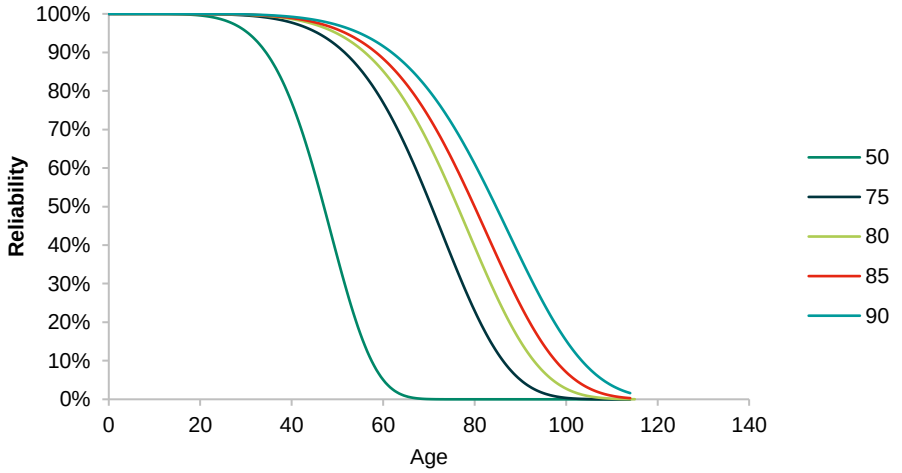


Figure 2-5: Asset Deterioration Curve Samples

Table 2-4 summarizes the condition grade of the City's facilities with associated replacement values. The condition assessment summary indicates that the majority of the City's facility assets are in Very Good or Good condition, representing 42% and 26% of the total replacement value, respectively. Assets in Fair condition account for 10%, while those in Poor and Very Poor condition represent 9% and 13%, respectively. Only a negligible portion (≈ 0%) of the asset value is associated with an unknown condition. In total, the replacement value of all facilities assessed amounts to $563 Million, highlighting that while most assets are in acceptable condition, approximately 22% require attention due to their Poor or Very Poor ratings.

Table 2-4: Facility Condition Summary

Rank	Condition Rating	Replacement Value	% of Replacement Value
1	Very Good	$234,877,000	42%
2	Good	$149,195,000	26%
3	Fair	$55,259,000	10%
4	Poor	$51,028,000	9%
5	Very Poor	$72,935,000	13%
Unknown	Unknown	$20,000	≈ 0%
	Total	**$563,314,000**	**100%**

Additionally, **Figure 2-6** and **Table 2-5** granulate the condition of the assets based on different asset sub-categories and their corresponding replacement values. The facility condition summary reveals that Community Centers account for the largest share of total replacement value among all facility asset categories, with a broad distribution across all condition ratings—most notably 19.2% in Very Good condition and smaller proportions in Fair, Poor, and Very Poor categories. Overall, 41.7% of the facility portfolio is in Very Good condition and 26.5% in Good condition, indicating that more than two-thirds of the assets are in acceptable shape. However, 31.8% of the assets are rated as Fair (9.8%), Poor (9.1%), or Very Poor (12.9%), highlighting a considerable portion that may require reinvestment or renewal. Other categories such as Public Works, Transit, and Marina also carry notable replacement values with varied condition states. It should be noted that the majority of the IT assets are in very poor condition and beyond their expected service life.

Figure 2-6 presents the replacement value of each facility asset category by condition, showing the financial scale of assets in varying states. **Table 2-5** shows the percentage distribution of assets in each condition category, providing insight into the proportion of assets by condition rather than value. For further breakdown, pleas refer to **Appendix A**.

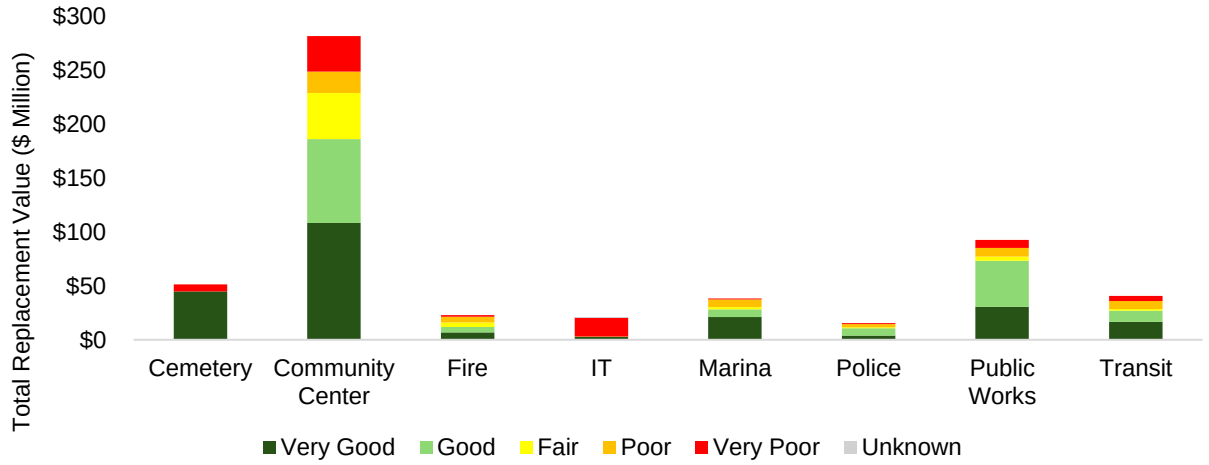


Figure 2-6: Facility Condition Summary for Asset Categories

Table 2-5: Distribution of Condition for Facility Asset Categories

Condition Rating	Very Good	Good	Fair	Poor	Very Poor	Total
Cemetery	7.9%	0.0%	0.0%	0.0%	1.1%	**9.00%**
Community	19.2%	13.8%	7.6%	3.5%	5.8%	**49.90%**
Fire	1.2%	0.9%	0.7%	1.0%	0.3%	**4.10%**

Condition Rating	Very Good	Good	Fair	Poor	Very Poor	Total
IT	0.5%	0.0%	0.0%	0.0%	3.2%	**3.70%**
Marina	3.7%	1.3%	0.4%	1.3%	0.2%	**6.90%**
Police	0.7%	1.2%	0.2%	0.5%	0.2%	**2.80%**
Public Works	5.4%	7.6%	0.7%	1.4%	1.3%	**16.40%**
Transit	2.9%	1.8%	0.2%	1.4%	0.8%	**7.10%**
Total	**41.7%**	**26.5%**	**9.8%**	**9.1%**	**12.9%**	**100.00%**

2.3 Asset Data Gap Analysis

2.3.1 Data Gap Observations

Table 2-6 provides a summary of observed data gaps in the compiled facility asset inventory across key data attributes that help to make informed decisions over the asset lifecycle for this AMP.

Table 2-6: Observations on Asset Data Completeness

Asset Group	Inventory Completeness (%)						
	Asset ID	Name / Location	Install Date	Inspection Date	Condition	Expected Service Life	Replacement Cost
Facility	0%*	100%	95%	100%	100%	100%	100%**

*No asset ID provided for facilities. (If available, asset IDs for building from GIS to be used for facilities)
** AECOM used RS Means to estimate the replacement cost for facilities.

2.3.2 Data Confidence

The quality of asset data is critical to effective AM, accurate financial forecasts, and informed decision-making. For this reason, it is important to know what the reliability of the information is for the State of Infrastructure analysis of the facility assets. **Table 2-7** provides a description for the data confidence grades used to classify the reliability of the asset data used in this data gap analysis. Through consultation with City staff during a State of Infrastructure Workshop, the asset attribute data for the in-scope facility assets were assigned the grades outlined in **Table 2-8**.

Table 2-7: Data Confidence Grading Scale

Confidence Grades	Description
A - Highly reliable	Data is based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate ± 2%
B - Reliable	Data is based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10%
C - Uncertain	Data is based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy is estimated ± 25%
D - Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy ± 40%
E - Unknown	None or very little data held.

Table 2-8: High-Level Asset Data Confidence Grades

Asset Category	Data Confidence Average Grade		
	Inventory	Age	Condition
Facility	B	B	A

2.3.3 Data Management Practice

The asset data lifecycle is a sequence of stages that data goes through from its initial creation (i.e., data capture and entry) to its eventual archival and/or deletion at the end of its useful life[3]. A clear definition and understanding of the organization's process for acquiring, storing, utilizing, assessing, improving, archiving, and deleting data (see **Figure 2-7**) will ensure good data management practices and help to sustain levels of data quality required to support AM activities.



Figure 2-7: Asset Information Lifecycle

The seven key stages of the asset data lifecycle are described in more detail below:

1. **Acquiring New Data**: The majority of new asset data arises from asset creation, refurbishment and overhaul activities. New data may also come by way of inheritance or transfers from other business units, organizations, or third parties. As such, it is important to have clearly defined processes in place not only to add or update asset data, but to migrate and merge data from other sources.

2. **Storing Data**: The way asset data is stored is an important consideration for overall data quality. Having a planned approach to data storage will inevitably reduce the likelihood of duplication and inconsistencies across

[3] TechTarget Network, Definition: Data Life Cycle, 2020.

datasets within the organization. Depending on the needs of the organization, this stage may involve procuring a new software to adequately house the data, along with a data backup and recovery plan to ensure that the necessary data protection and privacy standards are met.

3. **Utilizing / Analysing Data**: This aspect of the asset information lifecycle is where users encounter the data to support data-driven activities within the organization. Data can be viewed, processed, edited, and published to allow users to access the data outside the organization. Critical data that has been modified should be fully traceable to maintain the integrity of the data. As such, it is important to communicate to the users why asset data is so important, and how it is used to inform decisions within the organization.
4. **Assessing Data**: Assessing the data quality helps to determine the level of confidence in the information and ensures that decision-makers are making informed decisions based on the quality of data available to them. Moreover, it is important to fully understand the availability and quality of the asset data before issuing information publicly. Some of the results of data degradation, due to improper or lack of assessment, may include:
    - Poor asset performance due to lack of information and understanding of asset behaviour.
    - Non-compliance with statutory regulations or safety requirements.
    - Safety incidents due to risks not being identified or reported.
    - Asset failure due to gaps in maintenance planning.
5. **Improving Data**: Improving data quality involves establishing clear targets which are intended to be communicated widely across the organization. It is imperative that the organization understands the costs, benefits, and risks associated with any data improvements since the cost of the improvement may outweigh the overall benefit. It is also important to note that *more* data does not necessarily mean *better* data. It is very possible to collect data that does not add value to the organization. As such, it is critical that the organization aligns its data improvement targets with its AM objectives and considers the data-driven decisions staff need to make at the operational and strategic level, to ensure that the *right* data is being improved upon.
6. **Archiving Data**: Archiving data is the process of storing data that is no longer active or required but is able to be retrieved in case it is needed again. Data that is archived is stored in a location where no usage or maintenance occurs. It is recommended that a data archive strategy exists within an organization in order to lay out the data archival requirements, which considers the following:
    - What data should be archived and why?
    - Are there any legal obligations for retaining data records?
    - How long should data records be retained?
    - What is the risk associated with not being able to retrieve data records?
    - Who should be able to access archived data records?
    - What is the expected timeframe to retrieve archived data records?

    Clearly communicating these requirements across the organization is key to ensuring staff are educated on why records are being archived, how they can access archived data records, and for how long archived data records can still be accessed.
7. **Deleting Data**: The deletion of data is the final component of the asset information lifecycle. Typically, within organizations there is a resistance to permanently delete data, otherwise known as data “squirrelling”, due to the overall capacity of storing data increasing and the cost decreasing. However, within the organization’s data archive strategy, a retention period should be specified to indicate when data should be deleted, along with any processes to follow, such as obtaining prior missing period.

2.3.3.1 Future Data Management State

The City will develop and implement a software strategy that helps streamline data management following this AMP. Eventually, the City plans to have a clear and efficient data management process and comprehensive and robust asset inventory to support their AM decision making. The implementation plan for data improvement is presented in **Section 6**.

3 Level of Service

3.1 Purpose

Level of Service (LoS) supports every aspect of the overall AM system. The objective of establishing clearly defined service levels is to help the City meet stakeholder values, achieve its strategic goals, make informed decisions, and implement effective asset lifecycle activities.

Documenting LoS is a proven practice that will enable the City to:

- Link corporate strategic objectives to customer expectations and technical operations.
- Balance customer needs and expectations while evaluating the effectiveness of operations and whether the right LoS is being provided at the right cost.
- Transition from an “Asset Stewardship” approach that focuses on making decisions based on maintaining assets in an acceptable condition to a “Serviceability” approach that is geared towards making decisions based on balancing the costs, risks, and goals for the LoS being provided by the City’s assets.
- Communicate the physical nature of infrastructure that the City owns and is financially responsible for while promoting the use of LoS to enable effective consultation with stakeholders regarding alternative funding options according to desired LoS outcomes.
- Make recommendations on strategies that the City can take now to minimize future renewal costs while ensuring that adequate LoS can be delivered without burdening future generations.
- Assess internal (e.g., program changes) and external (e.g., climate change) factors that have the potential to impact the City’s ability to deliver services and how these factors may impact the LoS being provided.
- Implement a corporate continuous improvement program to further optimize AM across all service areas.

The O. Reg. 588/17 requires that all AMPs include the current LoS being provided, determined in accordance with the qualitative descriptions and technical metrics provided (see **Section 1.3**).

3.2 Objectives

Defining LoS objectives is important for drawing a line of sight between the City’s corporate objectives and the tangible asset performance outcomes. To do so, the LoS objectives must take into consideration stakeholder interests to develop asset performance measures that aim to meet the needs and expectations of the community. By doing this, the City will ensure that their assets are striving towards optimal performance, not only operationally, but economically, socially, and sustainably as well. Every stakeholder has certain interests in the service being provided and in general. The City’s corporate objective is to lift up the community and build pride, and attract people (visitors, employers and employees).

The City’s Comprehensive Background Report[4] (2021) for the New Official Plan outlined the overarching themes that reflect the City’s value, as shown in **Table 3-1**. Each overarching theme is also assigned a corporate service objective.

The development of level of service targets should be aligned with these corporate objectives which will be addressed in the next iteration of the AMP.

[4] City of Sault Ste Marie. 2021. Comprehensive Background Report.

Table 3-1: The City's Overarching Themes and LoS Objectives

Overarching Themes	LoS Objective
Healthy Community	Supports healthy living, active transportation, access to passive and active recreation, social interaction and the creation of spaces that are comfortable, safe and accessible for all ages and abilities (the "8 to 80 Cities" concept).
Environmental Sustainability	Supports energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions and climate change adaptation.
Integrated Mobility	Supports accessibility and choice of a diversity of transportation modes.
Sense of Place	Fosters a welcoming place for all that establishes connection and provides a memorable experience to visitors.
Sustainable Growth	Stimulates reinvigoration of neighbourhoods to provide a complete range of housing, services, employment and recreation.
Economic Resiliency	Supports the growth and diversification of the City's economy.
Social Equity	Contributes to creating a welcoming and inclusive community, focusing on the removal of systemic barriers so that everyone has access to an acceptable standard of living and can fully participate in all aspects of community life.
Cultural Vitality	Celebrates the City's history, diverse communities and natural and cultural heritage, with the Downtown as the Sault's core destination for arts and culture.

3.3 Stakeholder Identification

A stakeholder is any person or organization that can affect, be affected by, or perceive themselves to be affected by a decision or an activity. Stakeholder analysis is the process of understanding stakeholder needs, expectations, and perceptions relative to the stakeholder's level-of-interest and level-of-influence over the organization. The organization typically engages with their stakeholders to:

- Establish which activities or services matter most to them.
- Understand their risk appetite and risk threshold.
- Understand their willingness to pay for services.

Stakeholders can take many forms and may be internal (i.e., staff, Council) or external (i.e., the public, regulatory agencies, suppliers, neighbouring municipalities, etc.) to the organization. The following groups were identified as key stakeholders for facilities during the LoS workshop held with City staff. This is not intended to be an exhaustive list; however, the following groups provide a good starting point for the City to move forward to the next stage. The City's key stakeholder groups for facilities are identified below:

- Residential Customers.
- Regulatory Agencies.
- Industrial, Commercial & institutional (ICI) Customers.
- Regulatory Agencies.
- Neighbouring Municipalities.
- Environmental Groups.
- Internal City Departments.
- Sporting Groups.
- Heritage Buildings, Museums, and Archival Building.
- Developers.

3.3.1 Legislated and Regulatory Requirements

Facilities assets are critical to the City's ability to provide essential services to the community, and for protecting the health and safety of the public. As such, key legislative requirements exist for the City's infrastructure assets, which ensure that minimum requirements are met and standards are in place that promote a high quality of life (i.e., high quality community centres, marinas, etc.). A sample of key Federal and Provincial legislated requirements are outlined below in **Table 3-2**. Policy and guiding documents relevant to facilities are also listed.

Table 3-2: Legislated and Regulatory Requirements

Federal	Provincial
• National Building Code of Canada • National Fire Code of Canada • National Energy Code of Canada for Buildings	• Building Code Acts • Ontario Heritage Act • Accessibility for Ontarians with Disabilities Act (AODA) • Municipal Acts • Electricity Act ○ Ontario Regulation 507 – Broader Public Sector: Energy Reporting and Conservation and Demand Management Plans • Funeral, Burial and Cremation Services Act, 2002

3.4 O. Reg. 588/17 Levels of Service Metrics

Currently, O. Reg 588/17 only identifies levels of service metrics for core assets. A number of key LoS performance measures for facilities assets have been identified in consultation with City staff through workshops, are detailed in **Section 3.5**.

3.5 Current and Proposed Levels of Service

Establishing LoS targets is an important part of continual improvement and performance management. Without targets, it is difficult to ascertain whether goals are being met, or the extent of the gap if they are not. Incorporating targets into the City's LoS Framework helps to ensure that targets are reasonable, aligned with customer expectations, and evaluated on an objective basis by considering cost-benefit trade-offs.

One of the key challenges in setting targets in a municipal environment is that they can often become biased and/or politically motivated. Therefore, it is important to review LoS targets with internal and external stakeholders, especially the customers who will be impacted the most by changes in service delivery. An important aspect of evaluating LoS targets is determining how willing the user is to pay for the service. Regulatory requirements are an exception; however, they only provide the minimum service standard. Cost is still an important parameter to consider when assessing the merits of service improvements. To deal with the financial realities, it is necessary to:

- Calculate how much the service costs based on current LoS.
- Determine the lifecycle activities and cost associated with varying the LoS.
- Assess the customers' willingness to pay.

It is important that any targets set be realistic and achievable. O. Reg. 588/17 requires AMPs to include proposed levels of service by July 1, 2025.

A summary of the City's s Facility assets service level metrics is presented in **Table 3-4**. Each metric was indicated with its current trend and proposed trend for the next 10 years, represented by legends, taking into account the nature of the measure, data availability, and whether the trend impacts positively or negatively on the proposed LoS. The LoS trend legends are described in **Table 3-3**.

Table 3-3: LoS Trend Legend

Symbol	Name	Description
	Positively Increasing	KPI is improving steadily over time, showing progress toward goals.
	Positively Stable	KPI is at a strong, desirable level and consistently maintained.
	Positively Decreasing	KPI is improving as lower values indicate better performance.
	Negatively Increasing	KPI is worsening over time, signaling a need for corrective action.
	Negatively Stable	KPI remains poor with no improvement or further decline.
	Negatively Decreasing	KPI is declining in a way that reflects worsening performance.

Table 3-4: Facility Current and Proposed Levels of Service

LoS #	Service Area	LoS Measure	Unit of Measure	LoS Category	Current Performance	Performance Trend		Lifecycle Activities to Meet Proposed LoS	Budget Impact to Meet Proposed LOS	Risk of Not Meeting Proposed LoS
						Current	Proposed			
1	Facility	Total annual electricity consumption per square foot	GJ/m2	Technical	TBD	→	↓	• Install solar panels to reduce reliance on grid electricity. • Adopt energy-efficient technologies and equipment to lower operational consumption. • Upgrade facility windows and building envelope to enhance thermal performance. • Conduct deep energy retrofit audits to identify and implement comprehensive efficiency improvements.	• Medium	• Failure to meet corporate sustainability targets can result in increased environmental impacts and higher electricity costs.
2	Facility	Total annual natural gas consumption per square foot	GJ/m2	Technical	TBD	→	↓	• Replace equipment with more energy-efficient natural gas systems. • Undertake fuel-switching projects to transition from fossil fuels to renewable energy sources.	• High	• Failure to meet corporate sustainability targets may lead to negative environmental impacts and increased electricity costs. • Risk of falling short of the 2050 net-zero emissions target.
3	Facility	# of energy efficiency retrofit projects completed	#	Technical	10	↑	↑	• Prioritize the implementation of energy and emissions reduction projects. • Apply energy efficiency measures identified through deep energy retrofit audits. • Incorporate lifecycle cost considerations when procuring new assets to ensure long-term value and sustainability.	• High	• Failure to meet corporate sustainability targets may lead to negative environmental impacts and increased electricity costs.
4	Facility	Cost of operating expenses to Fire service buildings (utilities, repairs and maintenance, exterior and property maintenance, management)	$ / year	Technical	TBD	→	↑	• Replace aging infrastructure components, such as windows and doors, to improve energy efficiency and building performance.	• High	• Asset failure or equipment damage can hinder operations and prevent the achievement of corporate objectives.
5	Facility	% of Assets in Fair or Better Condition (Community Development and Enterprise Services Facilities)	%	Technical	78%	↓	→	• Upgrade facility equipment and technology, including terminals, to improve operational efficiency and service delivery.	• High	• Disruptions can impact ongoing programs, damage equipment, and hinder the achievement of corporate objectives.
6	Facility	% of Assets in Fair or Better Condition (Public Works Facilities)	%	Technical	83%	↓	→	• Continue with replacement and retrofit initiatives to modernize infrastructure and improve efficiency.	• High	• Inadequate space limits the ability to properly store and maintain Public Works equipment. • Ongoing programs may be disrupted due to maintenance constraints and operational inefficiencies. • Equipment damage and maintenance delays can prevent the organization from meeting its corporate objectives.
7	Facility	% of Assets in Fair or Better Condition (Protective Services Facilities)	%	Technical	70%	↓	→	• Replace aging facility assets such as pavements, roofing systems, and other key structural components to maintain safety and functionality.	• High	• Disruptions may impact the delivery and effectiveness of ongoing programs. • Equipment damage can compromise operations and prevent the achievement of corporate objectives.
8	Facility	Number of Recreation Facilities per 1,000 residents	# / 1,000 residents	Technical	TBD	→	→	• Maintain existing asset conditions and continue implementing current management strategies to ensure service continuity.	• Low	• If the number of recreation facilities per 1,000 residents does not remain stable or increase as proposed, the City may fail to meet its corporate objectives related to community well-being and inclusivity. This could lead to reduced availability of programming, increased pressure on existing facilities, and fewer opportunities for residents to participate in recreational activities.
9	Facility	Total annual GHG emissions per square foot	kg $CO_2e/ft^2/year$	Technical	TBD	→	↓	• Increase funding allocations dedicated to emissions reduction initiatives. • Mandate the consideration of climate impacts in all capital project planning and approvals. • Integrate emissions reduction objectives into capital planning and AM practices.	• High	• Non-compliance with regulations can lead to negative environmental impacts and prevent the achievement of corporate objectives.

Performance Trend Legend:

↑ Positively Increasing	→ Positively Stable	↓ Positively Decreasing	↑ Negatively Increasing	→ Negatively Stable	↓ Negatively Decreasing

3.6 2025-2034 10-Year Levels of Service Forecast

Considering the City's characteristics, growth projections, and strategic objectives, the proposed performance trend for each LoS metric for the next 10 years is projected and outlined in **Table 3-5**. This table indicates whether each measure is expected to trend upward, downward, or remain stable, taking into account the nature of the measure, data availability, and whether the projected trend impacts positively or negatively on the proposed LoS.

Table 3-5: 2025-2034 10-Year Levels of Service Forecast

LoS #	Service Area	LoS Measure	Unit of Measure	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Proposed Trend	Basis for Forecast
1	Facility	Total annual electricity consumption per square foot	GJ/m2	Positively Decreasing – 0.5% per year										↓	City subject matter expert opinion
2	Facility	Total annual natural gas consumption per square foot	GJ/m2	Positively Decreasing – 0.5% per year										↓	City subject matter expert opinion
3	Facility	# of energy efficiency retrofit projects completed	#	Positively Increasing – 10 per year										↑	City subject matter expert opinion
4	Facility	Cost of operating expenses to Fire service buildings (utilities, repairs and maintenance, exterior and property maintenance, management)	$ / year	Positively Stable										→	City subject matter expert opinion
5	Facility	% of Assets in Fair or Better Condition (Community Development and Enterprise Services Facilities)	%	Positively Stable – 65% (current budget by 2034)										→	City subject matter expert opinion
6	Facility	% of Assets in Fair or Better Condition (Public Works Facilities)	%	Positively Stable – 59% (current budget by 2034)										→	City subject matter expert opinion
7	Facility	% of Assets in Fair or Better Condition (Protective Services Facilities)	%	Positively Stable – 51% (current budget by 2034)										→	City subject matter expert opinion
8	Facility	Number of Recreation Facilities per 1,000 residents	# / 1,000 residents	Positively Stable										→	City subject matter expert opinion
9	Facility	Total annual GHG emissions per square foot	kg CO_2e/ft^2/year	Positively Decreasing – 1% annually										↓	City subject matter expert opinion

Performance Trend Legend:

↑ Positively Increasing	→ Positively Maintain	↓ Positively Decreasing	↑ Negatively Increasing	→ Negatively Maintain	↓ Negatively Decreasing

3.7 Future Demand Drivers

Demand management is a critical component of managing the desired LoS in a sustainable manner, now and into the future. Understanding demand drivers enables the City to proactively develop effective, long-term strategies that are suitable for the City's unique political, environmental, social and technological landscape.

Factors identified during the LoS workshop that would impact facility service levels now and into the future include, but are not limited to, the following:

- Aging infrastructure (e.g., deteriorating building envelopes, outdated HVAC or electrical systems, etc.).
- Regulatory changes (e.g., building code updates, accessibility requirements, energy performance standards, etc.).
- Staff availability (e.g., facility maintenance personnel, skilled trades shortages, etc.).
- Succession management & skills transfer (e.g., plans to retain institutional knowledge for operating and maintaining complex facilities).
- Funding (e.g., having robust asset management plans to prioritize investments and minimize lifecycle costs).
- Contractor availability (e.g., access to specialized trades for large-scale renovations or emergency repairs).
- Climate change (e.g., increased weather-related damage, need for resilience upgrades, higher HVAC loads, etc.).
- Supply chain (e.g., delays or shortages in building materials and equipment for repairs or upgrades).
- Fluctuations in construction and maintenance costs.
- Population growth (e.g., increased demand for community centres, libraries, and other public facilities).

On November 2, 2021, the City's Planning Division released the Comprehensive Background Report for updating the Official Plan[5]. The City's Official Plan guides the local decision-making on land use, development and public infrastructure over the next 20 years. The City's population is expected to reach approximately 80,000 residents by 2031 and 83,300 by 2036. Employment is projected to increase by approximately 6,000 jobs, rising from about 31,000 in 2016 to 36,900 in 2036.

When additional assets to accommodate this population and employment growth are introduced to the City's portfolio, additional human resources, training and funding are required to maintain and operate and renew or replace those assets. O. Reg. 588/17 requires municipalities by July 1, 2025, to estimate capital expenditures and significant operating costs to achieve the proposed LoS and accommodate projected increases in demand caused by population and employment growth.

[5] City of Sault Ste Marie. 1996. Official Plan

4 Asset Management Strategies

4.1 Asset Lifecycle Management Introduction

Asset lifecycle management focuses on the specific activities that should be undertaken during all phases of the asset lifecycle. Considering entire asset lifecycles can ensure that the City makes sound decisions that consider present and future service delivery needs.

The overarching goal of lifecycle management is to maximize the long-term benefits and services that our assets deliver while minimizing the associated costs and risks in the long run. Every asset has a lifecycle cost, which is the total cost of all the activities undertaken throughout its service life. Part of the purpose of the asset management planning process is to fully understand and predict the long-range financial requirements for the City's infrastructure to facilitate planning and resource management in the most cost-effective manner possible. **Figure 4-1** illustrates how costs typically accumulate over an asset's life. It is worth noting that the accumulation of the ongoing operations and maintenance, renewal & replacement and disposal costs is many multiples of the initial acquisition costs. As such, it is important to fully understand the entire lifecycle costs across an asset's entire life before proceeding with asset acquisition.

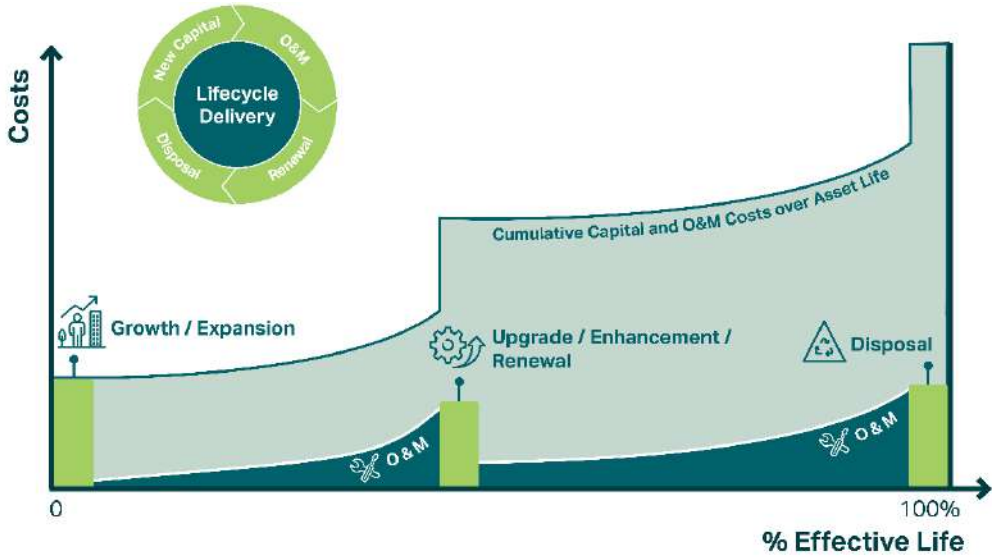


Figure 4-1: Lifecycle Cost Accumulation Over Asset Life

Asset lifecycle management strategies are typically organized into the following categories.

1. **Asset Acquisition / Procurement / Construction**: Acquisition includes expansion activities and upgrading activities to extend services to previously unserved areas or expand services to meet growth demands and to meet functional requirements. When acquiring new assets, the City should evaluate credible alternative design solutions that consider how the asset is to be managed at each of its lifecycle stages. Asset management and full life cycle considerations for the acquisition of new assets include, but are not limited to the following:



   - The asset's operability and maintainability.
   - Availability and management of spares.
   - Staff skill and availability to manage the asset.
   - The manner of the asset's eventual disposal.

2. **Asset Operations and Maintenance (O&M)**: As new infrastructure is commissioned, the City accepts the responsibility of operating and maintaining the infrastructure according to O&M standards to ensure that the infrastructure is safe and reliable. Operations staff provide the day-to-day support required to operate infrastructure. In few cases, operation costs are minor, but for most there are significant increases. For example, underground pipes require almost no operational support while a facility such as a pump station requires full-time staff to operate the facility safely and efficiently. Maintenance expenses include periodic preventive maintenance to ensure that the infrastructure can provide reliable service throughout the life of the asset and corrective maintenance that is required to repair defective assets as and when needed. Inadequate funding for O&M will have an adverse impact on the lifespan of assets. The number of O&M resources required in any period is a function of the current inventory of infrastructure and total O&M needs required for each asset. As the inventory of infrastructure grows, total O&M requirements will also grow.



3. **Renewal and Replacement (reinvestment and rehabilitation):** The third aspect of full lifecycle costing pertains to the renewal and replacement of assets that have deteriorated to the point where they no longer provide the required service. Renewal or rehabilitation costs may be incurred during the life of an asset where an investment is made to improve its condition and/or functionality, for example, roof replacement. Reconstruction activities are expected to occur once an asset has reached the end of its useful life, and renewal is no longer a viable option.



4. **Decommissioning and Disposal:** There will inevitably come a point in time when an asset must be removed from service and, depending on the type of asset, there may be significant costs associated with its decommissioning and disposal. Factors that may influence the decision to remove an asset from service include changes to legislation that cause the asset to be in non-compliance, the inability of the asset to cope with increased service levels, technology advances that render the asset obsolete, the cost of retaining the asset is greater than the benefit gained, or the current risk associated with the asset's failure is not tolerable.



Normally, major costs that may be incurred during disposal and decommissioning derive from the environmental impact of the disposal and, if required, the rehabilitation and decontamination of land. In some cases, there will be residual liabilities and risks to consider if a decision is made to partially abandon the asset as opposed to fully disposing of its components. However, some cost savings may be achieved through the residual value of the asset or by exploring alternative uses for the asset. In all cases, it is important to consider disposal and decommissioning as the strategy employed has the potential to attract significant stakeholder attention. For that reason, the costs and risks associated with disposal and decommissioning should be equally considered in the City's capital investment decision-making process.

4.2 Facility Assets Management Strategies

The asset management strategies that are employed by the City to manage the facility system throughout their lifecycle is summarized in **Table 4-1**.

Table 4-1: Lifecycle Management Strategies for Facility Assets

Asset Group	Lifecycle Activity	Description of Activities Practiced by the City	Benefit or Risk Associated with the Activities
Facilities	**Acquisition**	• Built a $32 million recreation and culture facility. • Developed a public plaza park in the downtown area. • Established recreational facilities for seniors. • Acquired transit terminal dispatch facilities. • Public engagement and stakeholder consultation.	• Increased community engagement and physical activity. • Improved community culture and wellbeing. • Supply chain disruptions or contractor issues can postpone opening, delaying benefits and increasing holding costs.
	Operations and Maintenance	**Buildings** • Condition assessment. • Mechanical and Electrical maintenance (HVAC, Electrical System, Plumbing). • Building cleaning. • Energy and utility monitoring.	• Identification of building deficiencies or areas for optimization. • Routine HVAC and plumbing maintenance reduce wear and deter costs costly replacements. • Lack of standardization in O&M practices leads to uneven performance across facilities.
		IT • Cleaning. • Updating. • Replacing components. • Security audits and assessments. • Safety inspections. • Equipment calibration. • Network performance monitoring	• Improved performance. • Potential reduction to cyber security risks. • Interruptions to service for maintenance. • Increased operating cost for inspections and assessments.
	Renewal and Replacement	**Buildings** • Renovation and rehabilitation. • Replacement at the end of life. • Unique practices for historical buildings. • Retrofits for energy efficiency or accessibility. • Seismic or structural upgrades. • Refurbishing interiors (e.g., flooring, lighting).	• Timely replacement avoids reactive, more expensive emergency repairs. • Preservation of heritage and culture. • Replacement projects can interrupt services (e.g., community programs) unless temporary accommodations are made.
		IT • Hardware upgrades • Software upgrades • Replacement at the end of life	• Improved speed, functionality, and security. • Data migration and employee adaptation risks. • New IT components may not work with existing infrastructure.

Asset Group	Lifecycle Activity	Description of Activities Practiced by the City	Benefit or Risk Associated with the Activities
	Disposal	**Buildings** • Recycling • Donation • Hazardous waste management • Post-disposal monitoring and reporting	• Recycling and proper hazardous waste handling minimizes ecological impact. • Donations of furniture or equipment can support nonprofits or underserved communities.
		IT • Reuse and refurbishment • Donation • Waste-to-energy conversion • Hazardous waste management • Secure data and information removal • Recycling of materials	• Proper data wiping or destruction prevents sensitive data leaks. • Selling refurbished equipment can partially offset replacement costs. • If disposal isn't certified, it may harm the environment or violate laws.

4.3 Risk Associated with Lifecyle Activities

In the context of AM, risk is defined as the consequence or impact of uncertainties on AM objectives. These uncertainties span a spectrum of events, including financial market fluctuations, unexpected asset failures, changes in regulatory environments, and other factors capable of influencing the performance or condition of assets. Risk management, developed to handle uncertainties in a systematic and timely manner, is a practical framework that ensures thoughtful decision-making and protects the achievement of goals. The risk management process generally follows a series of steps, as outlined in **Table 4-2**.

Table 4-2: Key Steps in the Risk Management Process

Step	Description
1. Establish the context	• Define the scope of the risk management process and the objectives that the City seeks to achieve through effective risk management. • Consider the City's internal and external factors and understand stakeholder expectations.
2. Risk identification	• Identify potential risks that could impact the City's AM objectives.
3. Risk analysis	• Utilize qualitative or quantitative analysis methods to assess risks.
4. Risk evaluation	• Evaluate the likelihood and impact of identified risks. • Prioritize risks based on their criticality.
5. Risk treatment	• Develop strategies to reduce the likelihood and impact of identified risks. • Implement preventive measures to address potential issues proactively. • Establish contingency plans for managing risks that cannot be eliminated.
6. Monitor and review	• Regularly update risk assessments to reflect evolving circumstances. • Develop KPIs and monitoring tools to track the effectiveness of risk treatment strategies. • Learn from the City's past experiences and continuously improve risk management strategies.

Over the course of an asset's service life, the accelerating rate of deterioration with age poses inherent risks, inevitably leading to a corresponding increase in maintenance costs. **Figure 4-2** illustrates a general asset deterioration curve. This trend becomes particularly pronounced in the final phase of the asset's service life, where the cost of maintenance experiences a rapid escalation, highlighting the financial risks associated with prolonged neglect. This phenomenon underscores the critical importance of preventive maintenance in the early stages of an asset's service life. By addressing risks proactively during these initial periods, the potential financial burden tied to accelerated deterioration in later stages can be effectively mitigated.

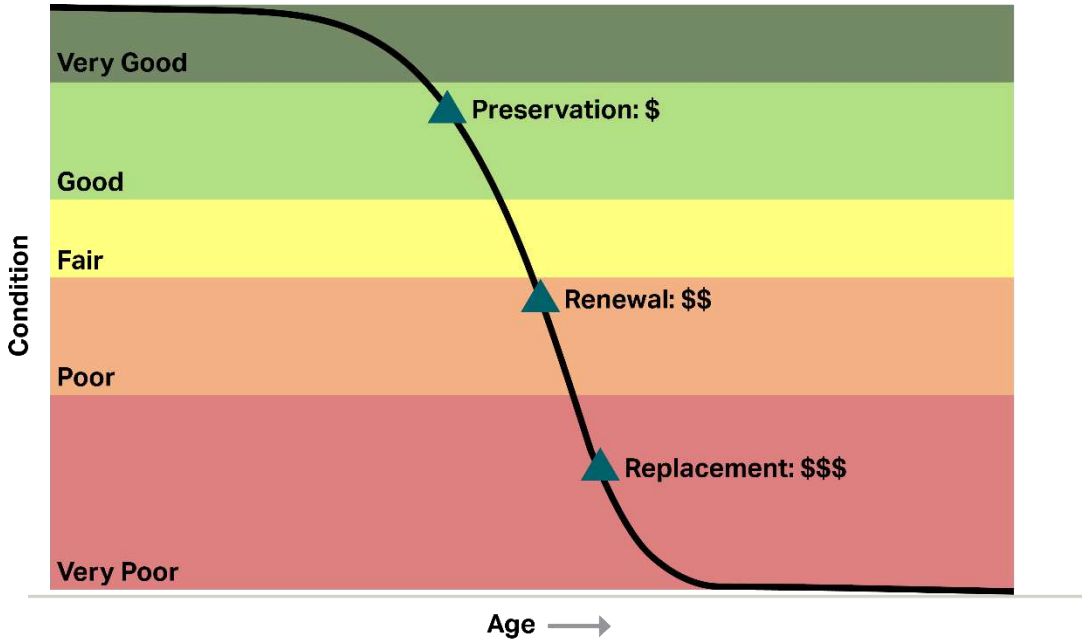


Figure 4-2: Asset Deterioration Curve and Renewal Costs

Beyond the general guidance, the City's approach to risk management should be tailored to their overarching goals, financial resources, and willingness to tolerate uncertainties. To help shape the City's risk management process, AECOM recommends taking into account the following key considerations:

1. **Cybersecurity Risks -** The interconnected nature of digital systems exposes the City to potential cyber threats, ranging from data breaches to ransomware attacks. A crucial aspect of mitigating these risks is maintaining up-to-date IT equipment. This involves not only patching and updating software but also upgrading hardware that may no longer receive security updates. Additionally, the City should consider implementing robust cybersecurity protocols, providing employee training on best practices in cybersecurity, and establishing intrusion detection systems to monitor and promptly respond to threats.
2. **Regulatory Compliance -** Stay up to date with all relevant regulations and standards to ensure compliance. Non-compliance can result in fines and other penalties. This could be Health and Safety regulations, Environmental regulations, Accessibility regulations, etc.
3. **Increased maintenance cost -** By implementing consistent and proactive maintenance schedules for infrastructure and facilities, municipalities can identify and address potential issues before they escalate. This preventive approach reduces the likelihood of major breakdowns or emergency repairs, ultimately minimizing the overall O&M expenses. Additionally, regular maintenance extends the lifespan of assets, enhances their efficiency, and ensures that they comply with safety standards, contributing to a more sustainable and cost-effective management of municipal resources.
4. **Sustainability Practices -** Implement sustainability practices, such as energy-efficient systems and waste reduction strategies, to reduce operational costs and environmental impact.
5. **Technology Integration -** Integrating technology into facility management enables municipalities to better identify and manage risks across the asset lifecycle. This includes improving infrastructure monitoring, enhancing workplace safety, supporting timely maintenance, and automating key risk management processes. These improvements contribute to more efficient operations and strengthen overall community resilience.

5 Funding Need Analysis

5.1 Capital and Operating Budget

5.1.1 Capital Budget - Historical Expenditure and Future Forecast

Historical capital expenditures for buildings and facilities have typically included maintenance and upgrades to community centres, fire stations, cemeteries, and other municipal buildings. These expenditures also cover miscellaneous capital improvements, emergency repairs, and capital planning studies to ensure regulatory compliance and to keep facilities in good working condition. Fire, Police, and Library assets are separated within the financial analysis based on the discussion during the financial workshop, as these departments budget their assets independently from other municipal facilities such as community centres, transit, and public works. **Table 5-1** presents the capital reinvestment budget forecast for these assets.

Table 5-1: Capital Reinvestment Budget Forecast for Facility & IT Assets

Asset Class	Asset Category	2025-2034 10-Year Average Reinvestment Budget Based on Historical Expenditure
Facility	All Facilities (Cemetery, Community Center, IT, Marina, Public Works, Transit)	$6,000,000
	Fire, Police, and Library	$495,000
	Total	**$6,495,000**

5.1.2 Operating Budget - Historical Expenditure and Future Forecast

The City's historical operating expenditures for buildings and facilities have focused on routine maintenance, custodial services, utilities, and the day-to-day operation of municipal buildings. These expenditures also support regulatory compliance, safety inspections, and the upkeep of building systems such as HVAC, electrical, and fire protection. In addition, they contribute to ongoing facility optimization and efficient service delivery to the community.

Table 5-2: Facility & IT Operating Budget Forecast for Facilities

Asset Class	Asset Category	2025-2034 10-Year Average O&M Budget Based on Historical Expenditure
Facility	All Facilities (Cemetery, Community Center, IT, Marina, Public Works, Transit)	$10,300,000
	Fire, Police, and Library	$1,260,000
	Total	**$11,560,000**

5.2 Capital Reinvestment Funding Needs Analysis

This section outlines the capital funding scenarios analyse approach, assumptions, and presents service level trends regarding asset condition under various budget scenarios.

5.2.1 Lifecycle Model Approach and Assumptions

The lifecycle analysis was implemented within an PowerBI Model. The analysis involves integrating key asset attribute information including asset inventory, age, expected service lives, replacement values, and condition to create a theoretical asset replacement cycle for each asset. The other relevant capital upgrade needs information was also considered in the lifecycle model. The 2020 condition assessment results of the facilities are incorporated in the analysis. A financial dashboard was developed to present the lifecycle modeling results.

The annual reinvestment needs for the facilities were determined based on their age and ESL in years (i.e., replacing assets that have exceeded their ESL, in inflated dollar values, incorporating the following assumptions on inflations:

- The base year used is 2025. Any historic asset replacement values have been inflated using the experienced inflation rate from Non-Residential Building Construction Price Index (NRBCPI).
- Inflation rate: the inflation rates adopted for the financial model are presented in **Table 5-3**. The inflation for 2025 and later is determined based on the City's input.

Table 5-3: Inflation Rate[6]

Year	Inflation Rate
2022	7%
2023	7.1%
2024	6%
2025	2%
2026	2%
2027	2%
2028	2%
2029	2%
2030 - 2034	2%

Table 5-4 presents the proposed reinvestment targets for facility infrastructure from 2025 to 2034. It outlines the intervention measures and target percentages for each asset type, along with the resulting average annual reinvestment rates over the 10-year period.

[6] Past inflation data obtained from NRBCPI using the non-residential; yearly result taken from an average of quarterly results. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810027601

Table 5-4: Facility Reinvestment Assumptions

Asset Group	Asset	Measure	Target	Resulting 10-Yr. Annual Avg. Reinvestment Rate (2025-2034)
Facility	Cemetery	Percentage of assets exceeding their expected service life, that are replaced in 2025 and thereafter	100%	
		Structural and Building Envelope are assigned with repair cost annually	1% of replacement value	
	Community Center	Percentage of assets exceeding their expected service life, that are replaced in 2025 and thereafter	100%	
		Structural and Building Envelope are assigned with repair cost annually	1% of replacement value	
	Fire	Percentage of assets exceeding their expected service life, that are replaced in 2025 and thereafter	100%	
		Structural and Building Envelope are assigned with repair cost annually	1% of replacement value	
	IT	Percentage of assets exceeding their expected service life, that are replaced in 2025 and thereafter	100%	
	Marina	Percentage of assets exceeding their expected service life, that are replaced in 2025 and thereafter	100%	3.8%
		Structural and Building Envelope are assigned with repair cost annually	1% of replacement value	
	Police	Percentage of assets exceeding their expected service life, that are replaced in 2025 and thereafter	100%	
		Structural and Building Envelope are assigned with repair cost annually	1% of replacement value	
	Public Works	Percentage of assets exceeding their expected service life, that are replaced in 2025 and thereafter	100%	
		Structural and Building Envelope are assigned with repair cost annually	1% of replacement value	
	Transit	Percentage of assets exceeding their expected service life, that are replaced in 2025 and thereafter	100%	
		Structural and Building Envelope are assigned with repair cost annually	1% of replacement value	

In the future, when condition assessment programs are implemented, updated conditions will be used to update the renewal and replacement forecast to better inform asset reinvestment needs.

5.2.2 Facility Assets Budget Scenarios & 10-Year Service Level Forecast

This section presents the budget scenario analysis and the 10-year service level forecast for facility assets.

5.2.2.1 Budget Scenarios Setting for Facilities (Cemetery, Community Center, IT, Marina, Public Works, Transit) – Capital

Table 5-5 budget scenarios setting for facility assets. Scenario 1 (S1) is a “Do Nothing” approach with zero expenditure; S2 assumes an ideal, unconstrained budget enabling asset replacement at end-of-life; and S3 reflects the City’s defined budget at $6.0 Million annually as per **Table 5-1.**

Table 5-5: Facility Assets Budget Scenarios (Cemetery, Community Center, IT, Marina, Public Works, Transit)

Scenario		Description	Budgets
S1	Do Nothing	Spend Nothing	$0 Million
S2	Unconstrained Budget	Replace assets at end of life	Unlimited
S3	City’s Planned Budget	City’s Current Planned Budget	$6.0 Million annual budget

5.2.2.2 Facilities Assets Funding Need (Cemetery, Community Center, IT, Marina, Public Works, Transit) – Capital

Figure 5-1 shows the forecasted annual reinvestment needs for facilities from 2025 to 2034, broken down by asset category for scenario S2 (Unconstrained Budget). The 2025 forecast includes a one-time spike of $69.9 million, reflecting deferred needs carried forward from previous years. From 2026 onward, reinvestment levels are more stable, ranging between $1.6 Million and $36.5 Million, with expected peaks in 2028, 2029, and 2032 due to planned renewals. Community Centers represent the largest share of reinvestment in most years, followed by Public Works and Transit. On average, the City will require $19.9 Million per year (versus the City's current budget of $6 Million per year), totaling $199 Million over the 10-year period. This forecast supports a long-term, sustainable reinvestment strategy that balances backlog reduction with ongoing infrastructure renewal.

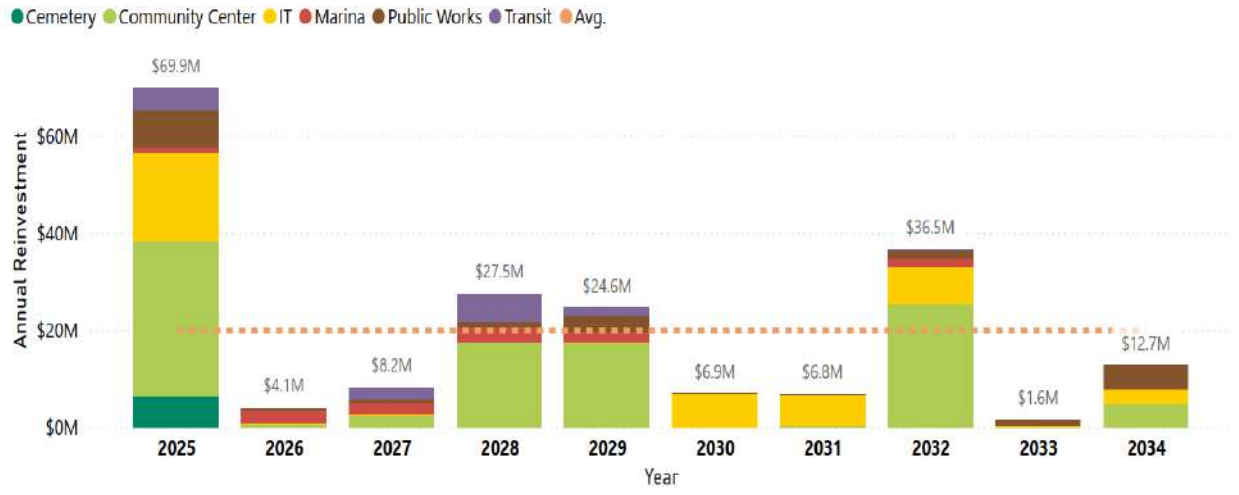


Figure 5-1: 10-Year Funding Need for Facility Assets (Cemetery, Community Center, IT, Marina, Public Works, Transit) – Unlimited Budget Scenario

The detailed 10-year reinvestment needs for facilities excluding fire, library and police are presented in **Table 5-6** in inflated dollar values.

Table 5-6: Facilities Assets 10-Year Total and Annual Average Capital Reinvestment Need – Scenario S2 (Unconstrained Budget)

Asset Type	Annual Average Need	10-Year Total
Cemetery	$650,000	$6,500,000
Community Center	$10,100,000	$101,000,000
IT	$4,300,000	$43,000,000
Marina	$1,300,000	$13,000,000
Public Works	$2,100,000	$21,000,000
Transit	$1,500,000	$15,000,000
Total	**$19,900,000**	**$199,000,000**

5.2.2.3 Facilities 10-Year Service Level Trend Forecast (Cemetery, Community Center, IT, Marina, Public Works, Transit)

Figure 5-2 presents the projected percentage of facility assets in fair or better condition from 2025 to 2034 under three reinvestment scenarios, starting from the current LoS of 78%. Scenario 2 (Unlimited Funding) shows an improvement to approximately 89% by 2026, with conditions stabilizing around 85% by 2034, demonstrating the effectiveness of sufficient funding in maintaining and improving service levels. Scenario 3 (Current Budget of $6 Million / year) offers a middle-ground outcome, with conditions declining gradually to 63% by 2034.

These projections highlight an opportunity for the City to enhance long-term facility asset performance by building on its current investment levels. The City's existing budget is inadequate to sustain the current condition level, therefore additional funding or strategic enhancements could help reduce deferred maintenance and ensure continued service reliability well into the future.

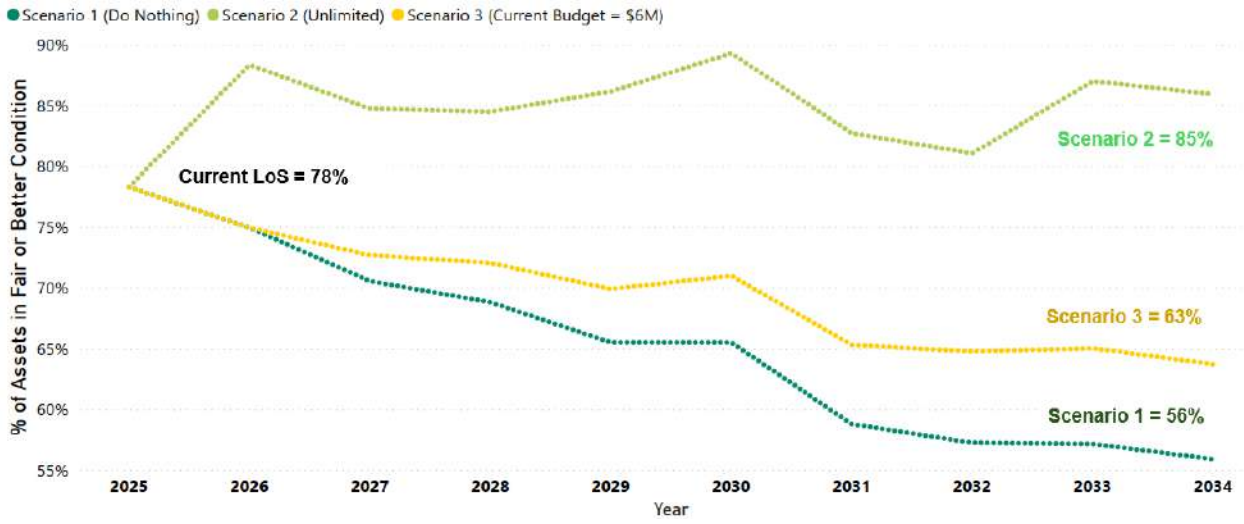


Figure 5-2: Facilities 10-Year Service Level Trend Forecast (Cemetery, Community Center, IT, Marina, Public Works, Transit) for All Budget Scenarios

Figure 5-3 illustrates the projected condition distribution of facilities (Cemetery, Community Center, IT, Marina, Public Works, Transit) from 2025 to 2034, assuming the City maintains its current annual investment of $6 Million. Currently, 78% of assets are in fair or better condition, with only a small proportion rated as poor or very poor.

Maintaining the current funding level offers only a minimal baseline and falls short of addressing long-term asset needs. Projections show that without increased investment, asset conditions will decline considerably over time. By 2030, a notable drop in overall condition is expected, with the proportion of assets in fair or better condition falling below sustainable levels. Continuing with status quo funding will lead to a growing number of assets entering poor or very poor condition, increasing risks to service delivery and long-term costs. Targeted reinvestment is therefore not just beneficial—it is necessary to prevent further deterioration. By 2034, enhancing funding could help increase the

proportion of assets in fair or better condition beyond the projected 63%, and limit the growth of those in poor or very poor condition.

Targeted investment and life-extension strategies can help offset the effects of an aging facilities and ensure more assets remain in good condition over time.

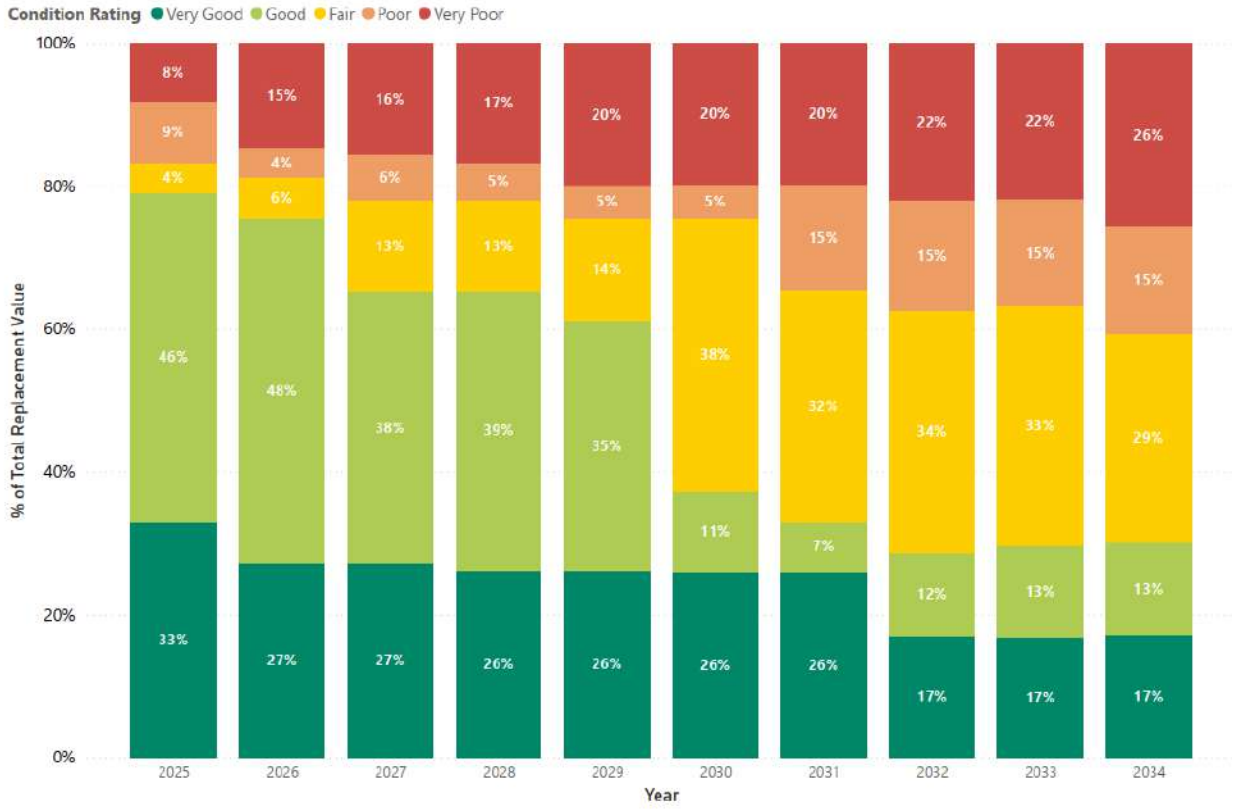


Figure 5-3: Facility Assets Condition Projection under Scenario 3 - City's Planned Budget (Cemetery, Community Center, IT, Marina, Public Works, Transit)

5.2.2.4 Budget Scenarios Setting for Facilities Assets (Fire, Police and Library) - Capital

Table 5-7 budget scenarios setting for facility assets. Scenario 1 (S1) is a "Do Nothing" approach with zero expenditure; S2 assumes an ideal, unconstrained budget enabling asset replacement at end-of-life; and S3 reflects the City's defined budget at $0.50 Million annually.

Table 5-7: Facility Assets Budget Scenarios (Fire, Police and Library)

Scenario		Description	Budgets
S1	Do Nothing	Spend Nothing	$0 Million
S2	Unconstrained Budget	Replace assets at end of life	Unlimited
S3	City's Planned Budget	City's Current Planned Budget	$0.5 Million annual budget

5.2.2.5 Facilities Assets Funding Need (Fire, Police and Library) – Capital

Figure 5-4 illustrates the annual reinvestment forecast for library (Community Center), fire, and police facilities from 2025 to 2034 for Scenario S2 (Unconstrained Budget). The total reinvestment needs fluctuate year to year, with peak requirements observed in 2028 ($4.7 Million) and 2025 ($4.0 Million), followed by 2029 ($3.5 Million) and 2026 ($3.3

Million). These peak years indicate periods of major renewal or upgrade needs, particularly for fire and police assets. In contrast, reinvestment drops significantly from 2030 onward, with minimal funding needs in 2030 ($0.12 Million), 2033 ($0.04 Million), and 2034 ($0.44 Million). The average annual reinvestment need is $1.9 Million (versus the City's current budget of $0.5 Million per year), as indicated by the red dotted line. Notably, the library (formerly labeled Community Center) sees intermittent investment across the years, while fire and police assets contribute significantly to the peak years.

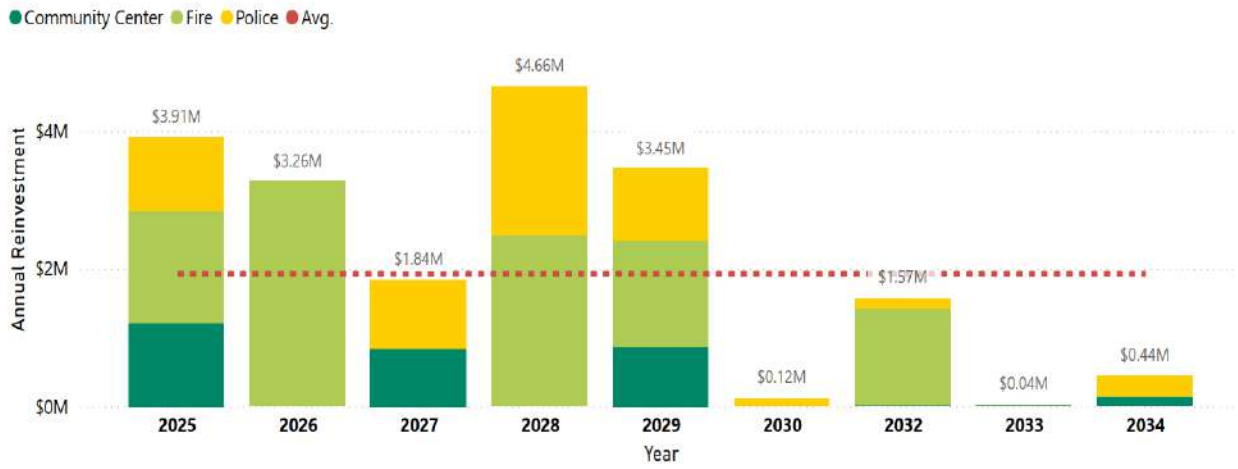


Figure 5-4: 10-Year Funding Need for Facility Assets (Fire, Police and Library) – Unlimited Budget Scenario

The detailed 10-year reinvestment needs for facilities excluding fire, library and police are presented in **Table 5-8** in inflated dollar values.

Table 5-8: Facilities Assets 10-Year Total and Annual Average Capital Reinvestment Need (Fire, Police and Library)

Asset Type	Annual Average Need	10-Year Total
Community Center (Library)	$311,000	$3,110,000
Fire	$1,000,000	$10,000,000
Police	$578,000	$5,780,000
Total	**$1,900,000**	**$19,000,000**

5.2.2.6 Facilities 10-Year Service Level Trend Forecast (Fire, Police and Library)

Figure 5-5 presents the projected percentage of facility assets in fair or better condition from 2025 to 2034 under three reinvestment scenarios, starting from the current LoS of 75%. Scenario 2 (Unlimited Funding) shows a notable improvement, with asset conditions rising to nearly 90% by 2030 and stabilizing at 85% by 2034, demonstrating that adequate reinvestment can enhance and sustain service levels. Scenario 3 (Current Budget of $0.5 Million / year) results in a severe decline, with conditions falling to 55% by 2034—a slightly better outcome than doing nothing, but still significantly below the current service level.

These projections indicate that the City’s current funding level is insufficient to maintain existing facility conditions over the long term. The deterioration under Scenario 3 reflects growing deferred maintenance and increased future risk. To sustain or improve long-term system performance, additional investment or complementary strategies will be required.

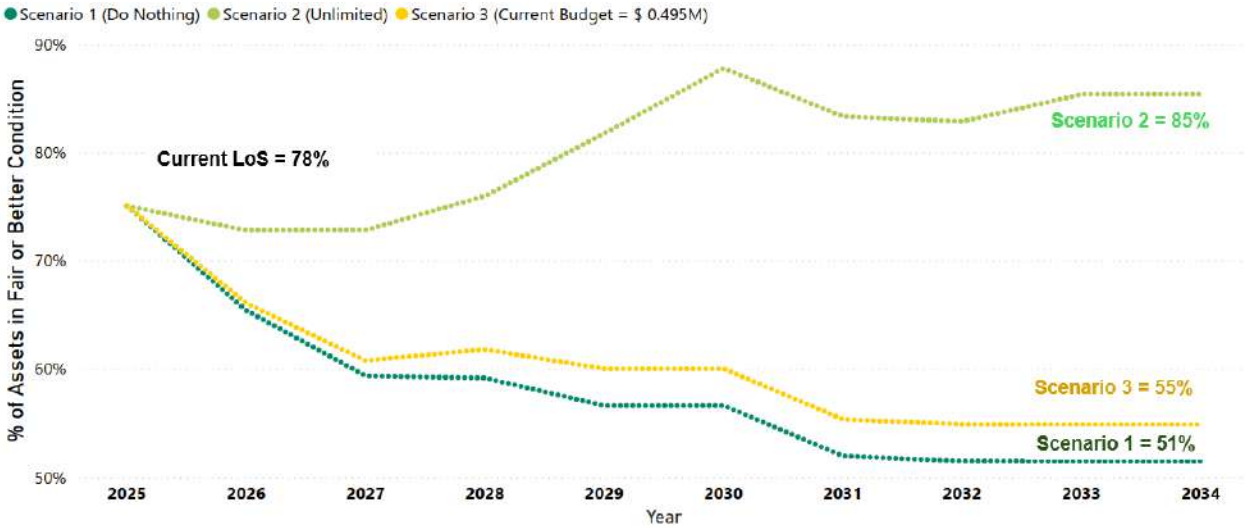


Figure 5-5: Facilities 10-Year Service Level Trend Forecast (Fire, Police and Library) for All Budget Scenarios

Figure 5-6 illustrates the projected condition distribution of fire, police and library assets from 2025 to 2034, assuming the City maintains its current annual investment of $0.5 Million. Currently, 75% of assets are in fair or better condition, with only a small proportion rated as poor or very poor. However, under continued funding at this level, the condition of the asset base is expected to decline steadily. By 2034, only 51% of assets are projected to remain in fair or better condition, while the share of assets in poor or very poor condition increases from 25% to 46%.

The gradual decline reflects the aging facilities and the impact of deferred reinvestment. Without additional investment or the implementation of life-extension strategies, a growing portion of the facilities will fall into poor to very poor condition categories.

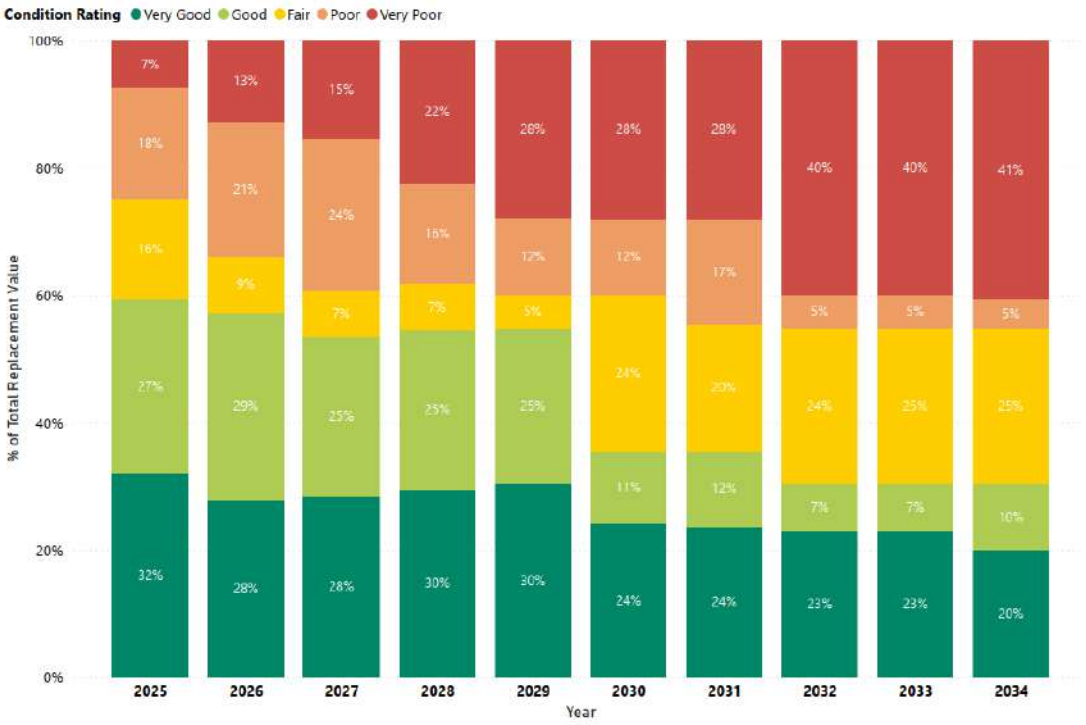


Figure 5-6: Facility Assets Condition Projection under Scenario 3 - City's Planned Budget (Fire, Police and Library)

5.3 Full Funding Profile

Figure 5-7 shows a full picture of the City's facility funding need forecast over the next 10 years, which provides the City the full funding requirements in order to perform effective financial planning activities, for all facilities excluding fire, police, and library. The total annual reinvestment cost from **Figure 5-1** has been overlaid with the City's annual average O&M cost. In addition, 1% of the annual reinvestment is used as an allocation for asset disposal costs.

The City's facility full funding requirement increases to approximately $300 Million over the next 10 years with additional funding requirement, and O&M, disposal for all these assets, equivalent to $30 Million per year in inflated dollar value.

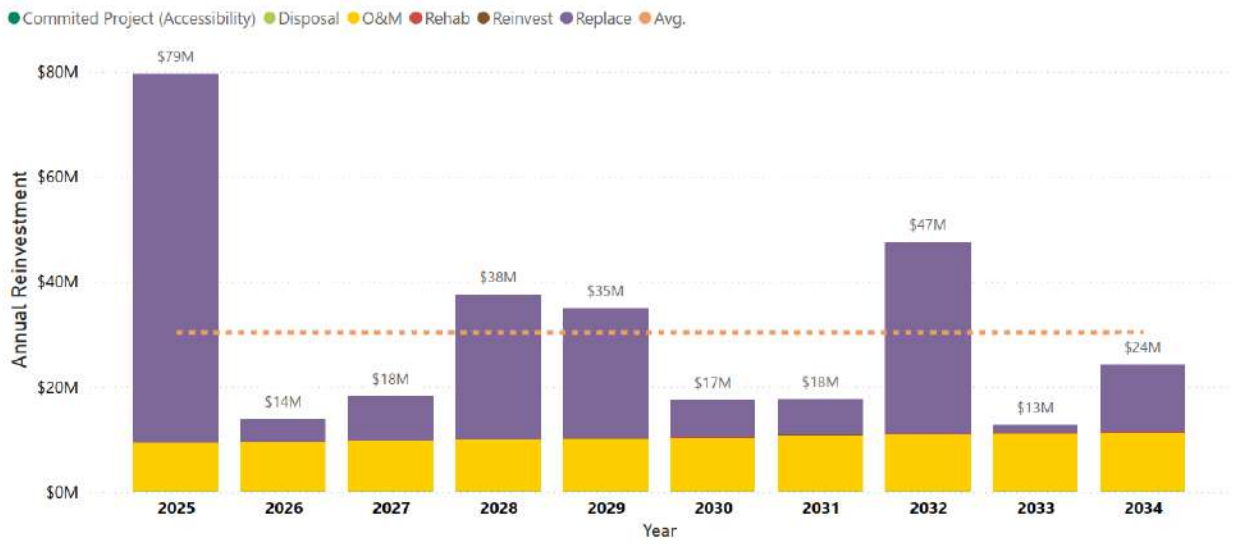


Figure 5-7: Full Funding Profile (City's Planned Capital Reinvestment Budget Scenario Included) – Facilities Excluding Fire, Library, and Police

Figure 5-8 shows a full picture of the City's facility funding need forecast over the next 10 years, which provides the City the full funding requirements in order to perform effective financial planning activities, for fire, police, and library. The total annual reinvestment cost from **Figure 5-3** has been overlaid with the City's annual average O&M cost. In addition, 1% of the annual reinvestment is used as an allocation for asset disposal costs.

The City's facility full funding requirement increases to approximately $37 Million over the next 10 years with additional funding requirement, and O&M, disposal for all these assets, equivalent to $3.7 Million per year in inflated dollar value.

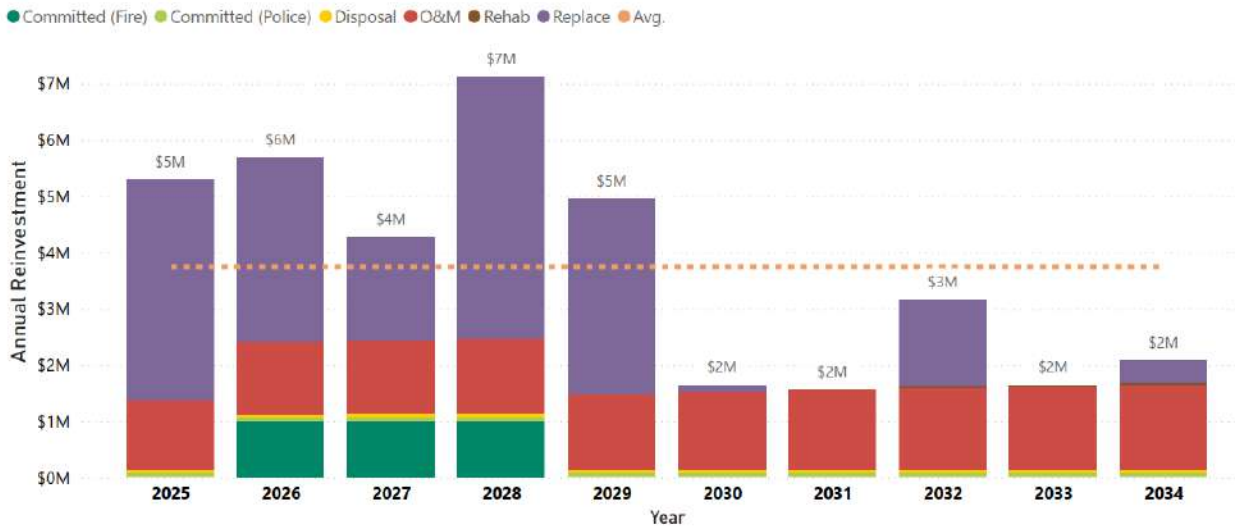


Figure 5-8: Full Funding Profile (City's Planned Capital Reinvestment Budget Scenario Included) – Facilities Fire, Library, and Police

5.4 Funding Gaps & Risk

The City intends to continue to invest in the growth and renewal of the facility assets over the next 10 years. **Table 5-9** compares the City planned capital reinvestment budget against the capital reinvestment funding needs. The shortfall between the City planned capital reinvestment budget against the capital reinvestment funding needs is referred to as the "funding gap".

Table 5-9: Funding Gap – Capital Reinvestment Funding Needs vs. Budget Forecast

Asset Class	10-Year Need Total ($Million)	10-Year City Budget Total ($Million)	10-Year Gap Total ($Million)
Facilities (Cemetery, Community Center, IT, Marina, Public Works, Transit)	$199	$60	$139
Fire, Library, and Police	$19	$5	$14

As described in **Section 3.5**, risks are identified for each service level performance measure. **Table 5-10** provides a high-level overview of the key risks associated with funding gaps, as well as the potential consequences and impacts of not meeting the proposed service levels.

Table 5-10: Risk of Delayed Intervention for Facility System

Key Risk	Asset	Potential Consequences/Impacts
Insufficient funding to keep up with population and demand increases	Library	- Increased risk of facility closure due to aging infrastructure (e.g., failing HVAC, asbestos) - Limited revenue sources due to absence of DCCs - Heritage designation restricts replacement options, requiring expensive renewal - Service disruptions impacting access to cultural and educational resources - Dependency on external grants (e.g., Northern Ontario Heritage Fund, Cultural Spaces Fund) makes long-term planning difficult
Insufficient funding for facilities asset lifecycle renewals	All Facilities	- Escalated maintenance costs (e.g., $200K/year for Police HQ) - Deferred replacements (e.g., fire station parking lot, membrane roof) - Structural issues and HVAC failures threaten building usability and safety - Heightened risk of emergency repairs and unscheduled closures - Facility-sharing (e.g., Garden River Rd.) limits options to underfund
Higher vulnerability to external economic and political factors	All Facilities	- Procurement of materials, books, and equipment from the U.S. may be impacted by tariffs, currency exchange, and political instability - Volatile costs undermine budgeting accuracy and planning - Increased delivery times and pricing pressure on capital projects and operations
Insufficient funding for operations and proactive maintenance	All Facilities	- Accelerated deterioration of aging buildings - Increased emergency maintenance diverts funds from scheduled renewals - Limited staff capacity to manage facility upkeep and compliance - Increased pressure on facility managers to deliver services with minimal resources

5.5 Funding Sources & Alternative Strategies

The City primarily secures funding for facilities and IT assets through the property tax levy, supplemented by an annual contribution to IT asset reserves and financial support from higher levels of government. Drawing insights from other municipalities, the City is keen to explore the possibility of implementing an increase in the levy designated explicitly for capital assets. Simultaneously, the City recognizes the importance of striking the right balance between maximizing the potential of the property tax levy and ensuring affordability for residents and business owners. In light of the City's financial concerns, AECOM encourages the City to actively seek alternative funding sources to address potential challenges. This section introduces the following funding options, acknowledging that the City's eligibility for these funds is contingent upon specific criteria:

- Canada Community-Building Fund (CCBF).
- Canada Cultural Spaces Fund (CCSF).
- Municipal Asset Management Program (MAMP).
- Green Municipal Fund (GMF).
- Canada Growth Fund (CGF).
- Enabling Accessibility Fund (EAF).
- Northern Ontario Heritage Fund Corporation (NOHFC).
- Care and Maintenance Trust Fund

5.5.1 Canada Community-Building Fund (CCBF)

The CCBF, previously known as the Federal Gas Tax Fund, is a permanent source of upfront funding distributed twice a year to territories and provinces. The delivery of the CCBF to municipalities varies by province or territory, with allocation following a per-capita basis for provinces, territories, and First Nations[7].

The CCBF is administered in Ontario through a bilateral agreement with the Government of Ontario, the Association of Municipalities of Ontario (AMO), and municipalities. This program allocates approximately $816 Million annually to 641 communities in Ontario, with an additional top-up of $816.5 Million provided in 2020 to expedite communities' recovery from the COVID-19 pandemic. Notably, as of 2022, the City has received over $9 Million through the CCBF, granting the City flexibility to strategically invest across 19 distinct project categories[8].

5.5.2 Canada Cultural Spaces Fund (CCSF)

The CCSF is a program administered by the Department of Canadian Heritage in Canada[9]. The fund is designed to support the improvement, renovation, and construction of cultural spaces and facilities. Its primary goal is to enhance access to, and the quality of, cultural spaces for artists and their communities. It is also worth noting that this fund is in high demand, and available program funding is very limited for the current and next fiscal years.

5.5.3 Municipal Asset Management Program (MAMP)

The MAMP is aimed at improving AM practices within municipalities[10]. Designed to assist municipalities in gaining a better understanding, planning, and efficient and sustainable management of their infrastructure assets, the program may offer funding to support the development or improvement of AM plans. This financial support is intended to incentivize municipalities to adopt and implement sustainable AM practices.

5.5.4 Green Municipal Fund (GMF)

The GMF is a financial initiative in Canada dedicated to supporting sustainability and environmental projects at the municipal level. Managed by the Federation of Canadian Municipalities (FCM), the GMF provides funding and resources to assist municipalities across the country in undertaking projects that contribute to environmental sustainability, energy efficiency, and the reduction of greenhouse gas (GHG) emissions[11]. Within the realm of facilities, municipalities can explore various opportunities provided by this fund. These opportunities may include funding for projects related to energy efficiency upgrades, renewable energy installations, green building initiatives, waste management programs, and other environmentally sustainable practices within municipal facilities. Some of the available funding opportunities are as follows:

- Capital project: Retrofit of existing municipal buildings.
- Capital project: Construction of new sustainable municipal and community buildings.
- Study: New construction of municipal and community buildings.
- Study: Retrofit pathway for municipal buildings.

[7] The Canada Community-Building Fund. (2022). Infrastructure Canada. Infrastructure Canada - The Canada Community-Building Fund. Retrieved on February 14th, 2024.

[8] Ontario's 2021–22 federal Canada Community-Building Fund allocations and top-up amounts. (2021). Infrastructure Canada. Backgrounder: Ontario's 2021–22 federal Canada Community-Building Fund allocations and top-up amounts - Canada.ca. Retrieved on February 14th, 2024.

[9] Canada Cultural Spaces Fund. (2024). Canadian Heritage. Canada Cultural Spaces Fund - Canada.ca. Retrieved on February 14th, 2024.

[10] Municipal Asset Management Program. (n.d.). Federation of Canadian Municipalities. Municipal Asset Management Program | FCM. Retrieved on February 14th, 2024.

[11] Funding opportunities. (n.d.). Green Municipal Fund. Funding opportunities | Green Municipal Fund. Retrieved on February 14th, 2024.

5.5.5 Canada Growth Fund (CGF)

The CGF is an independent and arm's length public fund with a $15 billion investment aimed at accelerating the adoption of technologies to reduce emissions and drive the transformation of Canada's economy[12]. The fund's primary objective is to catalyze substantial private sector investment in Canadian businesses and projects, fostering economic growth on the path to net-zero emissions. The fund focuses its investment activities in three primary sectors: projects utilizing less mature technologies and processes proven in pilots but not yet widely adopted; clean technology companies scaling less mature technologies in demonstration or commercialization stages; and projects and companies involved in low-carbon or climate technology value chains.

5.5.6 Enabling Accessibility Fund (EAF)

The EAF is a federal government program aimed at supporting projects that enhance accessibility for individuals with disabilities[13]. The fund provides financial assistance to eligible organizations for initiatives such as infrastructure improvements, renovations, and retrofitting to create more accessible spaces. Its goal is to contribute to a barrier-free and inclusive society by addressing physical barriers and promoting equal access in community spaces.

5.5.7 Northern Ontario Heritage Fund Corporation (NOHFC)

The NOHFC is an organization that provides financial support and promotes economic development in the northern regions of Ontario. Established to stimulate growth and sustainability, NOHFC offers funding for various projects, such as business expansion, job creation, infrastructure development, and community initiatives. Within the NOHFC, the Community Enhancement Program is an initiative aimed at supporting community-driven projects[14]. This program provides financial assistance for local initiatives that enhance community infrastructure, amenities, and services. Eligible projects may include the development or improvement of recreational facilities, community spaces, and essential services.

5.5.8 Care and Maintenance Trust Fund

A Care and Maintenance Trust Fund is a protected reserve where the principal is kept intact and only the investment income is used to support ongoing maintenance of specific municipal assets, such as cemeteries or historic facilities. In the City of Sault Ste. Marie, this fund ensures long-term care by using interest earnings—rather than tax dollars—to cover routine upkeep like landscaping, structural repairs, and preservation activities. This approach provides sustainable funding for essential asset maintenance while protecting the original capital for future generations.

[12] Canada Growth Fund. (n.d.). Department of Finance Canada. gf-fc-en.pdf (canada.ca). Retrieved on February 14th, 2024.

[13] About Enabling Accessibility Fund. (2023). Government of Canada. Enabling Accessibility Fund - Canada.ca. Retrieved on February 14th, 2024.

[14] Community Enhancement Program. (2024). Northern Ontario Heritage Fund Corporation. Community Enhancement Program | NOHFC. Retrieved on February 14th, 2024.

Recognizing the constrains of internal funding and limitations and uncertainties associated with external funding, it becomes increasingly important to explore complementary approaches that do not depend solely on financial sources. In this context, alternative or non-financial strategies play a critical role in enhancing the City's ability to manage service levels and asset performance within existing fiscal constraints. **Table 5-11** highlights the City's non-financial strategies to address the identified facility funding gap. These strategies are designed to support long-term financial sustainability through alternative delivery methods, changes in practices or policies, and system optimization, without relying solely on increased funding.

Table 5-11: Non-Financial Strategies to Address Funding Gaps for Facility Service

Category	Strategy	Description / Actions
Planning & Prioritization	Condition Assessment and Risk Framework Development	Continue enhancing facility and IT asset condition data while establishing a formalized, risk-based decision-making framework. This will improve transparency, support evidence-based planning, and optimize reinvestment timing for aging buildings and systems.
	Master Planning and Resilience Mapping	Incorporate results from facility master plans and risk mapping (e.g., HVAC, structural vulnerabilities, IT system redundancies) into capital prioritization to manage long-term operational risks and resilience needs.
	Strategic Alignment with Other Infrastructure Projects	Where applicable, align facility upgrades (e.g., underground utilities, parking lot resurfacing) with broader road or utility projects to reduce rework, cost, and disruption.
	Explore Trenchless or Modular Approaches	Consider modular upgrades, targeted retrofits, or trenchless technologies (e.g., conduit lining for IT cabling or HVAC ductwork) to extend service life without full replacement.
Operational & Engineering Solutions	Optimize Equipment Lifecycle and Reuse	Where feasible, repurpose or internally sell decommissioned equipment and furniture to other departments to reduce procurement costs and avoid waste (e.g., office equipment, IT hardware, small machinery).
	Energy and Maintenance Optimization	Improve operational efficiency by upgrading to energy-efficient systems (e.g., LED lighting, smart HVAC) and enforcing preventive maintenance schedules to minimize downtime and reactive repairs.
	Enhance Internal Coordination	Use corridor-based or department-focused capital planning to identify opportunities for bundled upgrades, maintenance, and shared-use infrastructure (e.g., IT server rooms, janitorial storage).
Regulatory & Policy	Monitoring, Compliance, and Documentation	Improve effluent monitoring to quickly detect issues, assess root causes, and prevent future violations.
	Service Level Review and Rationalization	Review current service level expectations for specialized facility functions—such as community gathering areas or backup IT infrastructure—to determine whether they align with actual usage and community needs. Where spaces are underutilized and operational risk is minimal, consider consolidating functions or scaling back services, especially if suitable alternatives (e.g., shared spaces, cloud-based backups) are available.
Redundancy & Optimization	IT and Mechanical Redundancy	Install or maintain redundancies for critical systems (e.g., data backup servers, emergency generators, HVAC for emergency shelters) to maintain service continuity during failures or emergencies.
	Bulk Purchasing and Shared Services	Leverage economies of scale by coordinating bulk procurement of common supplies (e.g., lightbulbs, janitorial products, IT peripherals) and services (e.g., snow removal, parking lot painting) across departments.

6 Implementation Plan and Continuous Improvement

Continuous improvement is an important component of any AM program and is achieved through the implementation of recommended improvement initiatives which support sustainable service delivery. AECOM has identified a set of activities that represents the next stage of AM planning and implementation within the City, as shown in **Table 6-1**.

Table 6-1: Recommended AM Improvement Initiatives

Index	Improvement Initiative	Description
1.	Refine the asset hierarchy and inventory.	• Continue to refine the asset inventory and close existing data gaps, so as to have a more accurate representation of the current state of the facility and IT assets; and, ultimately, to make more informed and defensible decisions. ○ AECOM recommends the City to create a comprehensive inventory with replacement value for all facilities based on the Uniformat structure and keep updating the inventory as assets are acquired or disposed. The MH report is an appropriate reference to be used for developing the facility inventories. ○ AECOM also recommends creating a clear and comprehensive IT inventory. • Refine the install date information of the facilities and IT assets. • Define unique asset IDs for IT assets. These IDs should differ from accounting numbers, as the accounting number is not unique for each asset. • Asset IDs for buildings to be used in the next update of the AMP
2.	Develop a formalized facility assets condition assessment process and use consistent condition grading schemes for these assets.	• The grading system should include a description directly tied to each condition grade, along with details about the asset's performance and the necessary level of corrective and preventive maintenance required for assets falling within a certain condition rating category. This process will enable the City to keep track of and better forecast asset renewal needs. • Record the condition of IT assets, even though they may not follow a typical physical deterioration pattern. • Continue performing condition assessments on the most critical assets first. This ensures that assets are assessed using the same methodology and prioritized based on their criticality. It facilitates a more defensible business case when addressing issues of asset degradation with senior management and the Council. ○ Morisson Hershfield Limited (MH) implemented a thorough condition assessment for facilities in the City. While the MH report provides valuable insights, it is important to note that not every single facility within the City is covered by the report. This raises the necessity for a more comprehensive and up-to-date condition assessment program. Such a program should extend its coverage beyond the facilities included in the MH report, ensuring a thorough evaluation of all relevant structures and assets within the City. This expanded approach will enable a more holistic understanding of the overall condition of various facilities, facilitating better-informed decision-making and prioritization of maintenance or improvement initiatives • Continue performing condition assessments on the most critical assets first, using a consistent methodology to prioritize based on asset criticality. This approach supports a defensible business case when presenting asset degradation issues to senior management and Council. • To improve consistency, comparability, and strategic decision-making, AECOM recommends that the City standardizes its facility asset inventory and associated condition assessments using the UNIFORMAT II classification hierarchy. This system organizes building elements (e.g., substructure, shell, interiors, services) in a logical, hierarchical structure that supports lifecycle planning and benchmarking across facilities. ○ Benefits: ▪ Consistency and comparability across departments and asset types. ▪ Improved data quality for condition assessments, enabling better capital planning and budgeting. ▪ Streamlined integration with asset management systems and cost estimating tools. ▪ Enhanced communication with consultants and stakeholders using a widely recognized standard.

Index	Improvement Initiative	Description
3.	Refine the LoS Framework.	• The AMP represents the City's Levels of Service in alignment with the requirements of O. Reg. 588/17 July 1, 2025, deadline. The City will continue its efforts to: ○ Regularly record LoS performance measures to monitor changes over time and identify emerging trends. • Review and update performance measures as needed to ensure they remain relevant and effective. • Periodically assess proposed LoS to confirm alignment with shifting community expectations, regulatory changes, City priorities, available resources, and observed performance trends—supporting adaptive and responsive service delivery. • Continuously enhance demand management by routinely evaluating future demand drivers that influence service delivery and asset use, integrating these insights into long-term capital planning to ensure LoS remains responsive to changing needs.
4.	Incorporate risk assessment for future iterations of the AM plan, and use the risk assessment results to drive future condition assessments and financial needs forecasting	• Conduct a criticality and risk assessment of assets to inform work prioritization. • Review risk attribute values periodically to ensure alignment with business objectives and risk appetite. • Overlay the risk model with the current state of the assets (i.e., condition) and the financial forecast. Using this approach, the City could focus its monitoring, maintenance, and renewal and replacement budget and activities on high-risk assets. Medium-risk infrastructure could be addressed through the mitigation of failure via regular monitoring, while the failure of low-risk assets could be accepted with caution.
5.	Establish a sustainable facility funding model that fits the needs of the community.	• The analysis of facilities assets (Cemetery, Community Center, IT, Marina, Public Works, Transit) highlights significant reinvestment challenges over the 2025–2034 planning horizon. A large backlog of $69.9 Million is identified for 2025, followed by fluctuating annual needs averaging $19.9 Million per year, driven largely by community centers and other critical facility types. Under the current funding level of $6 Million annually, the condition of facilities is projected to decline from 78% in fair or better condition to just 56% by 2034, with assets in poor or very poor condition increasing from 17% to 41%. This trend underscores the unsustainability of current funding, and the long-term risks associated with deferred reinvestment. To address these concerns, it is recommended that the City explore strategies such as gradually increasing annual capital funding, implementing targeted life-extension programs, prioritizing reinvestment based on asset criticality, and seeking external funding opportunities where available. These steps will support the preservation of service levels and reduce future risk exposure. • The reinvestment outlook for fire, police, and library facilities underscores the need for proactive planning and increased funding. While the average annual need is $1.9 Million, the current funding level of $0.5 Million per year falls significantly short, leading to a projected decline in assets in fair or better condition from 75% in 2025 to just 51% by 2034. The share of assets in poor or very poor condition is expected to rise sharply from 25% to 46%, indicating growing deferred maintenance risks. Peaks in reinvestment demand, particularly in 2025, 2026, 2028, and 2029, reflect scheduled upgrades that must be addressed to avoid deterioration of critical services. To mitigate these risks, the City should consider increasing the annual capital budget for these assets, aligning reinvestment levels more closely with actual needs. Additional recommendations include developing life-extension and preventive maintenance strategies, prioritizing investments based on risk and service criticality, and leveraging external funding sources or grants where possible. These measures will help sustain service levels, reduce long-term costs, and preserve public safety and community infrastructure.
5.	Continue to find ways to improve AM initiatives across the City by maintaining a high level of AM awareness through training, communication, and knowledge sharing.	• Develop a Knowledge Retention Strategy and Internal Communications Plan to document staff AM knowledge and experience for reporting and succession planning purposes. Communicate AM improvement initiatives and enhance AM awareness internally through internal communication. • Communicate AM improvement initiatives and enhance natural AM awareness internally through internal communication.
6	Implement a CMMS / Work Management System.	• The City will conduct an AM Software Strategy following the completion of this AM plan to identify future system requirements that may include enhancing existing software, adding-on, or replacing.

Index	Improvement Initiative	Description
7	Develop a Change Management & Communications Plan	• AM buy-in and support are needed from all levels of the City to ensure that AM standards, practices, and tools are properly adopted and incorporated into day-to-day work activities. A successful Change Management & Communications Plan will depend on the following factors: o AM buy-in from Council, senior management, staff, and departments. o AM improvement initiatives are appropriately resourced. o A network of AM champions is developed and empowered across the City.
8	Public and Council Engagement Activities.	• To ensure the Facility AMP for buildings and facilities aligns with community expectations, supports informed decision-making, and enhances transparency, the City is committed to establishing a structured and strategic approach to public and Council engagement. o Council Engagement: The City has already undertaken several engagement initiatives, including Council presentations and media events, to communicate key updates related to building and facility assets. To strengthen these efforts, it is recommended that Councillor Tool Kits be developed to provide elected officials with consistent, accessible messaging. These kits would help Councillors confidently respond to resident inquiries and communicate the value of continued investment in civic buildings. Suggested content for the tool kits includes: ▪ Overview of the City's Building and Facility Portfolio. ▪ Specialized Functions and Community Roles of Facilities (e.g., libraries, fire halls, community centers). ▪ Historical and Planned Investments in Facility Infrastructure. ▪ How the City Manages Maintenance and Renewal of Facilities. ▪ Why Ongoing Investment in Buildings and Facilities is Critical. ▪ Facility Types and Their Role in Prioritizing Investments. ▪ Asset Management Principles for Buildings. ▪ Service Levels: What Facility Users Can Expect. ▪ Impacts of Climate Change on Facility Performance and Longevity. ▪ Use of Technology to Monitor and Improve Facility Operations. ▪ Funding Sources for Facility Renewal and Expansion. ▪ How Projects are Prioritized for Maintenance or Replacement. o Public Engagement: The City has shared facility-related information through existing communication channels. To improve transparency and engagement, a dedicated project webpage is recommended to serve as a central hub for buildings and facilities planning updates. This page could include frequently asked questions, downloadable resources, project timelines, contact information, and interactive elements to encourage public input. o A targeted social media strategy—leveraging platforms such as Facebook and Instagram—could further broaden outreach. Sponsored posts can be used to highlight key milestones (e.g., facility openings or major upgrades) and promote opportunities for public engagement. ▪ Implementing these strategies will help build public trust, support data-informed service level discussions, and ensure that the Facility AMP reflects the evolving priorities of both Council and the broader community.

APPENDIX A

Facility Asset Inventory

A



Appendix A - Facility Asset Inventory

The City's Facility asset inventory is presented as a separate MS Excel file.

About AECOM

AECOM is the world's trusted infrastructure consulting firm, delivering professional services throughout the project lifecycle — from planning, design and engineering to program and construction management. On projects spanning transportation, buildings, water, new energy and the environment, our public- and private-sector clients trust us to solve their most complex challenges. Our teams are driven by a common purpose to deliver a better world through our unrivaled technical expertise and innovation, a culture of equity, diversity and inclusion, and a commitment to environmental, social and governance priorities. AECOM is a *Fortune 500* firm and its Professional Services business had revenue of $13.2 billion in fiscal year 2020. See how we are delivering sustainable legacies for generations to come at aecom.com and @AECOM.

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City of Sault Ste. Marie
Fleet Asset Management Plan

June 2025

Delivering a better world

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List of Abbreviations

Abbreviation	Description
AM	Asset Management
AMP	Asset Management Plan
APUs	Auxiliary Power Units
CIBI	Canadian Infrastructure Benchmarking Initiative
CMMS	Computerized Maintenance Management System
CDES	Community Development and Enterprise Services
CNG	Compressed Natural Gas
CSD	Community Service Department
ePTO	electric Power Take-off
EV	Electric Vehicle
ESL	Expected Service Life
GIS	Geographic Information System
GNG	Green House Gas
HD	Heavy Duty
HEV	Hybrid Electric Vehicles
ICEs	Internal Combustion Engines
I&I	Inflow & infiltration
KPI	Key Performance Indicator
LD	Light Duty
LED	Light Emitting Diodes
LoS	Level of Service
MD	Medium Duty
MFIPPA	Municipal Freedom of Information and Protection of Privacy Act
OEM	Original Equipment Manufacturer
O&M	Operations and Maintenance
O. Reg.	Ontario Regulation
PEV	Plug-In Electric Vehicles
PWES	Public Works and Engineering Service
PW	Public Work
RSL	Remaining Service Life
SUV	Sports Utility Vehicle
TCO	Total Cost of Ownership
VEU	Vehicle Equivalent Unit

1 Introduction

AECOM Canada ULC (AECOM) was retained by The City of Sault Ste. Marie (the "City") to update the asset management plan developed in 2022 to comply with the third phase (Phase III) of the Ontario Regulation 588/17 (O. Reg. 588/17) requirements in respect to its core municipal infrastructure assets. The scope of work is outlined in AECOM's proposal dated September 20, 2024, and subsequent project correspondence.

1.1 Background

Sault Ste. Marie is a City located on the St. Mary's River, North of the United States of America, bordering on two of the Great Lakes with an estimated population of 73,368 (2016). The City provides a wide range of public services to their constituents, with the expectation from the public that these services are expected to function efficiently at a certain level. The provision of these services requires the management of the physical assets to meet desired service levels, manage risks, and provide long-term financial sustainability. These assets include, but are not limited to, roads, bridges, sidewalks, wastewater assets, stormwater management assets, landfills, fleets, buildings, and parks.

In accordance with the terms of reference for this assignment, it is understood that the City is proceeding with an asset management plan to comply with the third phase of the regulatory requirements in respect to its core and non-core municipal infrastructure assets, in accordance with O. Reg. 588/17, by July 1, 2025. The non-core assets to be covered in the scope, as defined by the regulation, include the City's protection services, solid waste, parks and cemetery, facilities, fleet, roadway appurtenances, and active transportation.

Scope and Objectives

In 2015, the City's first Asset Management Plan (AMP) was published. In 2019, by the City Council approval, the Strategic Asset Management (AM) Policy for the City came into effect. In 2022, the City published its core asset AMPs. Following that, the City developed the AMPs for its noncore assets in 2024.

Organizations that implement good AM practices will benefit from improved business and financial performance, effective investment decisions, and better risk management. Stakeholders can expect lower total asset life cycle costs, higher asset performance, and confidence in sustained future performance.

The AMPs capture the City's infrastructure assets and deliver a financial and technical roadmap for the management of the City's assets. The intent of this plan is to provide the means for the City to maximize value from its assets, at the lowest overall expense, while, at the same time, enhancing service levels for its residents.

The objective of Phase III is to update all the core and non-core AMPs to comply with the July 1st, 2025, deadline set by O. Reg. 588/17. Phase III will update the AMP by incorporating the latest asset information, with a focus on:

- Updating the current AMPs to integrate proposed Levels of Service (LoS).
- Defining the lifecycle activities and associated costs required to achieve those LoS.
- Identify the available funding and any funding shortfalls.
- Document the risk(s) of failing to meet the proposed LoS for all asset classes over a 10-year period.

This AMP is an update of the 2024 AMP for the City's Fleet and Equipment Assets, as shown in **Table 1-1**. Other core and noncore AMPs are presented under separate reports.

Table 1-1: In-Scope Fleet Assets

Asset Group	Department	Sub-Assets
Fleet	Public Works and Engineering Service (PWES)	Admin Fleet, Building Equipment Maintenance Fleet, Mechanical Fleet, Operational Fleet, Park Fleet, Traffic Fleet
	Community Development and Enterprise Services (CDES)	Arena Fleet, Cemetery Fleet, Transit Fleet
Equipment	Public Works and Engineering Service (PWES)	Operation Equipment
	Community Development and Enterprise Services (CDES)	Arena Equipment, Transit Equipment

The following elements are included within the scope of this AMP:

- Asset hierarchy, a summary of the asset inventory, including the replacement cost of the assets, the average age of the assets, the condition of the assets, and data gaps analysis (**Sections 2**).
- The City's level of service objectives, stakeholder identification, current LoS determined in accordance with the qualitative descriptions and technical metrics outlined in O. Reg. 588/17, proposed service levels, LoS forecast, and future demand drivers (**Section 3**).
- Asset lifecycle management strategies, lifecycle activities, and funding needs to achieve proposed LoS, risk of not meeting proposed LoS, available funding and funding gap, and alternative (non-financial) strategies to manage funding shortfall (**Section 4** and **Section 5**)

1.2 Asset Management Provincial Requirements

The O. Reg. 588/17 came into effect in 2018 and stipulates specific AM requirements to be in place within Ontario municipalities by certain key dates (**Table 1-2**). The development of this AMP is one of the steps to guide the City towards meeting the July 1st, 2025, deadline.

Table 1-2: O. Reg. 588/17: AM Planning for Municipal Infrastructure

Deadline Date	Regulatory Requirement
July 1st, 2019	All municipalities are required to prepare their first Strategic AM Policy.
July 1st, 2022	All municipalities are required to have an AM Plan for its entire core municipal infrastructure (i.e., water, wastewater, stormwater, roads, and bridges & culverts).
July 1st, 2024	All municipalities are required to have an AM Plan for infrastructure assets not included under their core assets.
July 1st, 2025	All AM Plans must include information about the LoS that the municipality proposes to provide, the lifecycle activities and associated costs needed to achieve those LoS, available funding, any funding shortfalls, and the risk of failing to meet the proposed LoS.

2 State of Infrastructure

Fleet assets are managed by the Fleet Management Division, which provides service for all the City's operational vehicles, public transit vehicles, public works, transit, and arena equipment, except those used by the City's Fire and Rescue and Police Service. Almost all other City departments utilize vehicles/equipment for their day-to-day operation and public service activities. Fleet Management is responsible for maintaining these fleet assets in a timely and efficient manner to support the continuous delivery of City services every day. Currently, the Fleet Management Division manages over 600 assets that range significantly in both complexity and value. Fleet Management Services provides all the licensing, registration, and insurance of the vehicles and maintains preventative maintenance activities.

The inventory of the fleet is a comprehensive catalogue detailing the quantity, condition, and specifications of these components within the City. By analyzing the inventory and assessing the data gaps, this section facilitates informed decision-making and strategic resource allocation, providing essential insights into the maintenance needs and financial requirements.

2.1 Asset Hierarchy

To fulfill the requirements of O. Reg. 588/17 and to pave the way for robust long-range asset management planning, the City requires a logically segmented asset breakdown structure (hierarchy) under the scope of this AMP. Achieving this requires a sufficiently granular classification of Fleet assets, enabling the identification of individual assets due for renewal. Striking the right balance is also crucial, as there is a fine trade-off between ensuring adequate granularity to provide essential information and avoiding excessive granularity that could make the effort to collect and manage information more burdensome than the usefulness derived from it.

The City has a wide range of fleet assets organized hierarchically. This breakdown of the infrastructure is derived from the way that assets are presented within the data sources, which indicates the program area's responsibilities and parent-child relationships within each asset type. In **Figure 2-1**, the hierarchy of Fleet is illustrated, showcasing four main categories: Public Work and Engineering Service (PWES) Fleet, Community Development and Enterprise Service (CDES) Fleet, Public Work (PW) Equipment, and Community Service Department (CSD) Equipment. Each category is further broken down into subcategories. This asset hierarchy establishes a logical indexing of the City's fleet assets, categorizing them into primary (parent) and secondary (child- and grandchild) assets. Such a structure forms the foundational framework for subsequent discussions and analysis, enabling the drill-down to a specific asset within the hierarchy to support maintenance planning or track costs at the asset level or higher levels.

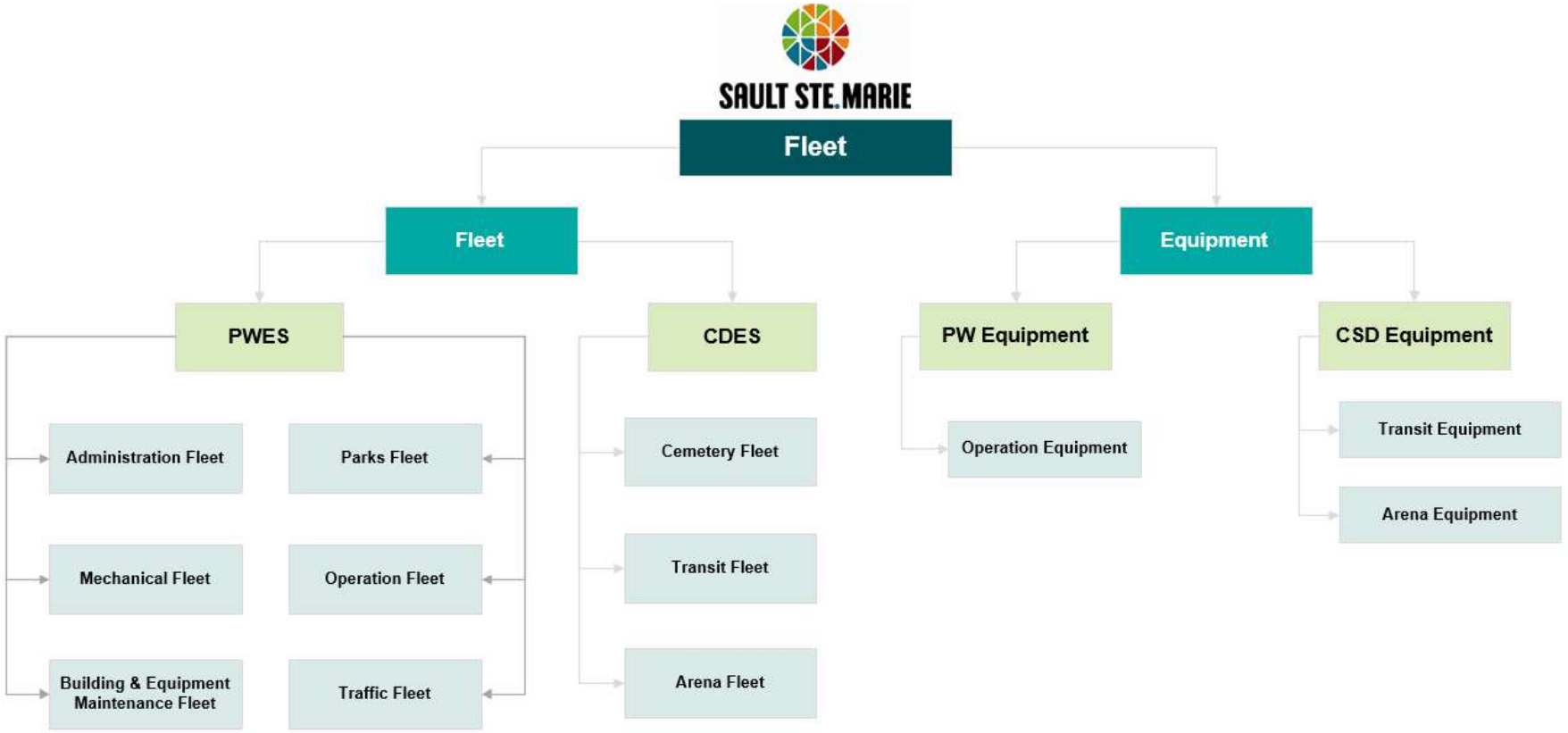


Figure 2-1: City of Sault Ste. Marie Fleet Asset Hierarchy

2.2 Current State of Assets

2.2.1 Asset Inventory

A completed fleet asset inventory is compiled based on the raw data provided by the City at the initial stage of the project, which was obtained from the following sources:

- Active Capital Assets 2021
- BUS LIST - As of Feb 2023
- Copy of Equipment Cemetery 2022
- Transit Capital 22 - Updated August 24, 2022
- FINAL 2023 UPDATE SSM Public Works Replacement Plan Workbook updated 2023-03-09.

Table 2-1 provides a summary of the fleet inventory for each asset category within the City's fleet assets. In total, the City fleet team manages 393 fleets and 202 equipment assets, serving different City service departments.

Table 2-1: Fleet Asset Inventory Summary

Asset Group	Departments	Asset Class	Quantity	Unit
Fleet	PWES Fleet	PW - Admin Fleet	4	Ea.
		PW - Building Equipment Maintenance Fleet	12	Ea.
		PW - Operation Fleet	198	Ea.
		PW - Mechanical Fleet	1	Ea.
		PW - Traffic Fleet	16	Ea.
		PW - Park Fleet	75	Ea.
	CDES Fleet	Arena Fleet	5	Ea.
		Cemetery Fleet	32	Ea.
		Transit Fleet	50	Ea.
Equipment	PW Equipment	PW - Operation Equipment	18	Ea.
	CSD Equipment	Arena Equipment	2	Ea.
		Transit Equipment	194	Ea.
Total Fleet			**393**	**Ea.**
Total Equipment			**214**	**Ea.**

2.2.2 Current Asset Replacement Value

The asset replacement value is the estimated cost that would be incurred to replace an existing asset with a new one of similar functionality, at current market prices. This value represents the monetary amount required to reproduce or procure an asset equivalent to the one being assessed. Examining the distribution of asset replacement values allows the City to comprehend which asset categories hold the highest value for both the City and the public.

The finalized asset replacement values were determined with the largest numbers of the following:

- Escalating the original asset purchase costs to 2025 dollars, by the average inflation rate of the past 10 years (2014-2024) at 2.11%.[1]
- Current replacement cost from the AECOM cost library and Mercury PWES Fleet Assessment Report[2].

The City's fleet assets are valued at approximately $70 million. **Table 2-2** presents the current replacement value of each asset category. The PW – Operation fleet account for the highest replacement value, which is approximately $31 million, followed by the Transit fleet, contributing to over $22 million. PW – Park fleet and Transit equipment are valued at approximately $5.3 million and $4.9 million, respectively. PW – Traffic fleet constitutes approximately $2.1 million. Note that all total replacement values are rounded to the nearest thousand.

Table 2-2: Fleet Current Replacement Value

Asset Group	Departments	Asset Class	Replacement Cost Range	Total Replacement Value (2025)
Fleet	PWES Fleet	PW - Admin Fleet	$28,000 - $51,000	$153,000
		PW - Building Equipment Maintenance Fleet	$11,000 - $228,000	$861,000
		PW - Operation Fleet	$9,000 - $717,000	$30,690,000
		PW - Mechanical Fleet	$51,000	$50,000
		PW - Traffic Fleet	$15,000 - $233,000	$2,102,000
		PW - Park Fleet	$9,000 - $380,000	$5,298,000
	CDES Fleet	Arena Fleet	$118,000 - $135,000	$614,000
		Cemetery Fleet	$9,000 - $221,000	$2,145,000
		Transit Fleet	$28,000 - $685,000	$21,825,000
Equipment	PW Equipment	PW - Operation Equipment	$9,000 - $154,000	$856,000
	CSD Equipment	Arena Equipment	$6,000 - $154,000	$156,000
		Transit Equipment	$3,000 - $125,000	$5,307,000
Total Fleet				**$63,738,000**
Total Equipment				**$6,319,000**
Total				**$70,057,000**

It is noted that the replacement costs are estimated based on the Class 4[3] cost estimation approach. These estimates are typically prepared with limited information, resulting in wide accuracy ranges. Class 4 estimates serve various purposes, including project screening, feasibility assessment, concept evaluation, and preliminary budget approval. They are utilized for detailed strategic planning, business development, project screening at more advanced stages, alternative scheme analysis, confirmation of economic and technical feasibility, and approval to proceed to the next stage. Typically, depending on the construction complexity of the project, relevant reference information, and other associated risks, the accuracy ranges for Class 4 estimates fall within the following bounds (could exceed based on various criteria):

- On the lower side, -10% to -20%
- On the higher side, +20% to +30%

It is also worth noting that the total replacement values are presented in inflated dollars and have been marked up by 5% to 30% for fleet assets, which accounts for market markup and any necessary service costs.

[1] Statistics Canada (Non-residential Building Construction Price Index), Altus Group Construction Cost Guide
[2] Mercury Associates, Inc. SSM Fleet Practices Review Final Report. Prepared for the City of Sault Ste. Marie, 19 July 2021, Retrieved in February 2024
[3] Association for the Advancement of Cost Engineering (AACE) International Recommended Practice No. 18R-97. Cost Estimate Classification System - As Applied In Engineering, Procurement, and Construction for the Building and General Construction Industries, 2020, Retrieved in February 2024

2.2.3 Age and Remaining Service Life

In practice, various assets will deteriorate at different rates and not necessarily linearly over time. However, it is pivotal to keep in mind the level of effort required to predict failure compared with the asset value. More sophisticated deterioration modelling may be warranted for very high-value assets, whilst the cost of deterioration modelling for low-value assets may very well exceed the replacement cost of the asset. The actual service life can vary significantly from the estimated service life (ESL). The latter is defined as the period over which an asset is available for use and able to provide the required LoS at an acceptable risk and serviceability (i.e., without unforeseen costs of disruption for maintenance and repair). In some instances, a variation in expected vs. actual service life is evident due to the following factors:

- **Operating conditions and demands**: Some assets are operated intermittently or even infrequently or are being operated at a lower demand than their designed capacity. Thus, the actual operating "age" of the asset is reduced.
- **Environment**: Some assets are exposed to very aggressive environmental conditions (e.g., corrosive chemicals), while other assets are in relatively benign conditions; thus, the deterioration of assets is affected differently.
- **Maintenance**: Assets are maintained through the refurbishment or replacement of components, which prolongs the service life of the asset.
- **Technological Obsolescence**: Some fleet and equipment assets can theoretically be maintained in long term, although considerations such as cost to maintain the asset, its energy efficiency, and the cost to upgrade to an updated technology that would result in cost savings are likely to render this approach uneconomical.

Initially, the average age was calculated based on the purchase and installation year of each individual asset. Then, based on the age of the asset and the ESL (collected from a State of Infrastructure Workshop with the City, and additional information provided by the City), the remaining service life (RSL) was calculated. It should be noted that in the case where age was higher compared to ESL, RSL was considered as zero.

Table 2-3 and **Figure 2-2** present the weighted average age, weighted average ESL, and remaining service life for various asset sub-categories within the City's fleet assets. The average age of the asset's ranges from 3 to 15 years, with average ESLs that vary from 4 to 20 years. It should be noted that PW - Mechanical Fleet, Arena Fleet, and Cemetery Fleet are the oldest in comparison with other assets, with less than 20% of the assets' estimated service life remaining. Overall, the fleet assets have surpassed 50% of their estimated service life, while the equipment assets have exceeded 80% of their expected service life.

Table 2-3: Fleet Asset Average Age, ESL, and Remaining Service Life

Asset Group	Departments	Asset Class	Weighted Average Age	Weighted Average ESL	Remaining Service Life
Fleet	PWES Fleet	PW - Admin Fleet	4	10	6
		PW - Building Equipment Maintenance Fleet	8	14	6
		PW - Operation Fleet	7	13	6
		PW - Mechanical Fleet	8	10	2
		PW - Traffic Fleet	7	12	5
		PW - Park Fleet	7	12	5
	CDES Fleet	Arena Fleet	9	10	1
		Cemetery Fleet	10	12	2
		Transit Fleet	6	10	4
Equipment	PW Equipment	PW - Operation Equipment	15	19	4

Asset Group	Departments	Asset Class	Weighted Average Age	Weighted Average ESL	Remaining Service Life
	CSD Equipment	Arena Equipment	15	20	5
		Transit Equipment	3	4	1

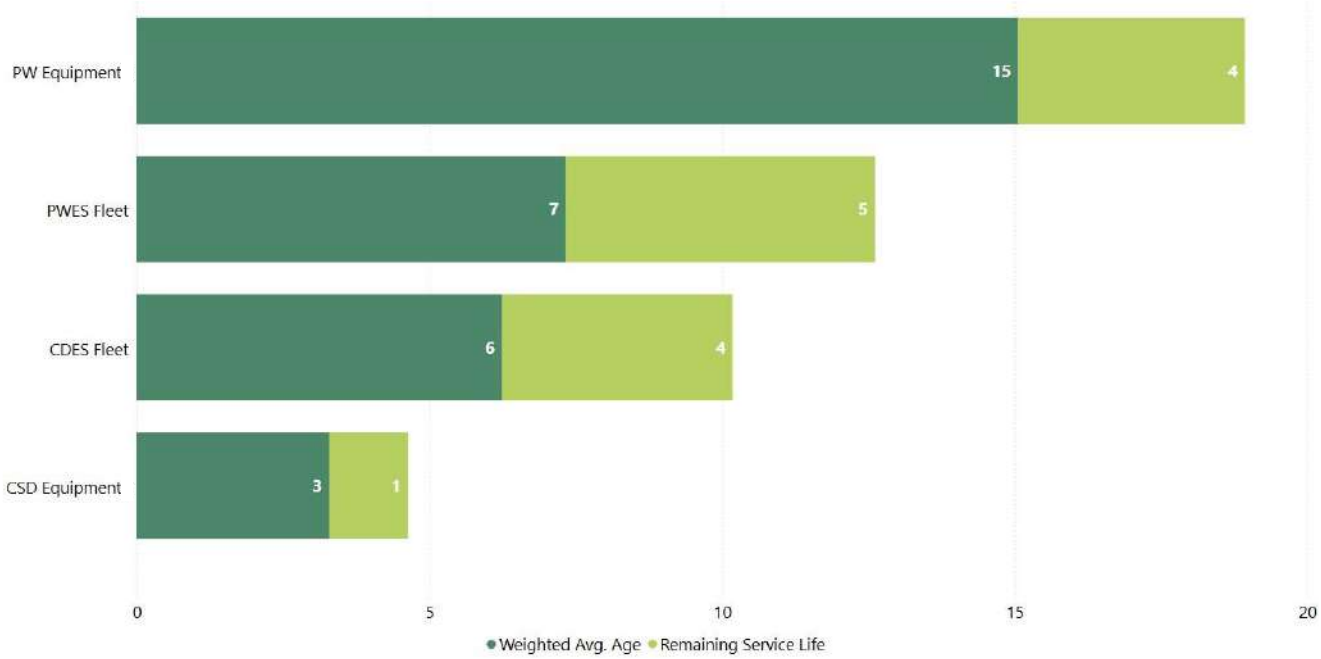


Figure 2-2: Fleet and Equipment Asset Weighted Average Age and Remaining Service Life

Figure 2-3 shows the installation profile of the City's PWES Fleet asset according to asset classes. Most of the current fleet and equipment assets were placed into service starting in 2010, with the exception of four PW – Operations equipment, three PW – Operations fleet vehicles, and one PW – Parks fleet vehicle, which were acquired between 2005 and 2009. Between 2010 and 2019, over $26 million worth of fleet assets were purchased, with more than $20 million allocated to PW – Operations fleets. During the same period, several PW – Parks fleet vehicles were also acquired and put into service. Since 2020, the City's fleet team has continued to update and expand its inventory, investing more than $12 million in capital expenditures, with over two-thirds directed toward PW – Operations fleets.

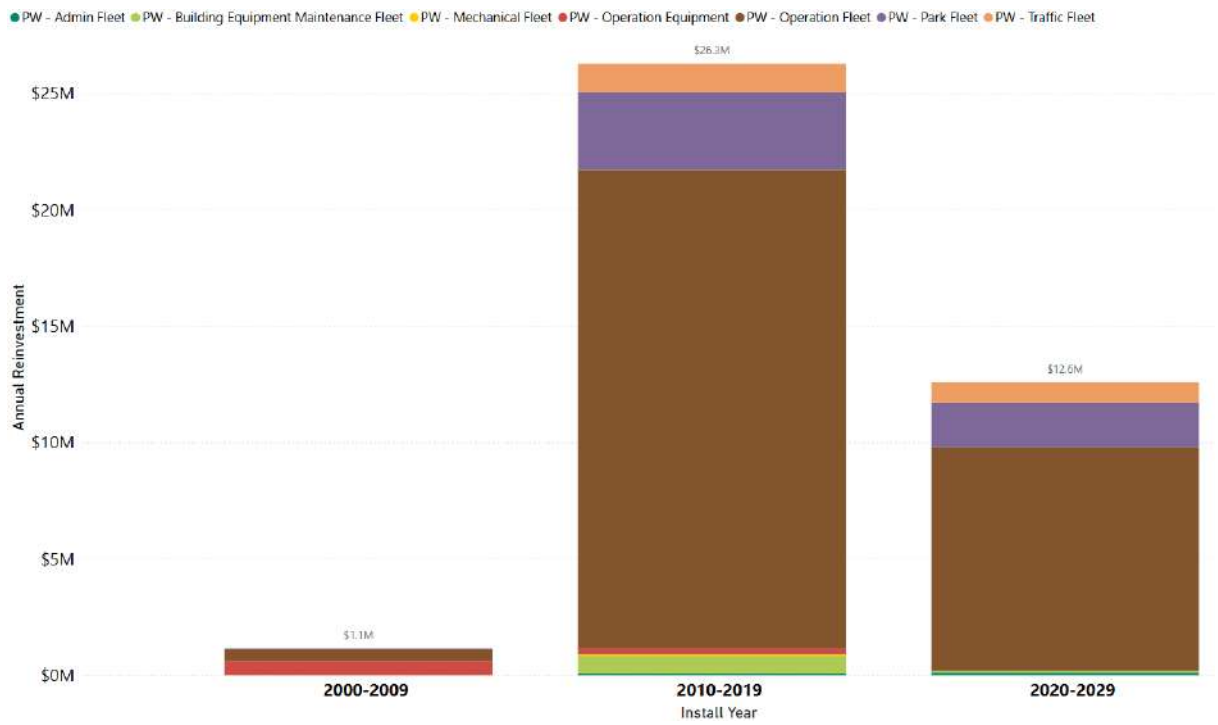


Figure 2-3: PWES Fleet and Equipment Installation Profile

Figure 2-4 shows the installation profile of the City's CDES Fleet according to asset classes. All current fleet and equipment assets have been placed into service since 2010. From 2010 to 2019, more than $14 million was invested in fleet acquisitions, with over $11 million dedicated to Transit fleets. During this period, most of the cemetery fleet vehicles were also purchased and deployed. Since 2020, the City's fleet team has continued to update and expand its inventory, investing nearly $15 million in capital expenditures, with more than two-thirds allocated to Transit fleets and nearly one-third to Transit equipment.

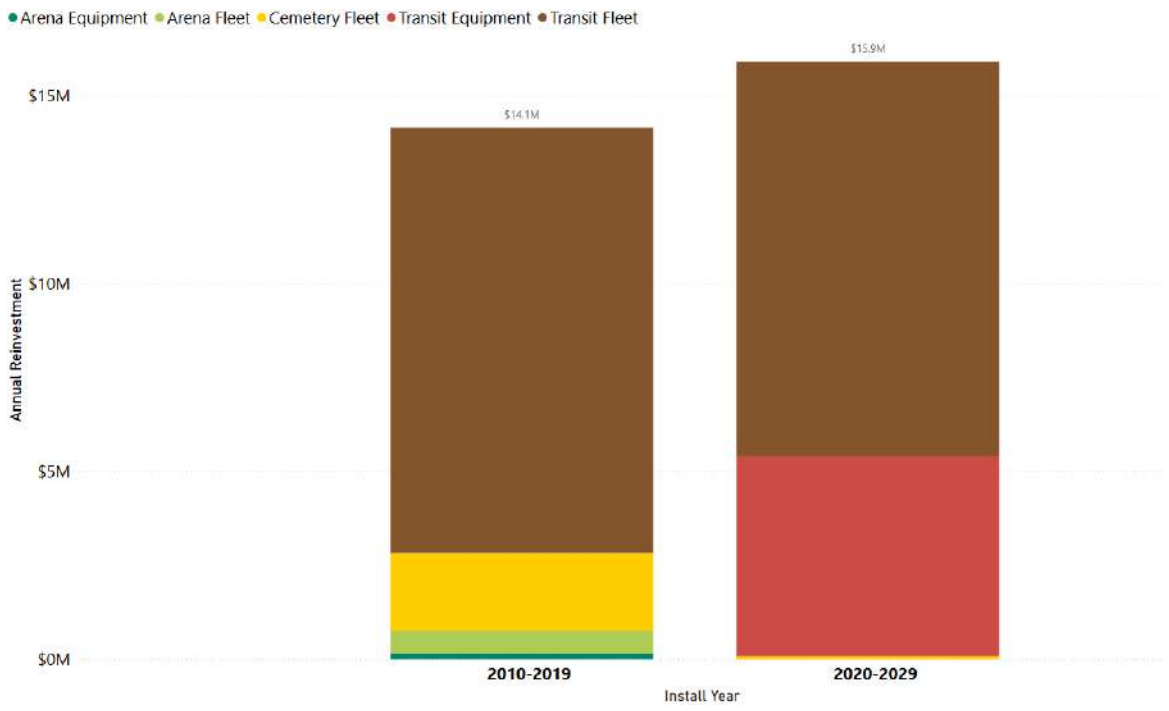


Figure 2-4: CDES Fleet and Equipment Installation Profile

2.2.4 Asset Condition

Regular condition assessments for fleet assets are recommended to monitor the condition and support the asset management decision. For other asset categories that do not have condition assessment results, the two-parameter Weibull distribution function was used to assess the current condition and to project the future condition of the City's fleet assets. The Weibull distribution has been used extensively in reliability studies and lifetime prediction models in industries ranging from automotive to oil & gas and provides a suitable distribution for this type of analysis.

The underlying premise of the Weibull-shaped deterioration is that while some assets fail prematurely due to severe conditions or improper installation, other assets are very long-lived and function well beyond their theoretical ESL. In order to perform a high-order network-level analysis, it was assumed that assets would fail (and require replacement) within a deterioration envelope/curve approximated by a Weibull probability distribution. The two-parameter Weibull cumulative distribution has two parameters for scale and shape, as set out in Equation [1]: The underlying premise of the Weibull-shaped deterioration is that while some assets fail prematurely due to severe conditions or improper installation, other assets are very long-lived and function well beyond their theoretical ESL. To perform a high-order network-level analysis, it was assumed that assets would fail (and require replacement) within a deterioration envelope/curve approximated by a Weibull probability distribution. The two-parameter Weibull cumulative distribution has two parameters for scale and shape, as set out in Equation [1]:

$$f(x;\alpha,\beta) = e^{-\left(\frac{x}{\beta}\right)^{\alpha}} \quad [1]$$

Where: x = Age
α = Shape parameter (or slope)
β = Scale parameter

A set of Weibull cumulative distribution functions were leveraged to simulate a set of deterioration curves for assets with different ESLs as shown in **Figure 2-5**.

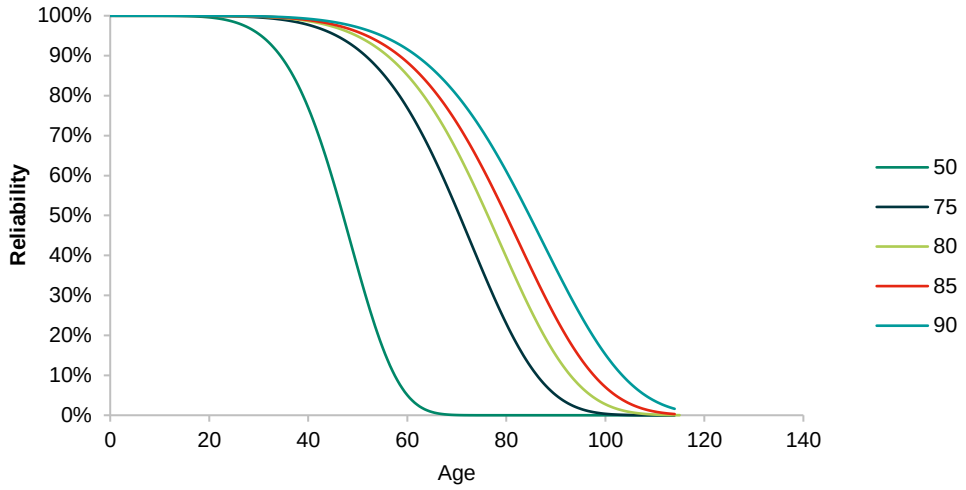


Figure 2-5: Asset Deterioration Curve Samples

The asset condition ratings were based on the five-point condition rating scale presented in **Table 2-4.**

Table 2-4: Condition Assessment Rating Details

Physical Condition Rating	Condition Description
1 - Very Good	The asset is new or in new condition, meets or exceeds all current standards of practice, shows no signs of deterioration, and is fully operable.
2 - Good	The asset has minimal signs of deterioration, generally meets all current standards of practice, and is fully operable.
3 - Fair	The asset may show moderate signs of deterioration, generally meets the current standard of practice, asset performance may decrease and cause service interruptions and is fully operable.
4 - Poor	The asset is approaching its end-of-life expectancy, shows significant signs of deterioration, major components may need to be rebuilt or replaced, may be functioning at an acceptable level is expected to deteriorate further.
5 - Very Poor	The asset is beyond its life expectancy, may no longer meet the current standard of practice, major component may no longer be serviceable, shows significant deterioration, functions at a limited capaCity, and may pose a safety hazard if used.

Table 2-5 and **Figure 2-6** summarize the condition grade of the City's fleet assets with associated replacement values. 4% of the assets are in very good condition, with a total replacement value of approximately $2.6 million, and 38% of the assets are in very poor condition, with a total replacement value of $26 million. Good condition accounts for 15% of the existing inventory, having a replacement value of around $10.5 million. Fair and poor condition assets make up 27% and 17%, respectively.

Table 2-5: Fleet and Equipment Asset Condition Summary

Rank	Condition Rating	Replacement Value	% of Replacement Value
1	Very Good	$2,558,000	4%
2	Good	$10,467,000	15%
3	Fair	$18,877,000	27%
4	Poor	$11,578,000	17%
5	Very Poor	$26,574,000	38%
Total		**$70,054,000**	**100%**

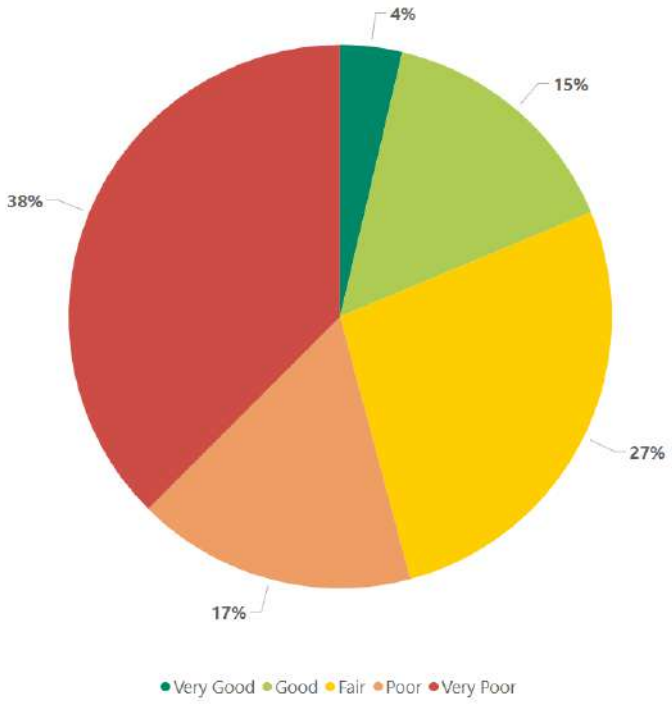


Figure 2-6: Fleet Asset Condition Summary Weighted by Replacement Value

Figure 2-7 shows the condition summary breakdown for each asset class, weighted by replacement value. For the PWES fleet, approximately one-fourth are in very good or good condition, representing a total replacement value of $10 million. Over $9 million worth of assets are in fair condition, while the remaining fleet, valued at nearly $21 million, is classified as being in poor or very poor condition, accounting for more than half of the total PWES fleet assets. All PW – Equipment assets are classified as being in very poor condition, primarily because their current service life exceeds their ESL.

For the CDES fleet, over 40% of the assets are in good or fair condition, with a total replacement value of $11 million. The remaining fleet—valued at nearly $14 million—is categorized as being in poor or very poor condition, representing more than half of the total CDES fleet assets. All CSD equipment is rated as fair or worse, with nearly 60% classified as being in poor or very poor condition.

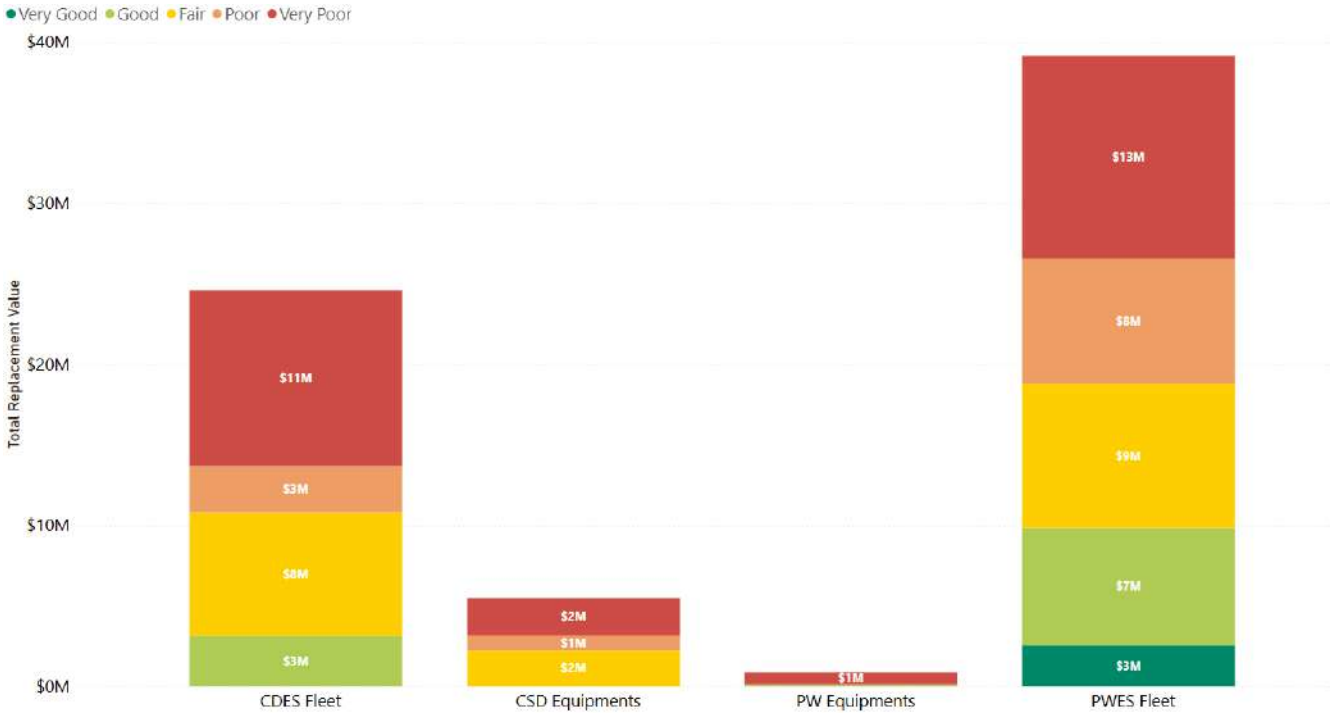


Figure 2-7: Fleet Condition Distribution Weighted by Replacement Value

2.3 Asset Data Gap Analysis

This section summarizes the current state of the City's asset data by assessing the quality of the asset inventory. Specifically, this section identifies existing data gaps, determines the overall confidence in the current asset data, and introduces good practices of data management.

2.3.1 Data Gap Observations

The City's fleet assets were previously stored across multiple spreadsheets. This project has successfully centralized the data into a single inventory. Additionally, it has addressed and filled gaps in key data, such as expected service life and replacement costs, achieving a 100% completeness rate. **Table 2-6** provides a summary of data completeness levels in the compiled fleet inventory across key data attributes. It is recommended that the City continue to work on filling any remaining gaps, ensuring a comprehensive and up-to-date database.

Table 2-6: Asset Data Completeness

Asset Group	Inventory Completeness (%)					
	Asset ID	Location	Install Date	Condition	Expected Service Life	Replacement Cost
Fleet	93%	78%	100%	100%	100%	100%

2.3.2 Data Confidence

The quality of asset data is critical to effective AM, accurate financial forecasts, and informed decision-making. For this reason, it is important to know the reliability of the information is for the State of Infrastructure analysis of the fleet assets. **Table 2-7** provides a description of the data confidence grades used to classify the reliability of the asset data. This can serve as a reference for the City to assess the quality of their asset data. A brief summary and explanation of the available data can be seen in **Table 2-8**. Overall, the Fleet asset inventory data is comprehensive in terms of the six key parameters required for the Asset management data analysis.

Table 2-7: Data Confidence Grading Scale

Confidence Grades	Description
A - Highly reliable	Data is based on sound records, procedures, investigations, and analysis, documented properly and agreed as the best method of assessment. The dataset is complete and estimated to be accurate ± 2%
B - Reliable	Data is based on sound records, procedures, investigations, and analysis, documented properly, but has minor shortcomings, for example, some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. The dataset is complete and estimated to be accurate ± 10%
C - Uncertain	Data is based on sound records, procedures, investigations, and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. The dataset is substantially complete, but up to 50% data is extrapolated, and the accuracy is estimated ± 25%
D - Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. The dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy ± 40%
E - Unknown	None or very little data held.

Table 2-8: Asset Data Confidence

Asset Group	Inventory Confidence					
	Asset ID	Location	Install Date	Condition	Expected Service Life	Replacement Cost
Fleet	A	B	A	A	A	A

2.3.3 Data Management Practice

The asset data lifecycle is a sequence of stages that data goes through from its initial build (i.e., data capture and entry) to its eventual archival and/or deletion at the end of its useful life[4]. A clear definition and understanding of the organization's process for acquiring, storing, utilizing, assessing, improving, archiving, and deleting data (see **Figure 2-8**) will ensure good data management practices and help to sustain levels of data quality required to support AM activities.

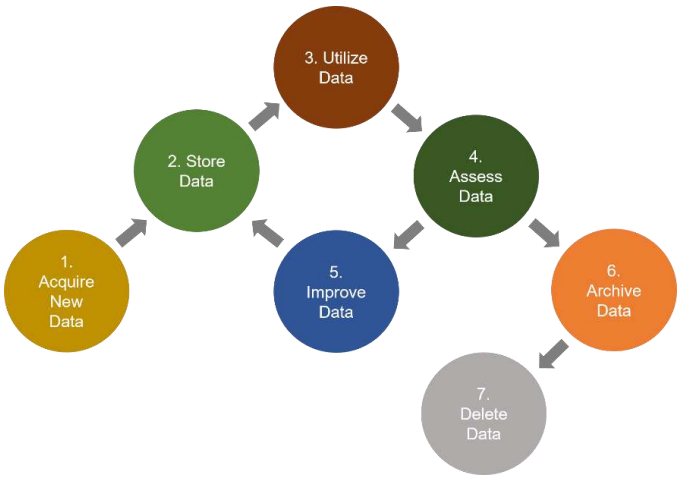


Figure 2-8: Asset Information Lifecycle

The seven key stages of the asset data lifecycle are described in more detail below:

[4] TechTarget Network (2020): Definition: Data Life Cycle

1. **Acquiring New Data**: The majority of new asset data arises from asset creation, refurbishment, and overhaul activities. New data may also come by way of inheritance or transfers from other business units, organizations, or third parties. As such, it is important to have clearly defined processes in place not only to add or update asset data but also to migrate and merge data from other sources.
    - New assets for the fleet should be consistently added to the inventory, and a minimum required data set defined to maintain inventory accuracy and reliability. The required data includes the new vehicle make, model, VIN, fuel type, original purchase price, purchase location, etc.
2. **Storing Data**: The way asset data is stored is an important consideration for overall data quality. Having a planned approach to data storage will inevitably reduce the likelihood of duplication and inconsistencies across datasets within the organization. Depending on the needs of the organization, this stage may involve procuring new software to adequately house the data, along with a data backup and recovery plan to ensure that the necessary data protection and privacy standards are met.
    - Assets are typically stored in either the CMMS (Computerized Maintenance Management System), or the maintained asset inventory spreadsheet. For fleet assets, typical information, including periodical kilometre reading, engine oil level, general vehicle condition, and last service dates, needs to be captured and maintained to be updated during the daily data management process.
3. **Utilizing / Analyzing Data**: This aspect of the asset information lifecycle is where users encounter the data to support data-driven activities within the organization. Data can be viewed, processed, edited, and published to allow users to access the data outside the organization. Critical data that has been modified should be fully traceable to maintain the integrity of the data. As such, it is important to communicate to the users why asset data is so important and how it is used to inform decisions within the organization.
    - Previously, the City conducted a fleet assessment regarding the PW fleets and certain analytical results supported the lifecycle activities decision-making.
4. **Assessing Data**: Assessing the data quality helps to determine the level of confidence in the information and ensures that decision-makers are making informed decisions based on the quality of data available to them. Moreover, it is important to fully understand the availability and quality of the asset data before issuing information publicly. Some of the results of data degradation, due to improper or a lack of assessment, may include:
    - Poor asset performance due to a lack of information and understanding of asset behaviour.
    - Non-compliance with statutory regulations or safety requirements.
    - Safety incidents due to risks not being identified or reported.
    - Asset failure due to gaps in maintenance planning.
5. **Improving Data**: Improving data quality involves establishing clear targets which are intended to be communicated widely across the organization. It is imperative that the organization understands the costs, benefits, and risks associated with any data improvements since the cost of the improvement may outweigh the overall benefit. It is also important to note that *more* data does not necessarily mean *better* data. It is very possible to collect data that does not add value to the organization. As such, it is critical that the organization aligns its data improvement targets with its AM objectives and considers the data-driven decisions staff need to make at the operational and strategic level, to ensure that the *right* data is being improved upon.
6. **Archiving Data**: Archiving data is the process of storing data that is no longer active or required, but is able to be retrieved in case it is needed again. Data that is archived is stored in a location where no usage or maintenance occurs. It is recommended that a data archive strategy exists within an organization in order to lay out the data archival requirements, which include the following factors:
    - Consider what data should be archived and articulate the reasons behind the archival decisions.
    - Examine any legal obligations pertaining to the retention of data records.
    - Determine the appropriate duration for retaining different categories of data records.
    - Evaluate the risks associated with the inability to retrieve specific data records.

- Specify the authorized individuals or entities who should have access to archived data records.
- Establish the expected timeframe for retrieving archived data records.
- Communicate these requirements across the organization to ensure staff understand why records are being archived, how they can access archived data records, and for how long archived data records can still be accessed.

7. **Deleting Data:** The deletion of data is the final component of the asset information lifecycle. Typically, within organizations, there is a resistance to permanently delete data, otherwise known as data “squirrelling”, due to the overall capacity of storing data increasing and the cost decreasing. However, within the organization’s data archive strategy, a retention period should be specified to indicate when data should be deleted, along with any processes to follow, such as obtaining prior authorization.

2.3.3.1 Current Data Management State

The City’s PWES Department staff are involved in fleet asset data management. The City’s fleet asset data is currently stored in Excel spreadsheets and reports. Currently, the City updates assets in the spreadsheet, and there may be a lag in obtaining and adding/updating data.

The City is following the mandate in records retention procedures for municipalities as per the Freedom of Information and Protection of Privacy Act (FIPPA) and the Municipal Freedom of Information and Protection of Privacy Act (MFIPPA).

2.3.3.2 Future Data Management State

The City will develop and implement a software strategy that helps streamline data management following this AMP. Eventually, the City plans to have a clear and efficient data management process and a comprehensive and robust asset inventory to support their AM decision-making. The implementation plan for data improvement is presented in **Section 6**.

3 Level of Service

3.1 Purpose

Level of Service (LoS) supports every aspect of the overall AM system. The objective of establishing clearly defined service levels is to help the City meet stakeholder values, achieve its strategic goals, make informed decisions, and implement effective asset lifecycle activities.

Documenting LoS is a proven practice that will enable the City to:

- Link corporate strategic objectives to customer expectations and technical operations.
- Balance customer needs and expectations while evaluating the effectiveness of operations and whether the right LoS is being provided at the right cost.
- Transition from an “Asset Stewardship” approach that focuses on making decisions based on maintaining assets in an acceptable condition to a “Serviceability” approach that is geared towards making decisions based on balancing the costs, risks, and goals for the LoS being provided by the City’s assets.
- Communicate the physical nature of infrastructure that the City owns and is financially responsible for, while promoting the use of LoS to enable effective consultation with stakeholders regarding alternative funding options according to desired LoS outcomes.
- Make recommendations on strategies that the City can take now to minimize future renewal costs while ensuring that adequate LoS can be delivered without burdening future generations.
- Assess internal (e.g., program changes) and external (e.g., climate change) factors that have the potential to impact the City’s ability to deliver services and how these factors may impact the LoS being provided.
- Implement a corporate continuous improvement program to further optimize AM across all service areas.

The O. Reg. 588/17 requires that all AMPs include the current and proposed LoS being provided, determined in accordance with the qualitative descriptions and technical metrics provided (see **Section 1.2**).

3.2 Objectives

Defining LoS objectives is important for drawing a line of sight between the City’s corporate objectives and the tangible asset performance outcomes. To do so, the LoS objectives must take into consideration stakeholder interests to develop asset performance measures that aim to meet the needs and expectations of the community. By doing this, the City will ensure that their assets are striving towards optimal performance, not only operationally, but economically, socially, and sustainably as well. Every stakeholder has certain interests in the service being provided, and in general, the City’s corporate objective is to lift up the community and build pride, and attract people (visitors, employers and employees). The City’s Comprehensive Background Report[5] (2021) for the New Official Plan outlined the overarching themes that reflect the City’s values, as shown in **Table 3-1**. Each overarching theme is also assigned a corporate service objective.

The development of the level of service targets should be aligned with these corporate objectives, which will be addressed in the next iteration of the AMP.

[5] City of Sault Ste Marie. 2021. Comprehensive Background Report.

Table 3-1: The City's Overarching Themes and LoS Objectives

Overarching Themes	LoS Objective
Healthy Community	Supports healthy living, active transportation, access to passive and active recreation, social interaction and the creation of spaces that are comfortable, safe and accessible for all ages and abilities (the "8 to 80 Cities" concept).
Environmental Sustainability	Supports energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions and climate change adaptation.
Integrated Mobility	Supports accessibility and choice of a diversity of transportation modes.
Sense of Place	Fosters a welcoming place for all that establishes the connection and provides a memorable experience to visitors.
Sustainable Growth	Stimulates reinvigoration of neighbourhoods to provide a complete range of housing, services, employment and recreation.
Economic Resiliency	Supports the growth and diversification of the City's economy.
Social Equity	Contributes to creating a welcoming and inclusive community, focusing on the removal of systemic barriers so that everyone has access to an acceptable standard of living and can fully participate in all aspects of community life.
Cultural Vitality	Celebrates the Sault's history, diverse communities and natural and cultural heritage, with the Downtown as the Sault's core destination for arts and culture.

3.3 Stakeholder Identification

A stakeholder is any person or organization that can affect, be affected by, or perceive themselves to be affected by a decision or an activity. Stakeholder analysis is the process of understanding stakeholder needs, expectations and perceptions relative to the stakeholder's level of interest and level of influence over the organization. The organization typically engages with their stakeholders to:

- Establish which activities or services matter most.
- Understand their risk appetite and risk threshold.
- Understand their willingness to pay for services.

Stakeholders can take many forms and may be internal (i.e., staff, Council) or external (i.e., the public, regulatory agencies, suppliers, neighbouring municipalities, etc.) to the organization. The following groups were identified as key stakeholders for fleet service at the LoS workshops. This is not intended to be an exhaustive list; however, the following groups provide a good starting point for the City to move forward to the next stage.

- Residential Customers
- Industrial, Commercial & institutional (ICI) Customers
- Regulatory Agencies
- Neighbouring Municipalities
- Environmental Groups
- Internal City Departments
- School Boards and Post Secondary Institutions
- Social Services

3.3.1 Legislated and Regulatory Requirements

Fleet assets are critical to the City's ability to provide essential services to the community and to protect the health and safety of the public. As such, key legislative requirements exist for the City's infrastructure assets, which ensure that minimum requirements are met and standards are in place that promote a high quality of life (i.e., clean drinking

water and safe roads, etc.). A sample of key Federal and Provincial legislated requirements is outlined below in **Table 3-2**. Monitoring and development programs relevant to fleet assets are also listed.

Table 3-2: Legislated and Regulatory Requirements

Federal	Provincial
• Motor Vehicle Safety Act • Canadian Environmental Protection Act, 1999 (CEPA) • Federal Sustainable Development Act	• Highway Traffic Act • Ontario's Drive Clean Program • Ontario Public Service Green Fleet Directive • Environmental Assessment Act • Ontario Regulation 231 – Transit Projects and Metrolinx Undertakings • Environmental Protection Act • Ontario Regulation 85 – End of Life Vehicles • Commercial Vehicle Operating Registration (CVOR) • Bus driver licensing through Ontario Drive Test Centres

3.4 O. Reg. 588/17 Levels of Service Metrics

Currently, O. Reg 588/17 only identifies levels of service metrics for core assets. Several key LoS performance measures have been identified for fleet assets through consultation and workshops with City staff. **Table 3-3** presents a summary of the City's fleet service level metrics.

Table 3-3: Fleet Levels of Service Metrics

Asset Category	Service Values	O. Reg 588/17 LoS Performance Measure	Unit	Current LoS Performance (2025)	LoS Comments
Fleet - PWES	Environment & Sustainability	Number of Vehicles that are Electric or Hybrid	#	TBD	• The City's goal for GHG reduction is net zero by 2050[6]. The Public Work is currently working on setting an achievable target. • The City aim to allocate additional funding to enhance infrastructure for EVs.
Fleet - PWES	Environment & Sustainability	Total Annual Fuel Volume Used for Vehicles	Litres	TBD	• Conversion of the light-duty vehicle to electrical or hybrid will reduce the annual fuel consumption.
Fleet - PWES	Quality & Reliability	% of Vehicles and Equipment Past Their Optimum Service Life	%	TBD	• Mercury Associates, Inc. completed a comprehensive Public Works fleet report in 2021, which identified vehicles that had surpassed their optimal service life and provided recommendations for replacement budgets and schedules. However, the recommended budget has not yet been met. • The primary factors used to determine if vehicles and equipment have exceeded their optimal service life are physical age and overall condition. • As vehicles and equipment age, maintenance costs and frequency increase, which can negatively affect operational efficiency.
Fleet - PWES	Quality & Reliability	Total Idle Time for Front Line Vehicles	Hours	TBD	• Many cities are aiming to make their service vehicles idle-free in order to reduce greenhouse gas emissions. • In certain situations, some service vehicles may need to idle at the roadside due to operational requirements. • Strategies such as fleet electrification, monitoring vehicle idle times, and updating internal operating procedures are effective ways to minimize vehicle idling. • The City is currently in the process of tracking service vehicle idling data (adding engine trackers) and developing an achievable LoS key performance indicator (KPI).
Fleet - PWES	Quality & Reliability	Mileage or Hours per Vehicle	Hours or km / Vehicle	TBD	• Maintaining a younger and less-utilized fleet results in lower maintenance costs and improved operational performance, which depends on implementing a realistic and effective replacement program. • Heavy equipment and heavy-duty vehicles are more expensive to purchase and maintain, and their absence has a greater operational impact. Vehicles with consistently high maintenance costs should be prioritized for replacement.
Fleet - PWES	Quality & Reliability	Total Repairs per Vehicle	$ Cost / Vehicle	TBD	• Increased repair costs are necessary to maintain service levels; however, these additional expenses are drawn from the overall Public Works budget, which may adversely affect funding for other services. • In response, Council has raised spending, but the current funding still falls short of requirements.

[6] City of Sault Ste. Marie. Greenhouse Gas Emissions Reduction Plan. City of Sault Ste. Marie, n.d., https://saultstemarie.ca/City-Services/City-Departments/Community-Development-and-Enterprise-Services/FutureSSM/Environment/Greenhouse-Gas-Emissions-Reduction-Plan.aspx. Accessed 26 Apr. 2025.

Asset Category	Service Values	O. Reg 588/17 LoS Performance Measure	Unit	Current LoS Performance (2025)	LoS Comments
					• Newer vehicles often come with higher repair costs due to advanced technologies and more expensive components. Electric vehicles will require battery replacements after several years of service.
Fleet - Transit	Access & Capacity	Total Transit Ridership per Year	# Boardings	• 2 million riders per year transit ridership needs • 1.8 million riders per year transit ridership capacity	• Historically, annual ridership demand has increased, largely driven by a rise in international students. However, beginning in September 2025, the influence of international students on ridership may decline. • To address this ridership demand, potential actions include expanding the bus fleet and workforce, as well as introducing programs to promote transit education and awareness.
Fleet - Transit	Quality & Reliability	Average Age of Fleet in Years	Age (Years)	5.7 years, excluding the para-buses (smaller buses with specific accessibility features for people with disabilities)	• The rising costs of purchasing new buses and maintaining the fleet may lead to future funding challenges. • The current transit study aligns with the goals of the 2050 plan, but this is dependent on fully electrifying all buses. • There are still technological limitations associated with adopting fully electric buses. • Upgrades to existing infrastructure will also be required to support full fleet electrification.
Fleet - Transit	Quality & Reliability	Total Annual Fuel Consumption	Litres	TBD	• One objective is to reduce the mileage accumulated by each transit vehicle, which will help maintain a newer and more easily serviceable fleet. • Actions to achieve this goal include reviewing and optimizing service routes for greater efficiency.
Fleet - Overall	Quality & Reliability	Percentage of assets in Fair or Better Condition	%	44%	• As older vehicles reach the end of their service life, they are either replaced or repurposed, which may lead to an increase in the overall percentage of assets classified in fair condition.

3.5 Proposed Levels of Service

Establishing LoS targets is an important part of continual improvement and performance management. Without targets, it is difficult to ascertain whether goals are being met, or the extent of the gap if they are not. Incorporating targets into the City's LoS Framework helps to ensure that targets are reasonable, aligned with customer expectations, and evaluated on an objective basis by considering cost-benefit trade-offs.

One of the key challenges in setting targets in a municipal environment is that they can often become biased and/or politically motivated. Therefore, it is important to review LoS targets with internal and external stakeholders, especially the customers who will be impacted the most by changes in service delivery. An important aspect of evaluating LoS targets is determining how willing the user is to pay for the service. Regulatory requirements are an exception; however, they only provide the minimum service standard. Cost is still an important parameter to consider when assessing the merits of service improvements. To deal with the financial realities, it is necessary to:

- Calculate how much the service costs based on current LoS.
- Determine the lifecycle activities and cost associated with varying the LoS.
- Assess the customers' willingness to pay.

It is important that any targets set be realistic and achievable. O. Reg. 588/17 requires AMPs to include proposed levels of service by July 1, 2025.

A summary of the City's fleet service level metrics is presented in **Table 3-5**. Each metric was indicated with its current trend and proposed trend for the next 10 years, represented by legends, taking into account the nature of the measure, data availability, and whether the trend impacts positively or negatively on the proposed LoS. The LoS trend legends are described in **Table 3-4**.

Table 3-4: LoS Trend Legend

Symbol	Name	Description
	Positively Increasing	KPI is improving steadily over time, showing progress toward goals.
	Positively Stable	KPI is at a strong, desirable level and consistently maintained.
	Positively Decreasing	KPI is improving as lower values indicate better performance.
	Negatively Increasing	KPI is worsening over time, signaling a need for corrective action.
	Negatively Stable	KPI remains poor with no improvement or further decline.
	Negatively Decreasing	KPI is declining in a way that reflects worsening performance.

Table 3-5: Fleet Current and Proposed Levels of Service

LoS #	Service Area	LoS Measure	Unit of Measure	LoS Category	Current Performance	Performance Trend		Lifecycle Activities to Meet Proposed LoS (Positive Trend) / to Mitigate the Impact of the Proposed LoS (Negative Trend)	Budget Impact to Meet Proposed LOS	Risk of Not Meeting Proposed LoS
						Current	Proposed			
1	Fleet - PWES	Number of Vehicles that are Electric or Hybrid	#	Customer	See **Table 3-3**	↑	↑	• Conduct a detailed fleet inventory and usage analysis to identify suitable vehicles for electrification based on duty cycles, mileage, and replacement timelines. • Develop a long-term vehicle replacement and electrification roadmap aligned with GHG reduction targets. • Prioritize the procurement of electric or hybrid vehicles during replacement cycles. • Standardize specifications that include electric or hybrid models and promote vendor partnerships that support transition efforts. • Invest in scalable charging infrastructure at municipal facilities. • Update preventive maintenance schedules and procedures to match EV technology (e.g., less frequent brake service, no oil changes). • Phase out tools and inventory exclusive to internal combustion engines (ICEs). • Establish environmentally responsible decommissioning and recycling practices for ICE vehicles. • Explore circular economy practices such as battery reuse or resale partnerships.	High	• Not meeting fleet electrification targets undermines the City's GHG reduction commitments, possibly jeopardizing its Climate Action Plan or other environmental strategies. • Future legislation may mandate zero-emission fleet targets. Failure to transition early could result in legal or policy non-compliance. • Many federal and provincial grants or subsidies (e.g., for EVs or charging stations) require active transition efforts. Delays may result in lost financial support. • Continued reliance on internal combustion engine (ICE) vehicles exposes the City to fuel price volatility, carbon taxes, and higher long-term maintenance costs. • Postponing charging infrastructure investment can result in operational bottlenecks and logistical challenges once EV adoption is eventually required.
2	Fleet - PWES	Total Annual Fuel Volume Used for Vehicles	Litres	Technical	See **Table 3-3**	→	↓	• Analyze fleet utilization to eliminate underused or oversized vehicles. Replace with smaller, fuel-efficient models where possible. • Integrate fuel economy and emissions performance into vehicle procurement specifications. • Prioritize replacing aging internal combustion engine (ICE) vehicles with hybrids or EVs to directly reduce fuel dependency. • Keep engines, tires, and drivetrains in peak condition to improve fuel efficiency (e.g., timely oil changes, air filter replacement, proper tire inflation). • Implement and enforce anti-idling policies across all departments with automated idle shutdown systems where applicable. • Replace aging, inefficient vehicles before they become fuel-cost burdens; use Total Cost of Ownership (TCO) to guide timing. Identify and phase out vehicles with the poorest fuel performance metrics.	High	• Continued high fuel consumption leads to increased operating expenses, especially with fluctuating fuel prices and escalating carbon taxes. • The City could miss out on funding or rebates tied to fuel reduction or sustainability performance targets. • Fuel consumption correlates directly with emissions. Failure to reduce usage may hinder GHG reduction targets and broader climate action goals. • Delayed replacement or optimization keeps high-consumption, high-maintenance vehicles in service longer, reducing reliability and increasing downtime. • A fuel-dependent fleet is more vulnerable to supply shocks or fuel price surges, disrupting essential services like public works or emergency response.
3	Fleet - PWES	% of Vehicles and Equipment Past Their Optimum Service Life	%	Technical	See **Table 3-3**	↑	↑	• Focus replacement on high-risk assets that have the greatest impact on safety, service delivery, or regulatory compliance (e.g., emergency vehicles, frontline public works units). • Implement detailed inspections to determine true condition and functionality rather than relying solely on age, allowing some assets to remain in service safely. • Increase the frequency of preventative maintenance (PM) for aging assets to delay failure and optimize performance. • Refurbish or rebuild key components (e.g., hydraulics, drivetrains) on high-value units to extend life at a lower cost than full replacement. • Consolidate and share underused assets across departments to reduce the total fleet size and defer replacements. • Dispose of low-utilization or non-critical assets to reduce maintenance burdens and reallocate savings to extend critical assets • Apply for provincial/federal asset renewal grants. • Use lease-to-own or service-based contracting models for critical assets where full capital outlay is not feasible.	High	• Older assets are more prone to mechanical failures, leading to service interruptions in snow clearing, waste collection, emergency response, and other essential operations. • Key services may be delayed or unavailable if critical fleet/equipment (e.g., fire trucks, plow vehicles, utility trucks) fail during peak demand. • Aging vehicles with outdated safety features or deteriorating systems increase the risk of workplace accidents and public safety incidents. • Operating beyond the designed lifecycle could expose the City to liability for equipment failure-related damages or injuries, and increased insurance premiums. • Maintenance costs for aging assets often increase exponentially, straining operating budgets and diverting funds from capital renewal. • Older vehicles are typically less fuel-efficient, undermining GHG reduction efforts and increasing fuel costs.

LoS #	Service Area	LoS Measure	Unit of Measure	LoS Category	Current Performance	Performance Trend		Lifecycle Activities to Meet Proposed LoS (Positive Trend) / to Mitigate the Impact of the Proposed LoS (Negative Trend)	Budget Impact to Meet Proposed LOS	Risk of Not Meeting Proposed LoS
						Current	Proposed			
								• Establish a consistent baseline of replacements annually to avoid sudden surges in backlogged needs.		
4	Fleet - PWES	Total Idle Time for Front Line Vehicles	hrs	Technical	See **Table 3-3**	↑	↓	• Establish enforceable idle time thresholds (e.g., no idling beyond 3 minutes), with exemptions for safety or operational reasons. • Integrate idle time reduction targets into departmental KPIs and fleet sustainability goals. • Include automatic engine shut-off systems, hybrid-electric power take-off (ePTO), or auxiliary power units (APUs) in procurement specifications. • Choose appropriately sized vehicles so heavy-duty units aren't used for light tasks that encourage excessive idling. • Train drivers to recognize unnecessary idling and apply best practices (e.g., shut down during loading, meetings, breaks). • Monitor real-time engine idling, trip durations, stop/start cycles, and identify high-idle vehicles, routes, or operators.	Low	• Excessive idling consumes fuel without providing service, leading to unnecessary fuel expenditures and straining the operating budget. • Idling accelerates engine wear and increases the frequency of oil changes, filter replacements, and emissions system repairs, without contributing to productive vehicle use. • Long idle periods increase engine hours disproportionately to mileage, shortening the usable life of vehicles and increasing replacement needs. • Idling is a direct source of unnecessary emissions, undermining the City's climate action and sustainability goals. • Idle vehicles can be perceived by the public as a wasteful or irresponsible use of taxpayer-funded resources.
5	Fleet - PWES	Mileage or Hours per Vehicle	Hr or km / Vehicle	Technical	See **Table 3-3**	↑	↑	• Review utilization data to identify overused and underutilized units. Reassign workloads to ensure even distribution of mileage and operating hours. • Use historical trends and service forecasts to plan asset deployment in a way that avoids overburdening specific vehicles. • Shift from mileage-based to hour-based preventive maintenance for high-use vehicles (e.g., heavy equipment, plow trucks) to better reflect actual wear. • Create a shared-use vehicle pool for departments with intermittent needs to reduce pressure on frontline assets. • Prioritize robust, high-mileage-capable models when replacing frontline vehicles expected to see extensive use. • Prioritize replacement of vehicles projected to exceed lifecycle thresholds, especially those with compounding maintenance costs.	High	• Overused vehicles are more likely to experience mechanical failures, especially if maintenance cannot keep pace with wear. • Components like engines, transmissions, brakes, and tires degrade faster with excessive use, leading to rising short-term costs. • Lack of mitigation results in more frequent unplanned service calls, which are often more expensive and disruptive than scheduled maintenance. • Vehicles accumulate usage faster than planned, resulting in earlier end-of-life, reduced resale value, and more frequent replacement needs. • Heavily used and poorly maintained vehicles are more prone to safety failures (e.g., brake issues, steering faults), increasing accident risk for drivers and the public. • Key services like snow removal, road repair, water service, or bylaw enforcement may be compromised if vehicles are unavailable when needed.
6	Fleet - PWES	Total Repairs per Vehicle	$ Cost / Vehicle	Technical	See **Table 3-3**	↑	↓	• Ensure vehicles are suited to their duty cycles (e.g., heavy-duty trucks for high-load operations) to avoid overuse and premature failure. • Minimize model variation to streamline parts inventory, reduce training needs, and lower service complexity. • Follow OEM-recommended intervals for fluids, filters, brakes, and drivetrains to prevent breakdowns. • Incorporate inspections and component testing (e.g., battery checks, wear analysis) to catch issues early and reduce major repair needs. • For frontline or off-road equipment, schedule maintenance based on engine hours rather than mileage to better match wear patterns. • Spread workload across the fleet to prevent a few vehicles from absorbing most of the wear and requiring more repairs. • Eliminate underutilized or redundant vehicles so resources can focus on maintaining the most productive and necessary units. • Use checklists and digital work orders to ensure consistent, high-quality repairs and avoid rework. • Use total cost of ownership (TCO) analysis to identify when ongoing repairs exceed the cost of replacement. • Track repair histories to identify and prioritize the removal of vehicles with chronic, costly issues.	High	• Without effective repair cost control, the operating budget will face year-over-year increases, reducing funds available for fleet renewal or service enhancements. • Excessive spending on aging vehicles diverts funds from more strategic investments like fleet electrification, technology upgrades, or new vehicle procurement. • More frequent and costly repairs lead to longer out-of-service times, reducing fleet availability for critical services (e.g., roads, utilities, emergency response). • Poorly maintained or repeatedly repaired vehicles may experience cascading mechanical failures, reducing their overall productivity and life expectancy. • Repeated repairs can mask deeper issues, increasing the risk of unexpected breakdowns and potential accidents.

LoS #	Service Area	LoS Measure	Unit of Measure	LoS Category	Current Performance	Performance Trend		Lifecycle Activities to Meet Proposed LoS (Positive Trend) / to Mitigate the Impact of the Proposed LoS (Negative Trend)	Budget Impact to Meet Proposed LOS	Risk of Not Meeting Proposed LoS
						Current	Proposed			
7	Fleet - Transit	Total Transit Ridership per Year	# Boardings	Customer	2 million riders per year transit ridership needs 1.8 million riders per year transit ridership capacity	↑	→↓	• Analyze ridership patterns, service usage, and community needs to adjust routes, frequency, and service hours in alignment with actual demand. • Replace underused fixed-route services in low-density areas with flexible, app-based or dial-a-ride options using smaller vehicles. • Introduce smaller, fuel-efficient buses or cutaways for low-ridership routes to reduce fuel and maintenance costs while maintaining coverage. • Align future bus purchases with ridership projections to avoid over capacity and underused large buses. • With lower usage, prioritize strong preventive maintenance programs to safely defer capital replacements and maximize existing asset value. • Shift underused buses to school, shuttle, or special event services where applicable to improve utilization rates. • Track ridership, route performance, and vehicle utilization to continuously adjust service levels and fleet deployment. • Model the cost-per-passenger-kilometre to identify high-cost, low-ridership routes for rationalization or redesign. • Market public transit as a sustainable, convenient, and affordable alternative to personal vehicles, especially as fuel prices and environmental concerns rise. • Use scenario-based planning in your Fleet Asset Management Plan to address fluctuating demand over the next 10–20 years.	High	• Maintaining fixed-route services with declining ridership results in higher cost-per-passenger, reducing cost-efficiency and increasing the subsidy burden per rider. • Continued operation or replacement of large buses on underused routes can result in asset underutilization and poor return on investment. • Reduced farebox revenue from fewer riders creates budget gaps, which may require additional taxpayer subsidies or service cuts. • Vehicles may be underused, yet still require routine maintenance, inspections, insurance, and storage, inflating lifecycle costs without delivering proportional service value. • Without a strategic response, reductions in service could harm seniors, low-income residents, students, or others who rely on public transit for essential mobility. • Failure to implement alternatives like on-demand transit may leave outlying areas disconnected, further accelerating population decline. • Poor ridership performance without proactive adaptation may weaken the City's case for receiving future grants or operational subsidies.
8	Fleet - Transit	Average Age of Fleet in Years	Age (Years)	Customer	5.7 Years	↓	→	• Plan and fund vehicle replacements on a multi-year cycle to avoid age spikes or backlog. Even replacement rates maintain a balanced fleet profile. • Analyze the optimal replacement point for each vehicle type (based on age, mileage, repair costs, and downtime) to justify and prioritize replacements. • Extend asset life safely with regular PM focused on key components (e.g., drivetrain, suspension, electrical systems) to maintain performance in older units. • Identify vehicles in "good" condition beyond their planned age that can be safely retained and staggered for later replacement. • Secure predictable, annual capital funding to support even replacement, avoiding reactive bulk purchases or gaps due to fluctuating budgets. • Align fleet size and vehicle type with actual ridership to avoid keeping underutilized buses that skew fleet age upward. • Use consistent bus models to streamline parts, training, and service, helping maintain older buses more cost-effectively. • Invest in buses with proven longevity and low lifecycle costs, particularly for high-use routes. • Remove assets with excessive repair costs or reliability issues, even if technically younger, to improve average fleet condition and performance.	High	• Older buses are more prone to mechanical failures, leading to missed trips, delayed service, and lower on-time performance. • Aged vehicles spend more time in maintenance, reducing the number of buses available for daily operation and potentially leading to service cancellations. • Older transit buses often require more frequent, complex, and costly repairs. Parts may become obsolete or harder to source, driving up repair costs. • Excessive time spent on aging units reduces maintenance staff productivity and capacity to focus on preventative care for newer units. • Deferring replacements causes a backlog and can lead to a "capital spike" where many vehicles must be replaced at once, stressing budgets. • Frequent service disruptions or older, less comfortable buses may lead to negative public perception, reducing ridership further.
9	Fleet - Transit	Total Annual Fuel Consumption	Litres	Technical	See **Table 3-3**	→	↓	• Establish fuel consumption KPIs (e.g., litres per 100 km, fuel per passenger-km) and track them monthly by vehicle and route. • Redesign routes and schedules to reduce idling, congestion, and overlapping trips, focusing on direct, high-demand corridors. • Prioritize the procurement of hybrid or battery-electric buses to replace diesel units, especially on high-use or stop-and-go routes.	High	• Fuel is one of the largest operating expenses in transit. Continued high consumption places pressure on the operating budget, especially during fuel price surges. • Excessive fuel spending may force cutbacks in other areas such as fleet renewal, staff training, or service expansions. • Transit fuel consumption is a major contributor to municipal greenhouse gas (GHG) emissions. Not reducing it jeopardizes the City's climate action commitments.

LoS #	Service Area	LoS Measure	Unit of Measure	LoS Category	Current Performance	Performance Trend		Lifecycle Activities to Meet Proposed LoS (Positive Trend) / to Mitigate the Impact of the Proposed LoS (Negative Trend)	Budget Impact to Meet Proposed LOS	Risk of Not Meeting Proposed LoS
						Current	Proposed			
								• Use smaller, more fuel-efficient vehicles (e.g., cutaways or minibuses) on routes with consistently low ridership. • Install systems that report on harsh driving, speeding, and excessive idling, and use data to coach staff and improve performance. • Identify and repair vehicles with unusual fuel consumption, often a sign of mechanical inefficiency. • Use automatic shutdown systems or driver protocols to limit fuel waste during layovers or service pauses. • Evaluate future vehicle procurement decisions using total cost of ownership (TCO), factoring in lifetime fuel savings.		• Federal or provincial programs may impose emission reduction benchmarks. Failing to meet them can lead to penalties or disqualification from funding programs. • Higher fuel use may be linked to poor maintenance, aggressive driving, or inefficient routes—all of which contribute to accelerated asset degradation and service unreliability. • A fleet overly dependent on diesel fuel may be more vulnerable to supply disruptions or market fluctuations. • Fuel efficiency and emissions performance are key criteria for many provincial/federal transit funding programs (e.g., Zero Emission Transit Fund, ICIP).
10	Fleet - Overall	Percentage of assets in Fair or better Condition	%	Technical	44 %	↓	↓	• Strictly follow OEM-recommended maintenance intervals (e.g., oil changes, inspections, filters) to slow asset deterioration. • Use diagnostics, fluid analysis, or sensor data (e.g., telematics) to catch mechanical issues before they lead to serious condition degradation. • Combine physical condition with risk and criticality to prioritize renewal decisions more effectively. • Create a rolling capital replacement schedule to maintain a consistent flow of fleet upgrades and avoid replacement backlogs. • Rotate vehicles more evenly across departments to prevent condition decline in high-use units. • Retire older, low-value assets that consume maintenance resources without providing significant operational value. • Leverage asset management systems to identify early signs of deterioration and support condition forecasting. • Use alerts to initiate inspections or temporary removal from service for rehabilitation before further decline. • Apply for asset renewal programs that support GHG reduction, public safety, or transit modernization. • For non-core vehicles, leasing may provide access to newer assets while deferring capital investment.	High	• Poor-condition vehicles are more prone to unexpected breakdowns, reducing availability for frontline services such as public works, utilities, bylaw enforcement, and transit. • Inability to deliver essential services on schedule—especially during emergencies (e.g., snow clearing, fire response)—can have cascading impacts on community safety and trust. • Poor-condition assets require frequent, costly repairs that strain operating budgets and maintenance staff capacity. • Spending on assets near the end-of-life yields diminishing returns, diverting funds from higher-priority renewals. • Poor-condition vehicles may have compromised systems (e.g., brakes, steering, suspension), increasing the risk to staff and the public. • Vehicles in poor condition may fail safety inspections or violate provincial standards, leading to legal exposure or forced decommissioning. • Deferred renewals can result in a "bow wave" effect where many assets need replacing, simultaneously overwhelming capital budgets. • Some grants and infrastructure programs require minimum condition thresholds. A deteriorating fleet could disqualify the City from funding. • Persistent poor condition scores can lead to scrutiny from the Council, auditors, and funding agencies, reducing support for long-term initiatives.

Performance Trend Legend:

↑ Positively Increasing	→ Positively Stable	↓ Positively Decreasing	↑ Negatively Increasing	→ Negatively Stable	↓ Negatively Decreasing

3.6 2025-2034 10-Year Levels of Service Forecast

Considering the City's characteristics, growth projections, and strategic objectives, the proposed performance trend for each LoS metric for the next 10 years is projected and outlined in **Table 3-6**. This table indicates whether each measure is expected to trend upward, downward, or remain stable, taking into account the nature of the measure, data availability, and whether the projected trend impacts positively or negatively on the proposed level of service.

Table 3-6: 2025-2034 10-Year Levels of Service Forecast

LoS #	Service Area	LoS Measure	Unit of Measure	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Proposed Trend	Basis for Forecast
1	Fleet - PWES	Number of Vehicles that are Electric or Hybrid	#	Positively Increasing										↑	• Evolving market trends • Targeting net-zero greenhouse gas (GHG) emissions by 2050 • Growing investment in charging infrastructure
2	Fleet - PWES	Total Annual Fuel Volume Used for Vehicles	Litres	Positively Decreasing										↓	• Increasing adoption of electric and hybrid vehicles • Phasing out older, high fuel-consuming vehicles
3	Fleet - PWES	% of Vehicles and Equipment Past Their Optimum Service Life	%	Negatively Increasing										↑	• Budget constraints limit the replacement of older fleet units.
4	Fleet - PWES	Total Idle Time for Front Line Vehicles	hrs	Positively Decreasing										↓	• Organization-wide enforcement of an idle-free policy • Continued growth in the use of electric and hybrid vehicles
5	Fleet - PWES	Mileage or Hours per Vehicle	Hr or km / Vehicle	Negatively Increasing										↑	• Increased vehicle usage resulting from a higher number of retired vehicles.
6	Fleet - PWES	Total Repairs per Vehicle	$ Cost / Vehicle	Positively Decreasing										↓	• A portion of aging vehicles with high maintenance costs is scheduled for replacement.
7	Fleet - Transit	Total Transit Ridership per Year	# Boardings	Negatively Maintain or Decrease										→↓	• Declining ridership driven by a downward population trend
8	Fleet - Transit	Average Age of Fleet in Years	Age (Years)	Positively Maintain										→	• Older vehicles are replaced when they are in poor condition or have reached the end of their service life.
9	Fleet - Transit	Total Annual Fuel Consumption	Litres	Positively Decreasing										↓	• An increasing number of hybrid and electric buses will be acquired to replace aging units.
10	Fleet - Overall	Percentage of assets in Fair or better Condition	%	47% for PWES fleets 45% for CDES fleets	Negatively Decrease									↓	• Budget constraints limit the replacement of older fleet units.

Performance Trend Legend:

↑ Positively Increasing	→ Positively Maintain	↓ Positively Decreasing	↑ Negatively Increasing	→ Negatively Maintain	↓ Negatively Decreasing

3.7 Future Demand Drivers

Demand management is a critical component of managing the desired LoS in a sustainable manner, now and into the future. Understanding demand drivers enables the City to proactively develop effective, long-term strategies that are suitable for the City's unique political, environmental, social, and technological landscape.

A summary of factors identified from the LoS workshop that would impact fleet service levels includes, but are not limited to, the following:

- Technology – The integration of advanced vehicle systems, data analytics, and automation is reshaping operational efficiency and service expectations.
- Electrification – The transition to electric and hybrid vehicles requires changes in procurement, infrastructure, and maintenance practices.
- Energy and Demand Management – Managing fuel use, vehicle deployment, and operational hours to reduce consumption and emissions while maintaining service reliability.
- Funding Level – The availability and stability of financial resources will directly affect the City's ability to renew, expand, or modernize its fleet.
- Climate Change – Environmental considerations, such as extreme weather events and emissions reduction targets, are influencing fleet design, deployment, and resiliency planning.

On November 2, 2021, the City's Planning Division released the Comprehensive Background Report for updating the Official Plan. The City's Official Plan guides local decision-making on land use, development, and public infrastructure over the next 20 years. The City's population is expected to reach 80,000 people by 2031, and 83,300 people by 2036. Employment is projected to grow by approximately 6,000 jobs, from 31,000 jobs in 2016 to 36,900 jobs in 2036.

When additional assets to accommodate this population and employment growth are introduced to the City's portfolio, additional human resources, training and funding are required to maintain and operate and renew or replace those assets. O. Reg. 588/17 requires municipalities by July 1, 2025, to estimate capital expenditures and significant operating costs to achieve the proposed LoS and accommodate projected increases in demand caused by population and employment growth. This includes the estimated capital expenditures and significant operating costs related to new construction and / or to upgrade existing municipal infrastructure assets. This has been addressed in **Section 5.4**.

4 Asset Management Strategies

4.1 Asset Lifecycle Management Introduction

Asset lifecycle management focuses on the specific activities that should be undertaken during all phases of the asset lifecycle. Considering the entire asset lifecycle ensures that the City makes sound decisions that take into account present and future service delivery needs.

The overarching goal of lifecycle management is to maximize the long-term benefits and services that the City's assets deliver while minimizing the associated costs and risks in the long run. Every asset has a lifecycle cost, which is the total cost of all activities undertaken throughout its service life. Part of the purpose of the AM planning process is to fully understand and predict the long-range financial requirements for the City's infrastructure, facilitating planning and resource management in the most cost-effective manner possible. **Figure 4-1** illustrates how costs typically accumulate over an asset's life. It is worth noting that the ongoing operations and maintenance, renewal & replacement, and disposal costs accumulate up to many multiples of the initial acquisition costs. As such, it is important to fully understand the entire lifecycle costs before proceeding with asset acquisition.

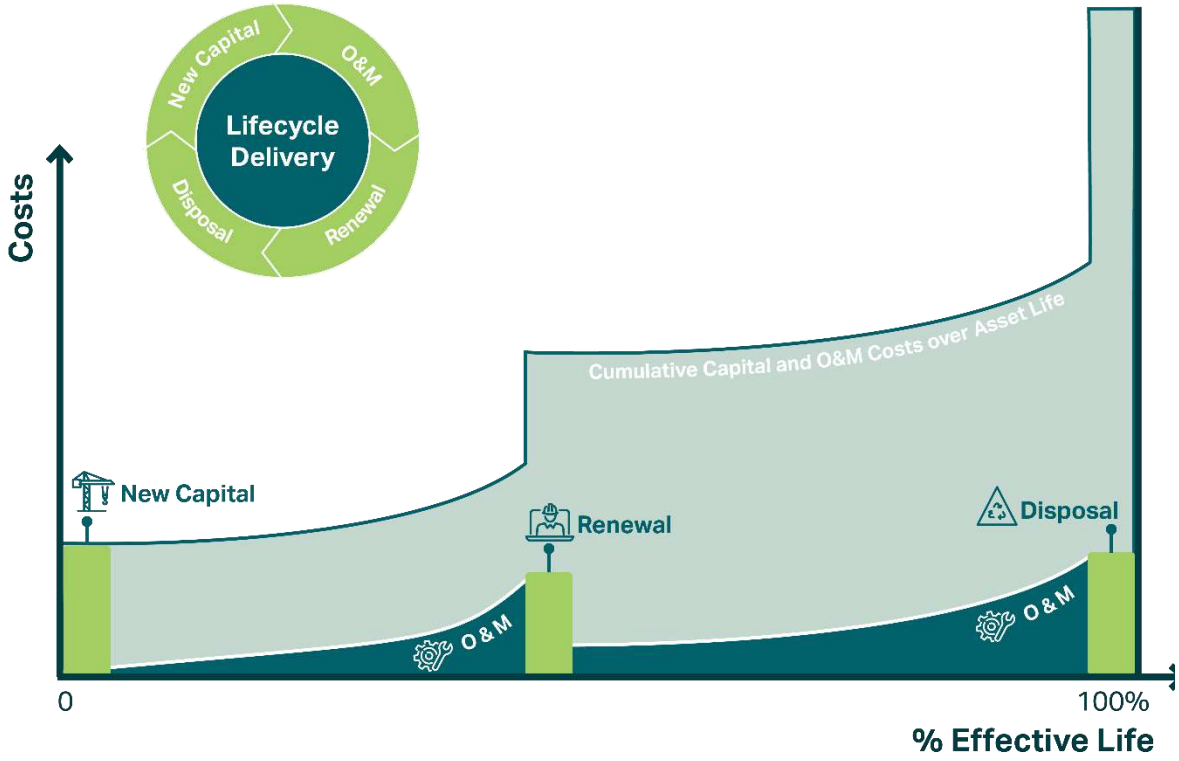


Figure 4-1: Lifecycle Cost Accumulation Over Asset Life

Asset lifecycle management strategies are typically organized into the following categories.



1. **Asset Acquisition / Procurement / Construction**: Acquisition includes expansion activities and upgrading activities to extend services to previously unserved areas or meet the demands of growth and functional requirements. When acquiring new assets, the City should evaluate credible alternative design solutions, considering how the asset will be managed at each of its lifecycle stages. AM and full lifecycle considerations for the acquisition of new assets include, but are not limited to, the following:
    - Growing demands for public service and public transit.

- The asset's operability and maintainability.
- Supply chain considerations.
- Adaptation to climate change.
- Staff skill and availability to manage the asset.
- The manner of the asset's eventual disposal.



2. **Asset Operations and Maintenance (O&M)**: As new assets are commissioned, the City assumes the responsibility of operating and maintaining the asset according to O&M standards to ensure its safety and reliability. The operations staff provides the necessary day-to-day support for operating the assets. Maintenance expenses include periodic preventive maintenance to ensure that the infrastructure can provide reliable service throughout the life of the asset and corrective maintenance that is required to repair defective assets as needed. Inadequate funding for O&M will adversely impact the lifespan of assets. The number of O&M resources required in any period is a function of the current inventory of infrastructure and the total O&M needs for each asset. As the inventory of infrastructure grows, total O&M requirements will also increase.



3. **Renewal and Replacement:** The third aspect of full lifecycle costing pertains to the renewal and replacement of assets that have deteriorated to the point where they no longer provide the required service. Renewal or rehabilitation costs may be incurred during the life of an asset where an investment is made to improve its condition and/or functionality, for example, overhaul the equipment and vehicle engines. Replacement activities are expected to occur once an asset has reached the end of its useful life, and renewal is no longer a viable option.



4. **Decommissioning and Disposal:** There will inevitably come to a point in time when an asset must be removed from service, and depending on the type of asset, there may be significant costs associated with its decommissioning and disposal. Factors that may influence the decision to retire an asset include changes leading to non-compliance, the inability of the asset to handle increased LoS, technological advances rendering the asset obsolete, the cost of retaining the asset exceeding the benefits gained, the current risk associated with the asset's failure becoming intolerable, assets negatively impacting service delivery or negative impacts on the environment (e.g., old buses are unsafe for delivering services), or assets no longer suitable for their original purpose (e.g., the old police cars are not suitable for patrol services, but still reliable for light-duty public service).

Normally, major costs that may be incurred during disposal and decommissioning derive from the environmental impact of the disposal and, if required, the rehabilitation and decontamination of land. However, some cost savings may be achieved through the residual value of the asset or by exploring alternative uses for the asset. In all cases, it is important to consider disposal and decommissioning as the strategy employed has the potential to attract significant stakeholder attention. For that reason, the costs and risks associated with disposal and decommissioning should be equally considered in the City's capital investment decision-making process.

4.2 Asset Acquisition Strategies

The City's motivations for acquiring fleet assets are multifaceted. Firstly, there is a compelling need to accommodate the expanding service scope, fueled by the growing workload and demand on public services. Furthermore, the increasing population and diversity have added to these demands. Recognizing the crucial role of data accuracy, the City also acknowledges the necessity for an advanced fleet management system.

Electrification is predicted to have minimal impact on waste generation but will impact the waste collection fleet and the fueling costs. The City's fleet asset acquisition strategies are also strongly driven by the federal regulations[7] and their Greenhouse Gas (GHG) Emissions Reduction Plan[8].

- **Federal plans embrace EV**: Regulations published by the Federal Government in 2023 laid out plans to phase out passenger vehicles powered only by gasoline or diesel in 2035. As these vehicles are replace the City should be mindful of the increased maintenance and purchase costs of Hybrid Electric Vehicles (HEV) and Plug-In Electric Vehicles (PEV).
- **Green house gas emission reduction plan**: During the first stage of the plan, the City conducted a GHG inventory study, revealing that 56% of the City's GHG emissions were generated by vehicle fleet and equipment. Therefore, the transition to a green fleet is an importation consideration when acquiring fleet assets.

Table 4-1 summarizes the acquisition activities associated with the City's fleet assets.

Table 4-1: Acquisition Activities for Fleet Assets

Asset Group	Activities Undertaken by the City	Notes
Fleet	• Fleet and equipment acquisition. • Electric vehicle (EV) charging station construction. • Compressed natural gas (CNG) fueling station construction. • Garage and maintenance shop upgrade. • Advanced fleet information management system.	• Guided by the financial assessments, the City primarily opts for asset purchases rather than leasing. However, in order to address peak demand during certain seasons, the City also engages in occasional seasonal rentals. • The City has initiated a pilot project since 2011 for implementing EVs and EV charging stations. The project's scope includes: • 1 pick-up truck. • 2 EV units for transit (approved but not yet purchased). • 1 EV Zamboni. • Vehicle chargers at Wastewater Treatment Plants.

As shown in **Table 4-1**, many of the City's acquisition activities are associated with green transformation. In general, the shift towards a green fleet represents a significant change that will require increased capital investments in the short term. This is particularly evident in the substantial funding needed for developing and establishing the supporting infrastructure. Although the initial capital expenditure may pose financial challenges, the long-term benefits of reduced environmental impact and enhanced sustainability make it a worthwhile investment for the community's future well-being. **Table 4-2** summarizes the impact of green fleet acquisition activities on the City's capital expenditures.

Table 4-2: The Impact of Green Fleet Acquisition Activities on The City's Capital Expenditures

Activities	Impact on Capital Expenditures
Green fleet acquisition	• Pro: Lower sales tax compared to conventional vehicles. • Pro: Federal and Provincial rebates and grants available (still in the early stage). • Con: High acquisition costs compared to the standard gasoline vehicles. • Con: Limited availability for the heavy-duty vehicles and specialized equipment. • Con: Relatively longer waiting times. • Con: Highly rely on the stability and availability of the electricity grid.
Green infrastructure investment (EV charging stations, CNG fueling stations, etc.)	• High construction costs. • High costs are associated with the garage and maintenance shop upgrade.

[7] Transport Canada. (2024, January 22). Canada's Zero-Emission vehicle sales targets. Retrieved from Transport Canada.
[8] City of Sault Ste. Marie. (2024). Greenhouse Gas Emissions Reduction Plan. Retrieved from City of Sault Ste. Marie.

4.3 Asset Operations and Maintenance Strategies

Effective O&M of assets is crucial for sustainable performance and longevity. Managing O&M costs involves developing comprehensive strategies that optimize resource utilization while ensuring asset reliability. Proactive maintenance schedules and condition monitoring can help identify potential issues before they escalate, reducing unplanned downtime and minimizing repair costs. Implementing energy-efficient technologies and best practices in fleet AM also contributes to cost-effectiveness over the asset's lifecycle. **Table 4-3** summarizes the O&M activities associated with the City's fleet assets.

Table 4-3: O&M Activities for Fleet Assets

Asset Group	Activities Undertaken by the City	Notes
Fleet	• Car washing. • Regular safety inspection. • Service (Oil change) per 300 hours of service. • Oil sampling. • Exhaust emission testing. • Tire pressure check. • Tire rotation and replacement. • Car repair and parts replacement. • Fuel consumption and EV battery charging. • LED light replacement. • Driver training and education. • Fleet information system and server maintenance.	• The City has established a maintenance budget for spare parts acquisition, with the flexibility to utilize the capital budget for major expenses. • The City has a separate budget for car insurance, distinct from the legal budget. • The City may contract out services as needed, while transit services are handled on-site by their staff. Transit services include: • Use high-quality lubricants. • Use stainless steel components. • All buses are taken off the road every six months and subjected to a complete mechanical inspection.

With the green fleet transformation, the City may also need to consider O&M activities specifically for EVs. With less or no consumption of fossil fuel, the amount of greenhouse gas emissions would be significantly reduced. In addition, EVs have fewer moving parts, resulting in reduced wear and tear and, therefore, lower maintenance expenses. While EVs still require periodic maintenance, such as brake system checks and battery inspections, the absence of complex engine components often leads to a more cost-effective O&M profile. Furthermore, the lower reliance on fossil fuels for power contributes to potential long-term savings, offering an economic incentive for the adoption of EVs in the context of operational sustainability and efficiency. However, after certain years of use or every 100-120 thousand kilometres driven, the batteries will depreciate significantly to reduce the effective mileage range, and the subsequent battery replacements will induce a large expenditure, which might take up to 20% to 30% of the total vehicle purchase cost.

4.4 Renewal and Replacement Strategies

Renewal often involves upgrading or refurbishing existing assets to extend their lifespan, while replacement entails acquiring new assets. The costs associated with these activities include not only the direct expenses of acquisition but also indirect costs such as downtime during the transition, training for new technologies, and potential disposal or recycling costs.

Similar to the acquisition of fleet assets, the City's decision to renew and replace fleet assets is driven by a variety of factors. Changes in service scope, increased workload, and growing population and diversity can necessitate the replacement of vehicles with larger capacity or upgraded features. As the current fleet ages and becomes obsolete, the need for renewal becomes imperative to maintain operational efficiency and meet evolving demands. Additionally, a strategic shift towards environmental sustainability may prompt the replacement of conventional vehicles with a green fleet, aligning with the City's commitment to reducing its environmental impact. These drivers collectively guide the strategies for fleet asset renewal and replacement, ensuring that the fleet remains modern, efficient, and aligned with evolving operational requirements.

4.5 Decommissioning and Disposal Strategies

Effective asset decommissioning and disposal are integral components of strategic AM. As the City's fleet assets approach the end of their lifecycle or become obsolete, a systematic approach to their removal and decommissioning is essential. This process involves careful planning, environmental considerations, and adherence to the City's regulatory requirements. **Table 4-4** summarizes the decommissioning and disposal activities associated with the City's fleet assets.

Table 4-4: Decommissioning and Disposal Activities for Fleet Assets

Asset Group	Activities Undertaken by the City	Notes
Fleet	• Sell the old vehicles for residual values. • Trade in the old vehicles for new ones. • Repurpose the vehicles. For example, retired police cars can be used as service cars. • Vehicle scrapping.	• The decommissioning process is conducted by the Shop Clerk and mechanic, and the asset is marked as "Inactive" in the system. • Assets are traded in to offset the cost of new acquisitions. • Due to age and poor condition, some assets are sold for scrap metal.

4.6 Risk Associated with Lifecyle Activities

In the context of AM, risk is defined as the consequence or impact of uncertainties on AM objectives. These uncertainties span a spectrum of events, including financial market fluctuations, unexpected asset failures, changes in regulatory environments, and other factors capable of influencing the performance or condition of assets. Risk management, developed to handle uncertainties in a systematic and timely manner, is a practical framework that ensures thoughtful decision-making and protects the achievement of goals. The risk management process generally follows a series of steps, as outlined in **Table 4-5**.

Table 4-5: Key Steps in the Risk Management Process

Step	Description
Establish the context	• Define the scope of the risk management process and the objectives that the City seeks to achieve through effective risk management. • Consider the City's internal and external factors and understand stakeholder expectations.
Risk identification	• Identify potential risks that could impact the City's AM objectives.
Risk analysis	• Utilize qualitative or quantitative analysis methods to assess risks.
Risk evaluation	• Evaluate the likelihood and impact of identified risks. • Prioritize risks based on their criticality.
Risk treatment	• Develop strategies to reduce the likelihood and impact of identified risks. • Implement preventive measures to address potential issues proactively. • Establish contingency plans for managing risks that cannot be eliminated.
Monitor and review	• Regularly update risk assessments to reflect evolving circumstances. • Develop KPIs and monitoring tools to track the effectiveness of risk treatment strategies. • Learn from the City's past experiences and continuously improve risk management strategies.

Over the course of an asset's service life, the accelerating rate of deterioration with age poses inherent risks, inevitably leading to a corresponding increase in maintenance costs. **Figure 4-2** illustrates a general asset deterioration curve. This trend becomes particularly pronounced in the final phase of the asset's service life, where the cost of maintenance experiences a rapid escalation, highlighting the financial risks associated with prolonged neglect. This phenomenon underscores the critical importance of preventive maintenance in the early stages of an asset's service life. By addressing risks proactively during these initial periods, the potential financial burden tied to accelerated deterioration in later stages can be effectively mitigated.

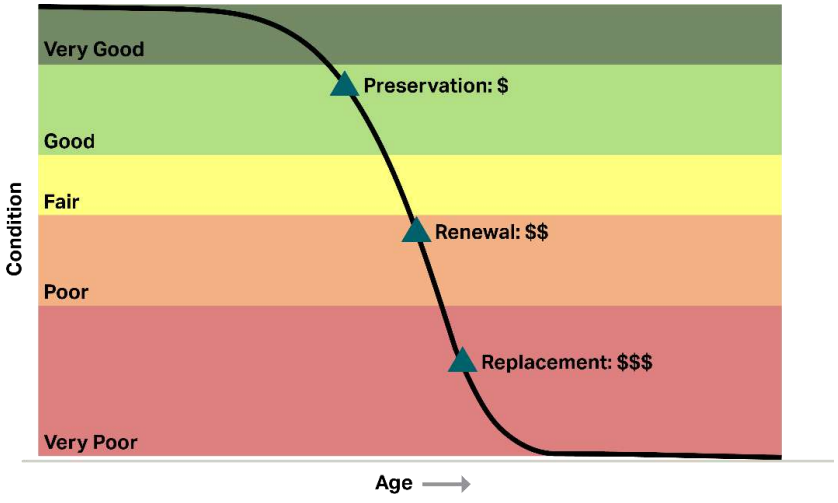


Figure 4-2: Asset Deterioration Curve and Renewal Costs

Beyond the general guidance, the City's approach to risk management should be tailored to their overarching goals, financial resources, and willingness to tolerate uncertainties. It is important to note that failure to meet the proposed LoS also poses several risks, including fines or penalties imposed by government authorities, asset failure, and increased service disruption. To help shape the City's risk management process, AECOM recommends taking into account the following key considerations:

1. **Supply Chain Disruptions**:

   The automotive industry has been hit the hardest by supply chain disruptions during the COVID-19 pandemic. A critical issue has been the semiconductor shortage, resulting in fewer options, higher prices, and extended waiting times for delivery since then. Consequently, the City may face increased costs when purchasing new vehicles.

2. **Environmental Requirements**:

   In the City's GHG Emissions Reduction Plan, the City has initiated the transition to purchasing only vehicles that are highly efficient, run on zero-carbon and renewable energy fuels, and support transportation electrification opportunities. This aligns with the Canadian Federal Government's target for all federally financed bus purchases to be zero-emission.

3. **Risks Associated with Developing City's Electrical Vehicle Fleets**:

   Despite the environmental benefits, there are several risks associated with developing EV fleet, such as:

   - Potential supply chain vulnerabilities and high upfront costs: in the current market, electrical vehicles would spend an average of 20% to 30% more in purchasing compared to similar gasoline or diesel models. And due to the high demand, the delivery time the electrical vehicles might take up to 2 to 6 months for some popular or specialized models. They might impact the service efficiency and productivity of the City's fleet team.
   - Limited Heavy-duty Engineering EV and Specialized Equipment: the major car vendors in the current market have not offered lots of electrical alternatives for heavy-duty electric engineering vehicles and specialized equipment, such as the pick-up truck at Class 5 commercial grade (equivalent to Ford F450).
   - Significant Investment in Charging Infrastructure and Maintenance Facilities: the productivity of the EV fleet team highly depends on the development of the charging infrastructure. The City needs to invest to deploy its exclusive or additional public charging station to ensure the service vehicles can be charged timely and adequately. Furthermore, EVs have different maintenance requirements compared to traditional vehicles, which means the current service facilities need to be upgraded accordingly and the fleet operators need to be trained to maintain the EVs effectively.
   - Range Anxiety: the charging time for a common electric vehicle might take up to 1.5 to 3 hours, depending on the battery size and electric power. The mileage range per charge could vary from 200 kilometres to 500 kilometres, based on the vehicle's running temperature and duties performed (cold temperature and high-speed driving reduce the battery efficiency). In this case, an enhanced vehicle charging plan needs to be conducted by the service planner to maximize the vehicle's efficiency and prepare for any potential breakdown due to insufficient power.
   - Uncertainties Regarding Battery Lifespan: The battery might depreciate significantly after 8-10 years or every 120 thousand to 150 thousand kilometres of running. The lifespan becomes shorter in a more frequent usage or in cold territories. The battery replacement can incur a significant capital expenditure, taking up to 20 to 40% of the original purchasing price, and will cause a certain level of service interruption.
   - Reliability Concerns: Mechanical breakdowns and software glitches for the EVs are expected, especially considering some EV products in the markets are immature in mechanical reliability and software stability, a lack of long-term testing and improvement. Substantial expenditures and major service breakdowns might happen due to this circumstance.
   - Unqualified EV Manufacturers: some newcomers in the EV manufacturing industry are facing uncertain futures resulting from financial crises, rising interest rates, and supply shortages. Company bankruptcy or suspension of manufacturing certain models of the vehicle might become an uncertainty to the City's fleet team, with the risk of vehicles out-of-commissioning due to a lack of parts and services.

5 Funding Need Analysis

Financial forecasting and capital planning are a critical element in ensuring the efficient and sustainable management of infrastructure. This involves estimating future financial needs and developing a strategic plan to secure the necessary funding for the maintenance, renewal, or expansion of assets. By accurately forecasting financial requirements and implementing a well-structured capital plan, the City can not only ensure the long-term viability of their infrastructure systems but also effectively manage costs, reduce environmental risks, and protect public health.

The financial projections presented in the subsequent sections provide visualizations of the results from the financial model, considering two scenarios: **Scenario 1** considers like-for-like replacement, while **Scenario 2** considers green fleet expansion. The subsequent sections are structured as follows:

Section 5.1 summarizes historical capital and O&M expenditures, along with budget forecasts for the next 10 years (2025–2034).

Section 5.2 outlines the assumptions used in the financial model to guide reinvestment and replacement decisions for each fleet subcategory and estimates the annual funding requirements over the 10-year period. The projected levels of service over this period are also presented.

Section 5.3 presents the capital expansion funding needs to accommodate the future growth.

Section 5.4 presents the full funding needs for the next 10 years, including capital, O&M, and disposal costs for both like-for-like and green fleet expansion.

Section 5.5 summarizes the risk of funding gaps and **Section 5.6** explores possible funding sources and alternative strategies to support the fleet asset management lifecycle activities.

5.1 Capital and Operating Budget

Based on the review of the budget documents provided by the City, including:

- Summary Capital Budget - 2020 to 2024
- Long Term Financial Plan Model - Final Client Version

This section presents the annual average budgets allocated for capital replacement as well as operations and maintenance.

5.1.1 Capital Budget - Historical Expenditure and Future Forecast

The City has budgeted $3.6 million for PWES fleet replacements and $3.8 million for CDES fleet replacement for the years 2020–2024, as summarized in

Table 5-1. The historical capital expenditure reflects the momentum of recurring asset replacement and the actual funding level approved by the Council.

Table 5-1: Capital Budget Forecast

Asset Class	Department	Sub-Category	5-Year Annual Average
Fleet	PWES	Admin Fleet, Building Equipment Maintenance Fleet, Mechanical Fleet, Operation Fleet, Park Fleet, Traffic Fleet, Operation Equipment	$3,600,000
	CDES	Arena Fleet, Cemetery Fleet, Transit Fleet, Arena Equipment, Transit Equipment	$3,850,000

5.1.2 Operating Budget - Historical Expenditure and Future Forecast

5.1.2.1 Vehicle Equivalent Unit

The concept of Vehicle Equivalent Units (VEUs) is used in fleet management to determine staffing and cost requirements for vehicle maintenance. It represents a way to aggregate different types of vehicles within a fleet into a common unit measurement. In this case, the average annual O&M costs per vehicle equivalent unit (VEU) are applied to estimate the O&M costs needed for each fleet asset. According to other municipal studies in Canada and the U.S.A., the cost per Vehicle Equivalent Unit (VEU) range corrected for inflation is $2,300 to $3,900[9]. Generally, the newer of the vehicles, the fewer O&M costs are required.

The average maintenance and repair cost per VEU for the City of SSM's fleet is $5,456/VEU in 2021. AECOM inflated the benchmarking cost into 2025 dollars and the cost breakdown is presented in **Table 5-2**.

Table 5-2: Maintenance and Repair Benchmarking Cost Per VEU

Maintenance Cost Item	Cost per VEU
In-house Labour	$3,177
Sublet Repair Service	$1,042
Parts	$1,921
Total Cost Per VEU	**$6,141**

The VEUs for a regular automobile (sedan) equals one, and the vehicles under other class categories have different VEU values depending on their size, function, and duty level compared to the regular automobile. **Table 5-9** summarizes the VEUs/unit and the maintenance and repair cost per class category.

Table 5-3: VEUs/Unit and the Maintenance and Repair Cost Per Class Category

Class Category	VEU(s)/Unit	Annual Maintenance and Repair Cost (Per Unit)
Transit Bus	7.50	$46,056
HD Truck	6.46	$39,659
MD Truck	4.50	$27,633
Off-Road and Construction	4.44	$27,265
Grounds Equip	1.76	$10,808
Material Handling	1.76	$10,808
LD Truck	1.63	$10,010
Van	1.50	$9,211
Automobile	1.00	$6,141
SUV	1.00	$6,141
Carts	1.00	$4,606
Large Equipment	0.80	$4,606
Trailer	0.74	$4,539
Attachments	0.64	$3,955
Mounted	0.40	$2,456

[9] Mercury Associates Inc. (2021): SSM Fleet Practices Review Final Report

Class Category	VEU(s)/Unit	Annual Maintenance and Repair Cost (Per Unit)
Stationary	0.40	$2,456
Equipment-Small	0.30	$1,842
Miscellaneous Equipment	0.20	$1,228
Equipment-Testing	0.20	$1,228
Steamer	0.20	$1,228
Transit Equipment	0.20	$1,228

5.1.2.2 Future 10-Year O&M Funding Forecast

The O&M funding needs are totalized based on the maintenance cost/vehicle summarized in **Table 5-3. Table 5-4** and **Figure 5-1** show the O&M funding forecast for the next 10 years from 2025 to 2034. The annual average forecasted O&M funding need is $7.8 million over the next 10 years in inflated dollar value.

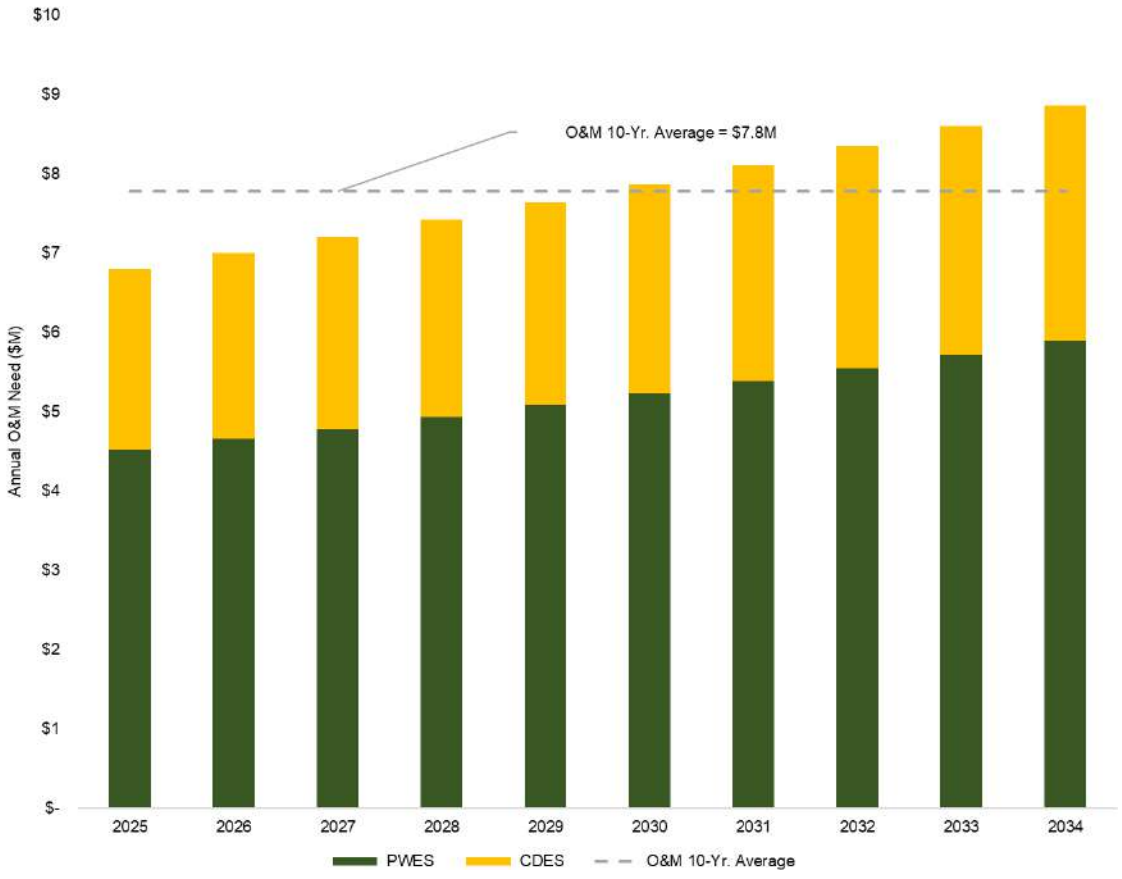


Figure 5-1: Fleet 10-Year O&M Forecast

The detailed 10-year O&M budgets for fleet assets are presented in **Table 5-4** in inflated dollar values.

Table 5-4: Fleet 10-Year Total and Annual O&M Budget

O&M Category	Annual Average Budget	10-Year Total
PWES Fleet	$5,173,000	$51,730,000
CDES Fleet	$2,610,000	$26,097,000
Total	**$7,783,000**	**$77,827,000**

5.2 Capital Reinvestment Funding Needs Analysis

This section outlines the capital funding scenarios analysis approach, assumptions, and presents service level trends regarding asset condition under various budget scenarios.

5.2.1 Lifecycle Model Approach and Assumptions

The lifecycle analysis was performed using a Power BI model, integrating key asset attributes such as asset inventory, age, expected service life, replacement values, and condition data to develop theoretical asset replacement cycles. The analysis also incorporates condition assessment results for PW fleets. A financial dashboard was developed to effectively visualize and communicate the lifecycle modelling outcomes.

The annual reinvestment needs for the fleet assets were determined based on their age and ESL in years in inflated dollar values and are based on the following assumptions:

- **Base year**: the base year used is 2025. Any historic asset valuations have been inflated using the experienced inflation rate.
- **Analytical period**: the analysis period for capital reinvestment needs is from 2025 to 2034, and the analysis period for full funding needs is from 2025 to 2034.
- **Incorporation with Mercury Analysis Results**: for the Public Work fleets covered in the Mercury Fleet Assessment Report[11], the lifecycle replacement schedule is aligned with the recommendation from that report.
- **Cost markup for Like-for-Like Replacement**: 5% markup applied to account for required service charging and dealership markups.
- **Cost markup for Green Fleet Expansion**: 30% markup applied to account for the price increase of the EV or hybrid vehicles compared to the original fossil fuel vehicles.
- **Backlog Smooth-out**: replace assets that are in Very Poor condition and have already exceeded their ESL, depending on their designated replacement year (Designated Replacement Year = Asset Install Year + Estimated Service Life), The backlog replacements were planned to be allocated within the first four years of the analysis period, determined by applying the following logic:
  - If the designated asset replacement year is between 1996 and 2005, they will be replaced on 2025-06-01.
  - If the designated asset replacement year is between 2006 and 2015, they will be replaced on 2026-01-01.
  - If the designated asset replacement year is between 2016 and 2019, they will be replaced on 2027-01-01.
  - If the designated asset replacement year is between 2020 and 2024, they will be replaced on 2028-01-01.
- **Inflation rate**: the inflation rates adopted for the financial model are presented in **Table 5-5**. The inflation for 2025 and later years is determined based on the City's input.

[11] Mercury Associates Inc. (2021): SSM Fleet Practices Review Final Report

Table 5-5: Inflation Rate [12]

Year	Inflation Rate
2023	7.1%
2024	6%
2025 - 2034	2%

- **O&M Funding Needs**: The annual operation and maintenance (O&M) funding needs are estimated by applying the Vehicle Equivalent Unit (benchmarking O&M cost/VEU) methodology and escalated with the inflation rate of 2% for the next 20 years.
- **Asset Disposal Funding Needs**: The annual disposal and decommissioning (disposal) funding needs are forecasted by annual capital reinvestment needs multiplied by the disposal rate, which is 1% in this exercise.
- The costs numbers are rounded to the nearest $1,000.

5.2.2 Budget Scenarios Settings

Table 5-6 outlines the budget scenario settings used in the model for fleet assets. Scenario 1 (S1) represents a "Do Nothing" approach with zero expenditure. Scenario 2 (S2) reflects an ideal, unconstrained budget scenario, where the City is able to replace assets at the end of their service life as needed. Scenario 3 (S3) is continuing the City's historical budgeting approach (2020-2024) and considers that the assets in the poorest condition and with the highest replacement values will be prioritized annually for renewal. However, the model is designed to accommodate additional budget scenarios in the future as more budget information is provided.

Table 5-6: Fleet Budget Scenarios

Scenario	Description	Budgets
S1 Do Nothing	Spend Nothing	$0
S2 Unlimited Budget	Replace assets at the end of life	Unlimited
S3 Limited Budget	Evaluating the City's proposed budgets and considering that the assets in the poorest condition and with the highest replacement values will be prioritized annually for renewal.	$3.6 million for PWES Fleet $3.8 million for CDES Fleet

5.2.3 Fleet Budget Scenarios & 10-Year Service Level Forecast: Like-for-Like Replacement

This section presents the budget scenario results and the 10-year service level forecast for fleet assets.

5.2.3.1 PWES Fleet Assets Funding Needs

In the unconstrained budget scenario (S2), the City's PWES Fleet assets require an average annual capital reinvestment of $4.0 million (in inflated dollar values) from 2025 to 2034, as presented in **Figure 5-2**. This is equivalent to a total of approximately $39.5 million over the next 10-year period. A significant portion of this funding is allocated to the replacement of the PW – Operations Fleet, averaging $3.0 million annually, with peak spending projected in 2027 at $3.6 million. Another key contributor is the PW – Parks Fleet, requiring approximately $549 thousand per year, also reaching its highest expenditure in 2027 ($1.4 million).

[12] Past inflation data obtained from NRBCPI using the non-residential; yearly result taken from an average of quarterly results. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810027601

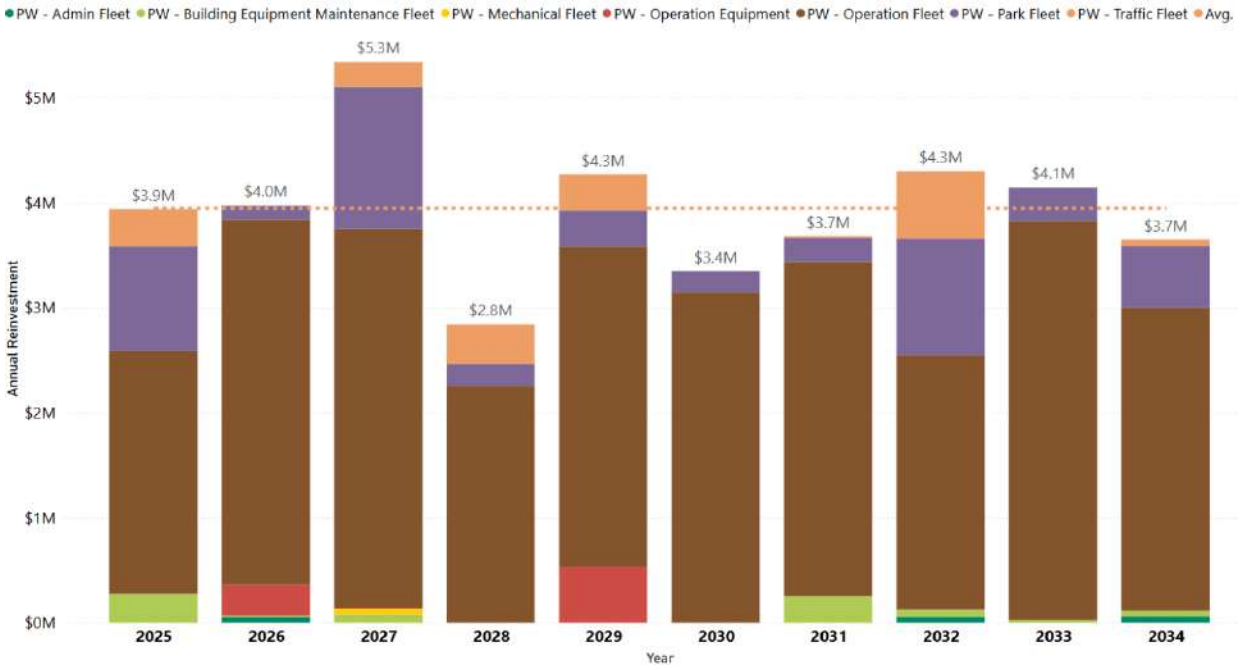


Figure 5-2: 10-Year Capital Reinvestment Funding Needs for PWES Fleet Assets (Like-for-Like) – Unlimited Budget Scenario

The detailed 10-year reinvestment needs for the fleet are presented in **Table 5-7** in inflated dollar values.

Table 5-7: PWES Fleet 10-Year Total and Annual Average Reinvestment Need (Like-for-Like)

Asset Category	Annual Average Need	10-Year Total
PW - Admin Fleet	$18,000	$180,000
PW – Building Equipment Maintenance	$78,000	$780,000
PW – Mechanical Fleet	$6,000	$60,000
PW – Operation Fleet	$3,014,000	$30,140,000
PW – Park Fleet	$549,000	$6,490,000
PW – Traffic Fleet	$203,000	$2,030,000
PW – Operation Equipment	$85,000	$850,000
Total	**$3,953,000**	**$39,530,000**

5.2.3.2 PWES Fleet Assets 10-Year LoS Trend Forecast

Figure 5-3 presents the projected condition of fleet assets under the two funding scenarios over the 10-year analysis period. Currently, 47% of PWES fleet assets are in fair or better condition.

Under Scenario S1 – Do Nothing, the proportion of assets in fair or better condition declines to just 0.15% by 2034. In contrast, under Scenario S2 – Unlimited Budget, which equates to an average annual reinvestment of $4.0 million, the percentage of assets in fair or better condition improves to 57%. Under Scenario S3, with a constrained annual budget of $3.6 million over the next 10 years, the proportion of assets in fair or better condition is projected to decline to 52%. Given that the City's projected future budget of $3.6 million is reasonably sufficient, overall asset conditions are expected to slightly improve compared to the current levels. This underscores the importance of strategic reinvestment planning to optimize asset performance within the available funding constraints.

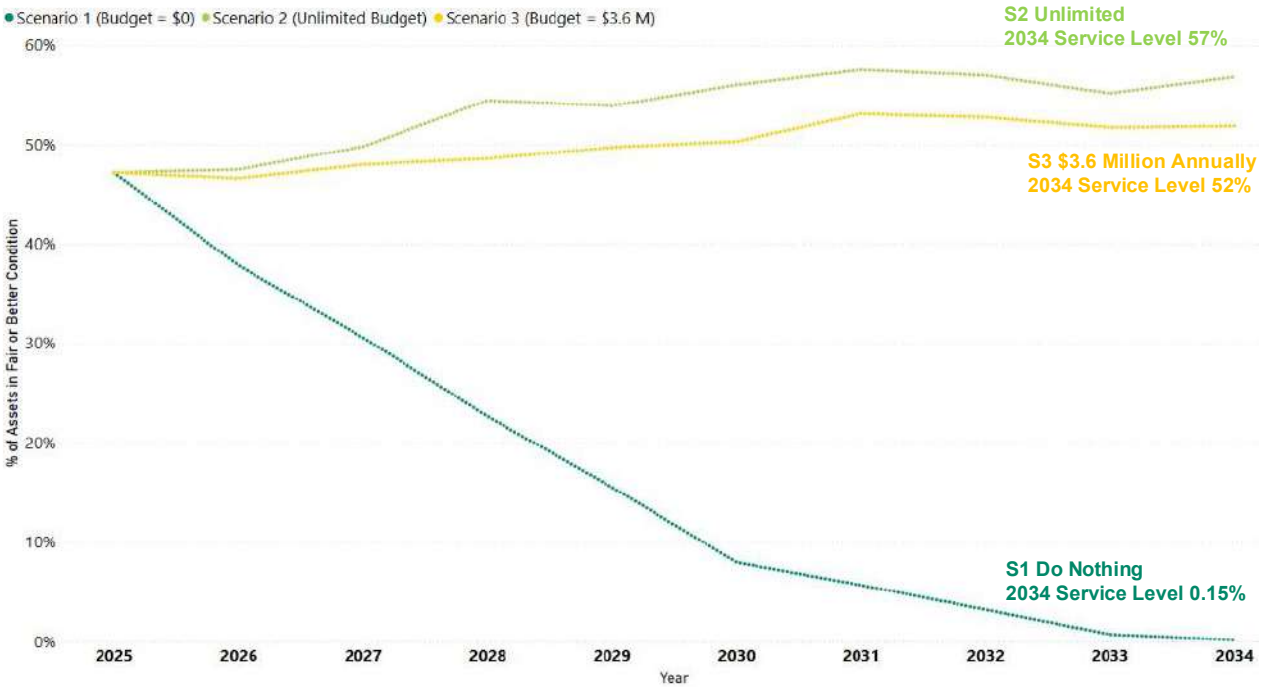


Figure 5-3: PWES Fleet Assets Levels of Service Trend for All Budget Scenarios (Like for Like)

Figure 5-4 illustrates the projected condition distribution of PWES fleet assets from 2025 to 2034 under the constrained budget scenario (S3), with $3.6 million capital reinvestment budget annually. Over the 10-year period, the proportion of assets in very good condition remains relatively low, fluctuating between 6% and 16%, while those in good condition range between 13% and 18%. Notably, assets in fair condition make up approximately 18–24% throughout the period. The most significant concern is the persistently high percentage of assets in poor and very poor condition, which together comprise nearly 50% of the fleet by total replacement value in all years. Specifically, very poor assets alone account for 30–34% from 2025 to 2034, with minimal improvement over time. This trend suggests that although the $3.6 million budget may be sufficient to prevent further degradation, it is not enough to substantially improve overall fleet condition. Strategic reinvestment planning will therefore be essential to prioritize critical assets and optimize lifecycle outcomes within budget constraints.

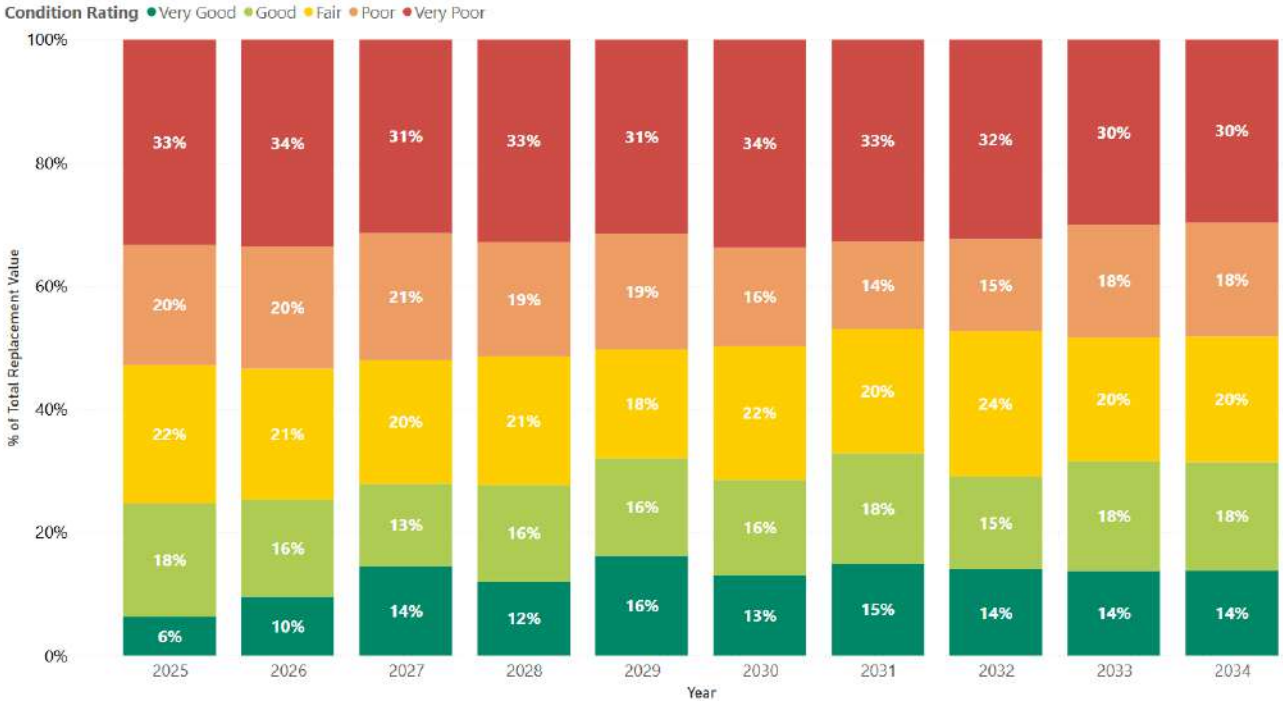


Figure 5-4: PWES Fleet Assets Condition Projection under Scenario 3 - $3.6 Million Annually (Like for Like)

5.2.3.3 CDES Fleet Assets Funding Needs

In the unconstrained budget scenario (S2), the City's CDES Fleet assets require an average annual capital reinvestment of $4.0 million (in inflated dollar values) from 2025 to 2034, as presented in **Figure 5-5.**

This is equivalent to a total of approximately $40.1 million over the next 10-year period. A significant portion of this funding is allocated to the replacement of the Transit Fleet, averaging $2.4 million annually, with peak spending projected in 2031 at $8.8 million. Another key contributor is the transit equipment, requiring approximately $1.3 million per year, reaching its highest expenditure in 2027 ($3.2 million).

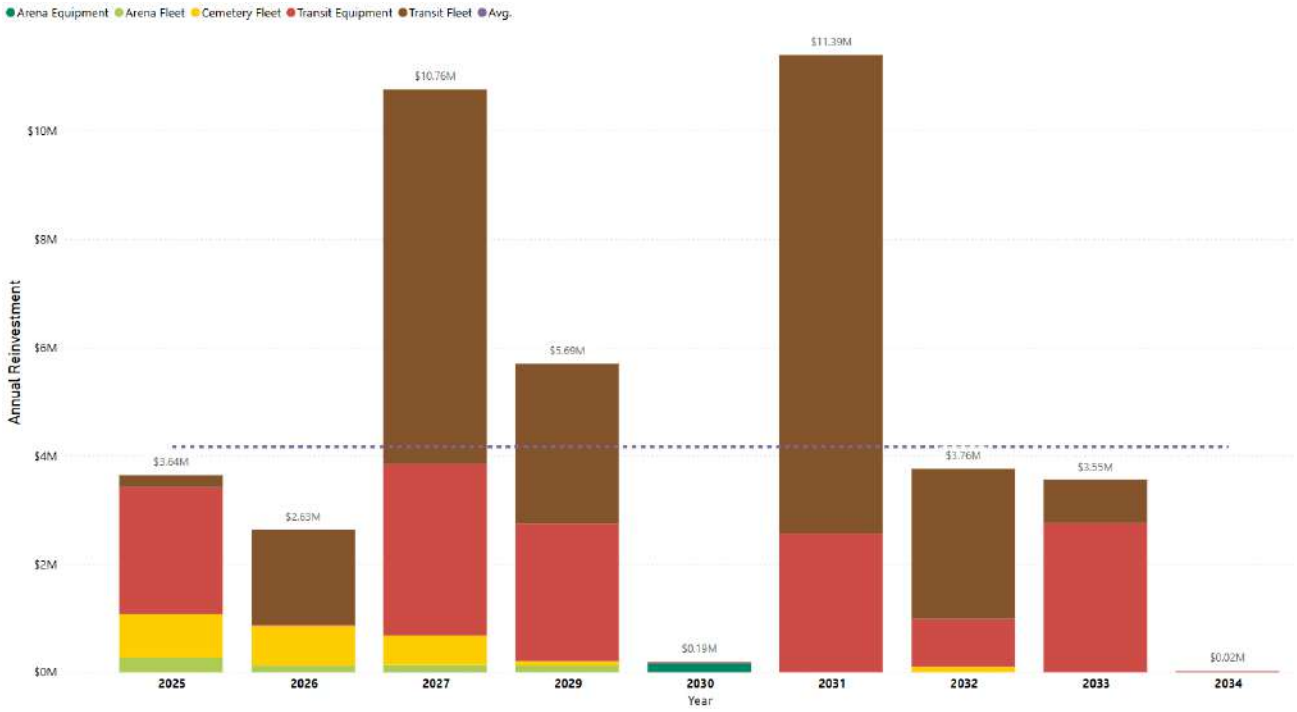


Figure 5-5: 10-Year Capital Reinvestment Funding Needs for CDES Fleet Assets (Like for Like) – Unlimited Budget Scenario

The detailed 10-year reinvestment needs for the fleet are presented in **Table 5-11** in inflated dollar values.

Table 5-8: CDES Fleet 10-Year Total and Annual Average Reinvestment Needs (Like-for-Like)

Asset Category	Annual Average Need	10-Year Total
Arena Fleet	$65,000	$650,000
Cemetery Fleet	$224,000	$2,240,000
Transit Fleet	$2,426,000	$24,260,000
Arena Equipment	$18,000	$180,000
Transit Equipment	$1,432,000	$14,320,000
Total	**$4,165,000**	**$41,650,000**

5.2.3.4 CDES Fleet Assets 10-Year LoS Trend Forecast

Figure 5-6 presents the projected condition of fleet assets under the two funding scenarios over the 10-year analysis period. Currently, 45% of the CDES fleet assets are in fair or better condition.

Under Scenario S1 – Do Nothing, the proportion of assets in fair or better condition declines to just 0% by 2034. In contrast, under Scenario S2 – Unlimited Budget, which equates to an average annual reinvestment of $4.01 million, the percentage of assets in fair or better condition improves to 57%. Under Scenario S3, with a constrained annual budget of $3.8 million over the next 10 years, the proportion of assets in fair or better condition is projected to decline to 40%. Given that the City's projected future budget of $3.8 million is sufficient to maintain the overall asset conditions at current levels. This underscores the importance of strategic reinvestment planning to optimize asset performance within the available funding constraints.

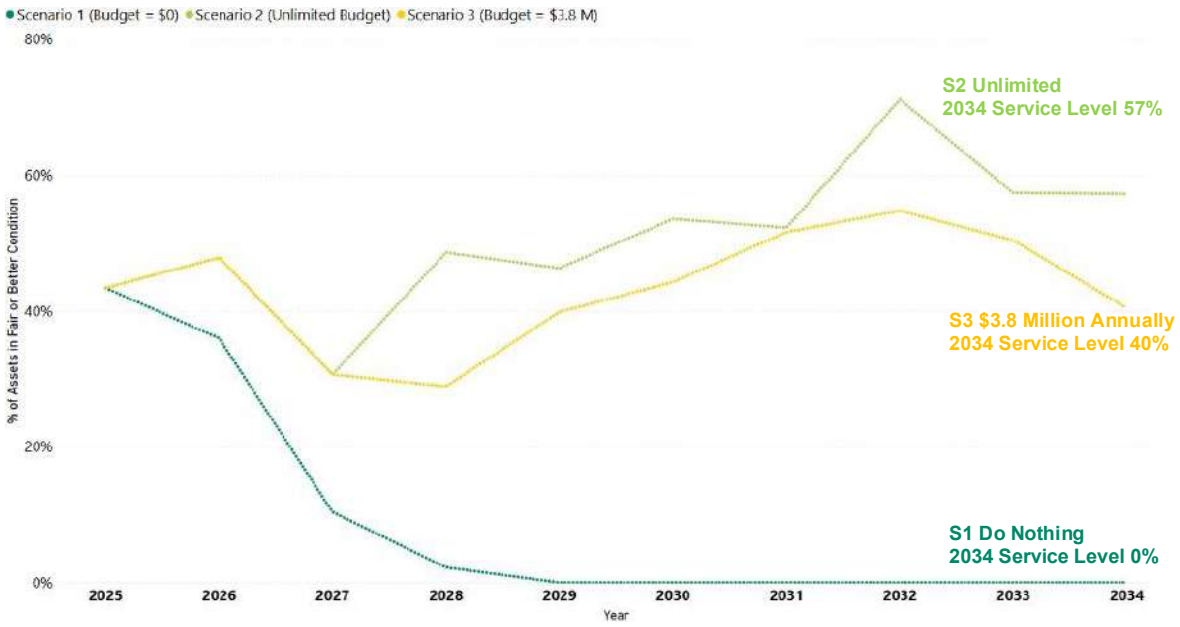


Figure 5-6: CDES Fleets Assets Levels of Service Trend for All Budget Scenarios (Like for Like)

Figure 5-7 illustrates the projected condition distribution of CDES fleet assets from 2025 to 2034 under the constrained budget scenario (S3), with $3.8 million capital reinvestment budget annually. Over the 10-year period, the proportion of assets in very good condition remains relatively low, fluctuating between 0% and 12%, while those in good condition hover between 8% and 29%. Notably, assets in fair condition make up approximately 3–34% throughout the period. The most significant concern is the persistently high percentage of assets in poor and very poor condition, which together comprise over 50% of the fleet by total replacement value in all years. Specifically, very poor assets alone account for 28–50% from 2025 to 2034, with progressive improvement over time. This trend suggests that although the $3.8 million budget may be sufficient to prevent further degradation, it is not enough to substantially improve overall fleet condition. Strategic reinvestment planning will therefore be essential to prioritize critical assets and optimize lifecycle outcomes within budget constraints.

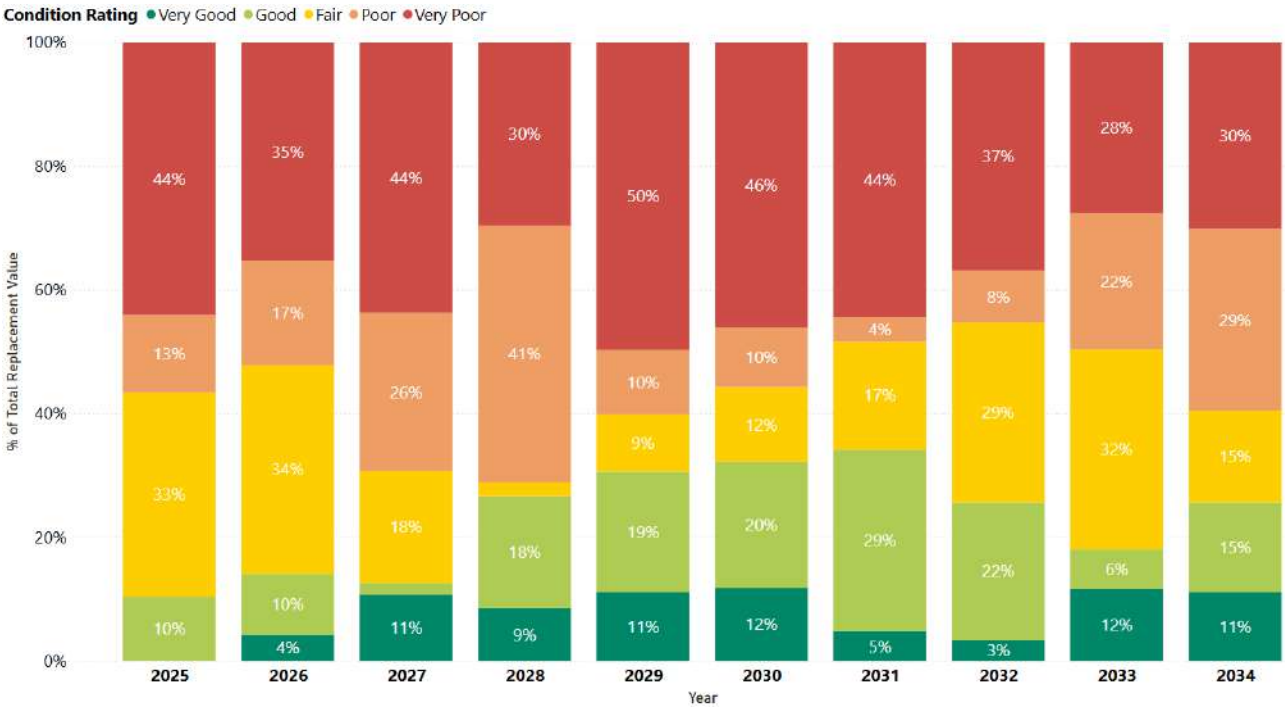


Figure 5-7: CDES Fleet Assets Condition Projection under Scenario 3 - $3.8 Million Annually (Like for Like)

5.2.4 Fleet Budget Scenarios & 10-Year Service Level Forecast: Green Fleet Expansion

The green fleet expansion scenario is to replace the existing vehicles with new ones of similar functionality with cleaner energy types, such as pure electric vehicles, hybrid, and plug-in hybrid vehicles. The green fleet alternatives are not available for all types of vehicles (refer to **Section 4.6**). Only the vehicles belonging to the automobile, carts, LD (Light-Duty) Truck, SUV and Transit Bus class categories are considered to be replaced with electric vehicles or different types of hybrid vehicles in this green fleet expansion scenario. In this case, a plus 30% price adjustment is applied to the vehicle replacement costs to account for the average price increase between traditional fossil fuel vehicles and green vehicles (refer to **Section 4.6**). **Table 5-9** summarizes the number of vehicles in the City's fleet that are possible to be replaced with green vehicle alternatives by each vehicle category and the price difference.

Table 5-9: Vehicle Classes Considered for Transition to Green Alternatives

Class Category	Green Fleet Option	Number of Vehicles Affected	Price Increase
Automobile	Hybrid/EV	17	$110,000
Carts	EV	10	$190,000
LD Truck	Hybrid/EV	90	$1,947,000
SUV	Hybrid/EV	6	$117,000
Transit Bus	EV Bus	42	$5,434,000
Total		**165**	**$7,797,000**

In total, there are 165 vehicles of various class categories that could potentially be replaced with green vehicles, which incurs a total additional cost of $7.8 million.

5.2.4.1 PWES Fleet Assets Funding Needs

In the unconstrained budget scenario (S2), the City's PWES fleet assets require an average annual capital reinvestment of $4.2 million (in inflated dollar values) from 2025 to 2034, as presented in **Figure 5-8**. This is equivalent to a total of approximately $41.6 million over the next 10-year period. A significant portion of this funding is allocated to the replacement of the PW – Operations Fleet, averaging $3.1 million annually, with peak spending projected in 2027 at $3.9 million. Another key contributor is the PW – Parks Fleet, requiring approximately $607 thousand per year, also reaching its highest expenditure in 2027 ($1.5 million).

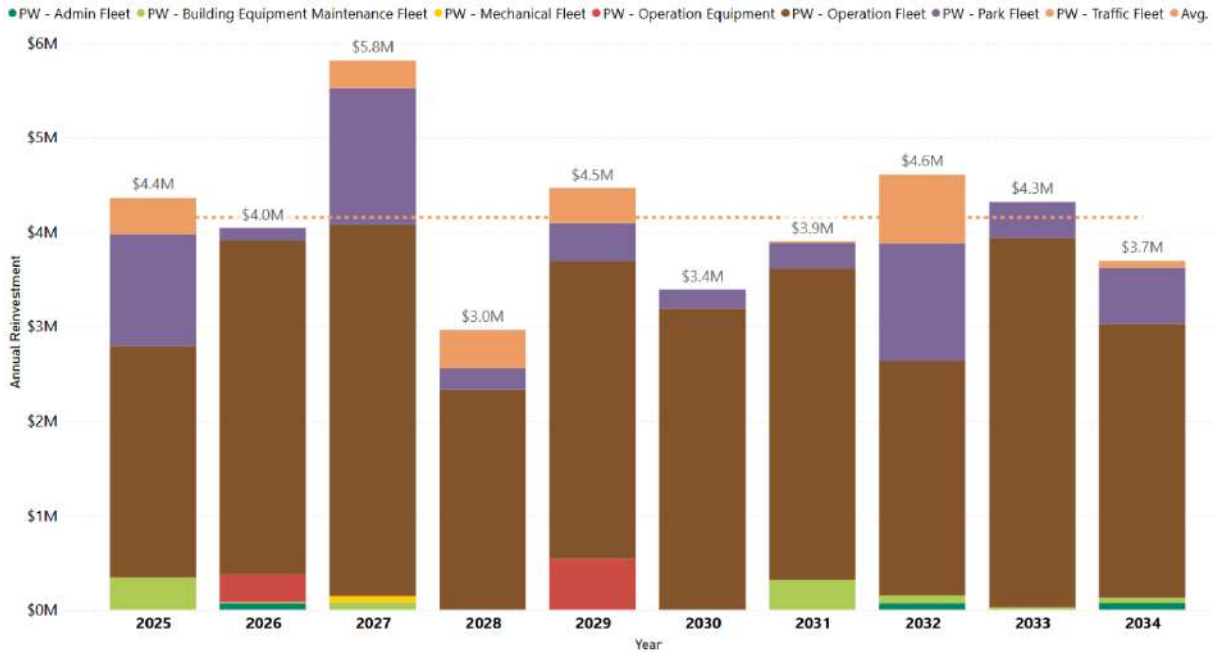


Figure 5-8: 10-Year Capital Reinvestment Funding Needs for PWES Fleet Assets (Green Fleet Expansion) – Unlimited Budget Scenario

The detailed 10-year reinvestment needs for fleet assets are presented in **Table 5-10** in inflated dollar values.

Table 5-10: PWES Fleet 10-Year Total and Annual Average Reinvestment Need (Green Fleet Expansion)

Asset Category	Annual Average Need	10-Year Total
PW - Admin Fleet	$22,000	$220,000
PW – Building Equipment Maintenance	$92,000	$920,000
PW – Mechanical Fleet	$7,000	$70,000
PW – Operation Fleet	$3,117,000	$31,170,000
PW – Park Fleet	$607,000	$6,070,000
PW – Traffic Fleet	$228,000	$2,280,000
PW – Operation Fleet	$85,000	$850,000
Total	**$4,158,000**	**$41,580,000**

5.2.4.2 PWES Fleet Assets 10-Year LoS Trend Forecast

Figure 5-9 presents the projected condition of PWES fleet assets under the two funding scenarios over the 10-year analysis period. Currently, 47% of PWES fleet assets are in fair or better condition.

Under Scenario S1 – Do Nothing, the proportion of assets in fair or better condition declines to just 0.14% by 2034. In contrast, under Scenario S2 – Unlimited Budget, which equates to an average annual reinvestment of $4.16 million, the percentage of assets in fair or better condition improves to 57%. Under Scenario S3, with a constrained annual budget of $3.6 million over the next 10 years, the proportion of assets in fair or better condition is projected to decline to 50%. Given that the City's projected future budget of $3.6 million is sufficient to maintain the overall asset conditions at current levels. This underscores the importance of strategic reinvestment planning to optimize asset performance within the available funding constraints.

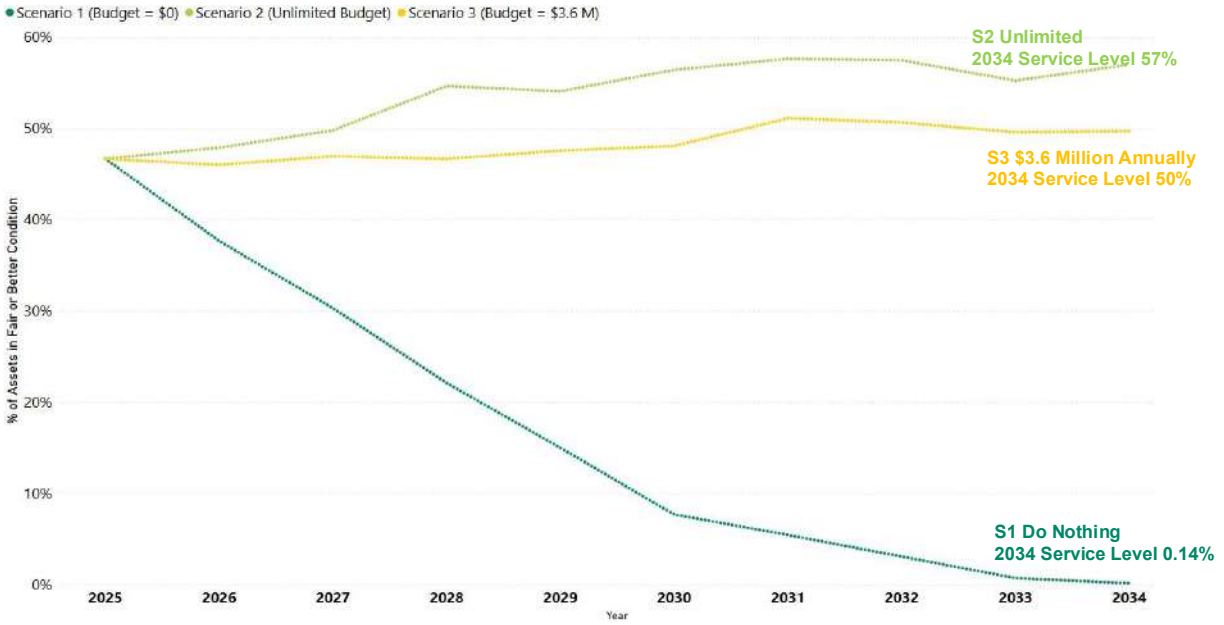


Figure 5-9: PWES Fleet Assets Levels of Service Trend for All Budget Scenarios (Green Fleet Expansion)

Figure 5-10 illustrates the projected condition distribution of PWES fleet assets from 2025 to 2034 under the constrained budget scenario (S3), with $3.6 million capital reinvestment budget annually. Over the 10-year period, the proportion of assets in very good condition remains relatively low, fluctuating between 6% and 15%, while those in Good condition hover between 13% and 18%. Notably, assets in fair condition make up approximately 17–23% throughout the period. The most significant concern is the persistently high percentage of assets in poor and very poor condition, which together comprise over 50% of the fleet by total replacement value in all years. Specifically, very poor assets alone account for 32–36% from 2025 to 2034, with minimal improvement over time. This trend suggests that although the $3.6 million budget may be sufficient to prevent further degradation, it is not enough to substantially improve overall fleet condition. Strategic reinvestment planning will therefore be essential to prioritize critical assets and optimize lifecycle outcomes within budget constraints.

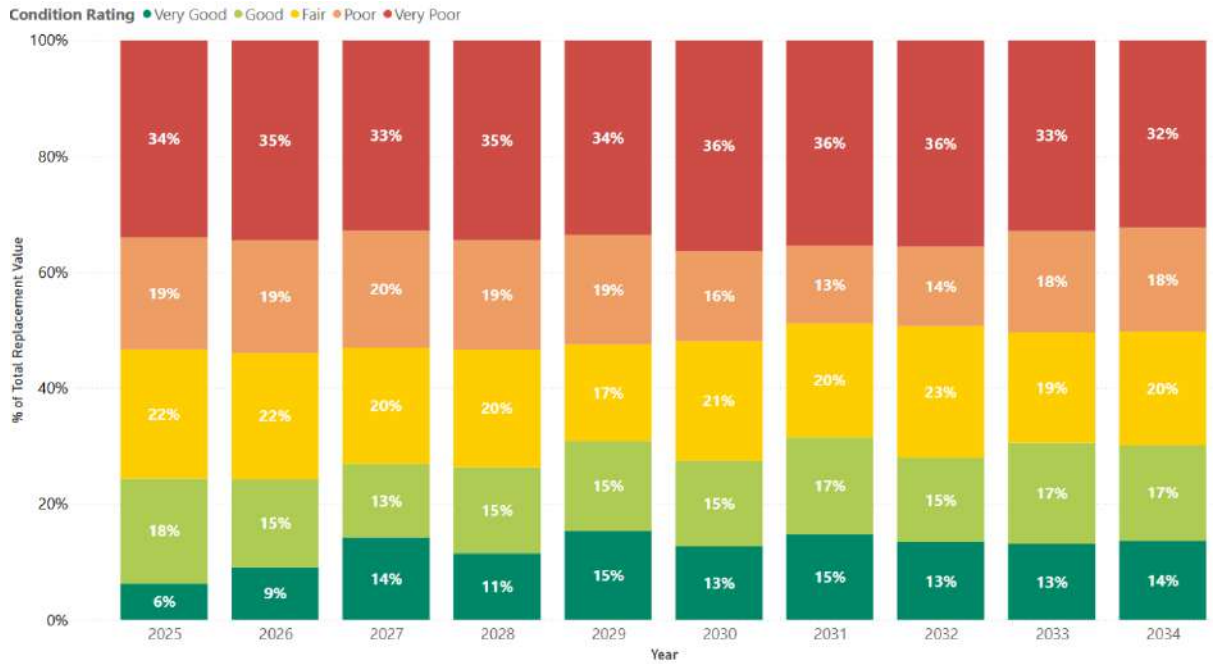


Figure 5-10: PWES Fleet Assets Condition Projection under Scenario 3 - $3.6 Million Annually (Green Fleet Expansion)

5.2.4.3 CDES Fleet Assets Funding Needs

In the unconstrained budget scenario (S2), the City's CDES Fleet assets require an average annual capital reinvestment of $4.6 million (in inflated dollar values) from 2025 to 2034, as presented in **Figure 5-11**. This is equivalent to a total of approximately $45.6 million over the next 10-year period. A significant portion of this funding is allocated to the replacement of the Transit Fleet, averaging $2.6 million annually, with peak spending projected in 2031 at $9.3 million. Another key contributor is the transit equipment, requiring approximately $1.6 million per year, reaching its highest expenditure in 2027 ($3.9 million).

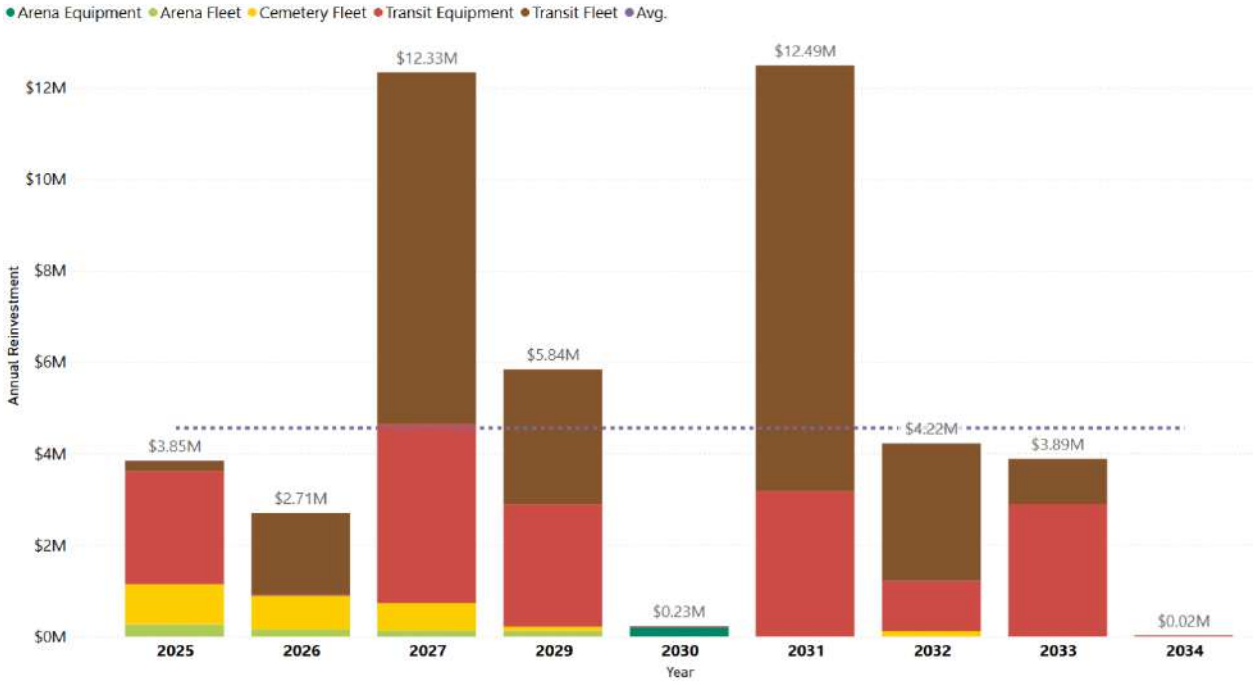


Figure 5-11: 10-Year Capital Reinvestment Funding Needs for CDES Fleet Assets (Green Fleet Expansion) – Unlimited Budget Scenario

The detailed 10-year reinvestment needs for fleet assets are presented in **Table 5-11** in inflated dollar values.

Table 5-11: CDES Fleet 10-Year Total and Annual Average Reinvestment Needs (Green Fleet Expansion)

Asset Category	Annual Average Need	10-Year Total
Arena Fleet	$68,000	$680,000
Cemetery Fleet	$242,000	$2,420,000
Transit Fleet	$2,598,000	$25,980,000
Arena Equipment	$22,000	$220,000
Transit Equipment	$1,631,000	$16,310,000
Total	**$4,561,000**	**$45,610,000**

5.2.4.4 CDES Fleet Assets 10-Year LoS Trend Forecast

Figure 5-12 presents the projected condition of CDES fleet assets under the two funding scenarios over the 10-year analysis period. Currently, 45% of CDES fleet assets are in fair or better condition.

Under Scenario S1 – Do Nothing, the proportion of assets in fair or better condition declines to just 0% by 2034. In contrast, under Scenario S2 – Unlimited Budget, which equates to an average annual reinvestment of $4.4 million, the percentage of assets in fair or better condition improves to 56%. Under Scenario S3, with a constrained annual budget of $3.8 million over the next 10 years, the proportion of assets in fair or better condition is projected to decline to 42%. Given that the City's projected future budget of $3.8 million is reasonably sufficient, overall asset conditions

are expected to remain at current levels. This underscores the importance of strategic reinvestment planning to optimize asset performance within the available funding constraints.

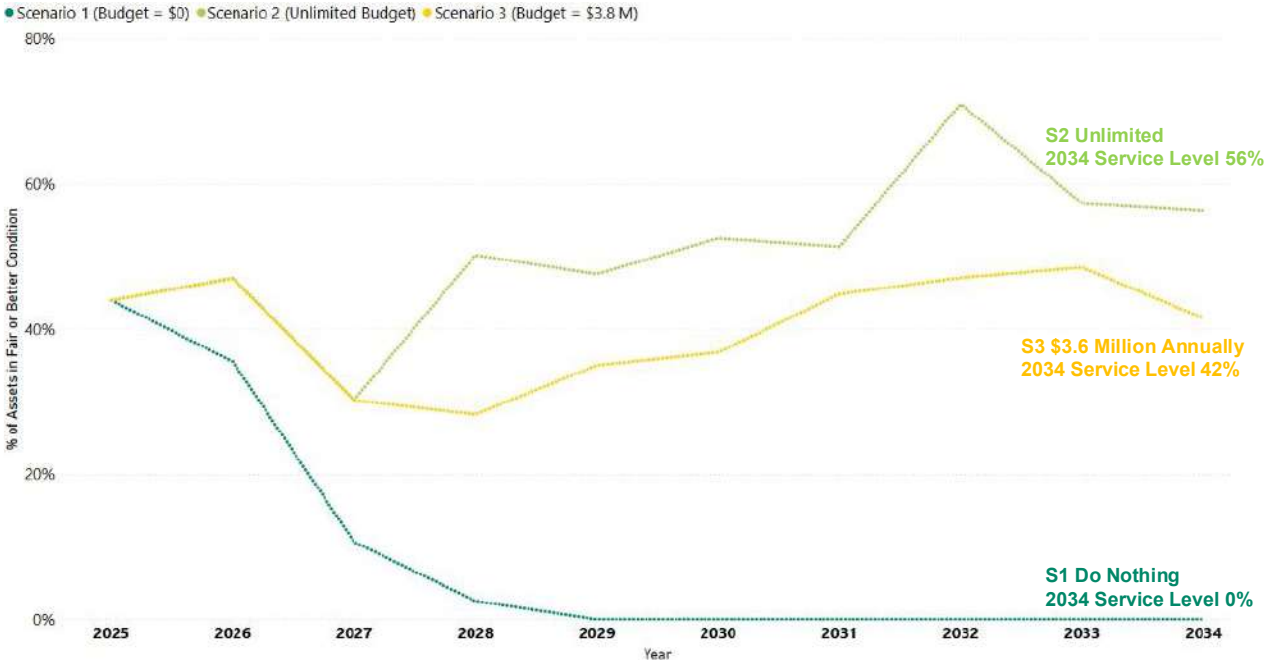


Figure 5-12: CDES Fleets Assets Levels of Service Trend for All Budget Scenarios - (Green Fleet Expansion)

Figure 5-13 illustrates the projected condition distribution of CDES fleet assets from 2025 to 2034 under the constrained budget scenario (S3), with $3.8 million capital reinvestment budget annually. Over the 10-year period, the proportion of assets in very good condition remains relatively low, fluctuating between 0% and 11%, while those in good condition hover between 2% and 27%. Notably, assets in fair condition make up approximately 3%–33% throughout the period. The most significant concern is the persistently high percentage of assets in poor and very poor condition, which together comprise over 50% of the fleet by total replacement value in all years. Specifically, very poor assets alone account for 31%–54% from 2025 to 2034, with progressive improvement over time. This trend suggests that although the $3.8 million budget may be sufficient to prevent further degradation, it is not enough to substantially improve overall fleet condition. Strategic reinvestment planning will therefore be essential to prioritize critical assets and optimize lifecycle outcomes within budget constraints.

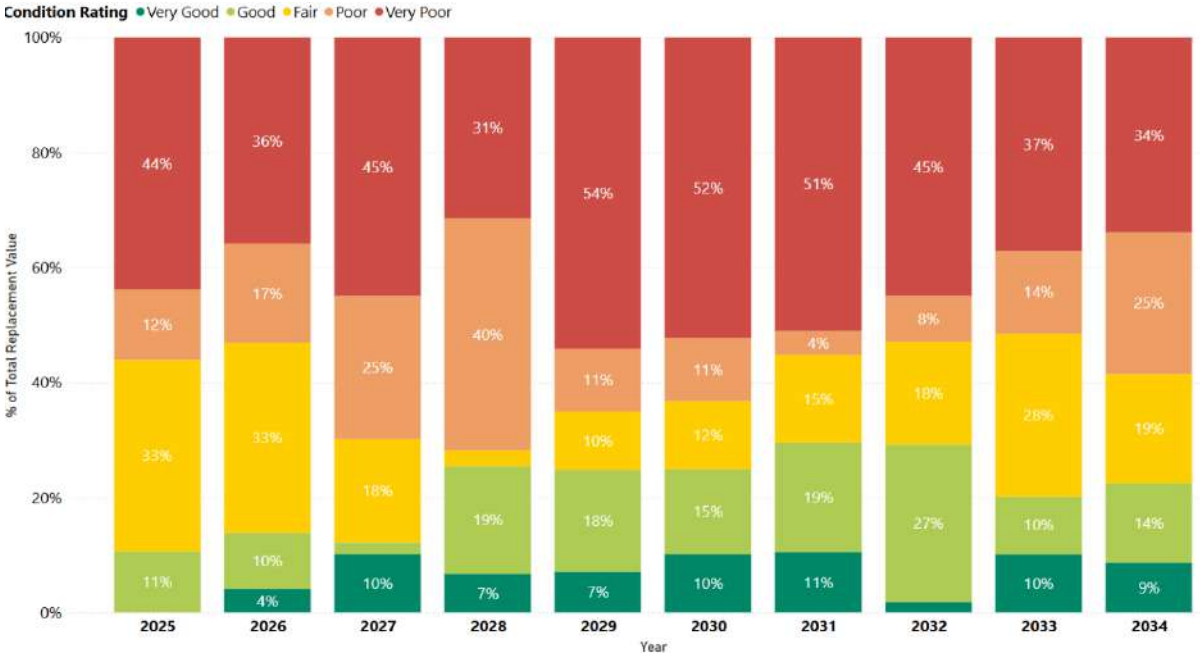


Figure 5-13: CDES Fleet Assets Condition Projection under Scenario 3 - $3.8 Million Annually - (Green Fleet Expansion)

5.3 Capital Expansion Funding Needs

5.3.1 Green Fleet Infrastructure Investment Needs

To address the growing demand for vehicle charging, both for public and private vehicles, the City is considering implementing several key actions, such as:

- Investment in public charging stations in high-traffic areas such as recreational facilities, City hall, public parking lots, and transportation hubs.
- Upgrade the existing fleet maintenance garage and bus servicing facilities to support the operation and maintenance needs of the EV fleet.

By analyzing the 2021 to 2024 capital budgets published by the City, the historical expenditures in green fleet infrastructure investment were captured, and the historical costs were summarized in **Table 5-12.** The average expenditure for the green fleet infrastructure over the past 3 years was $0.8 million.

Table 5-12: Historical Green Fleet Infrastructure Investment

Capital Year	Asset Class	Cost Item	Cost
2024	Transit Fleet	Electrical Upgrade and Charging Units	$825,000
2023	Transit Fleet	Infrastructure Modifications for Elec Bus	$450,000
2022	Transit Fleet	Charging Station	1,166,000
	Transit Fleet	EV Infrastructure Design	
Total			**$2,441,000**
3-Year Average			**$814,000**

5.3.2 Capital Expansion Funding Needs

By analyzing the 2019 to 2023 capital budgets published by the City, the historical capital expansion (definition refers to **Section 4.2**) expenditures were captured, and the historical costs were summarized in **Table 5-13**. The average expenditure for the green fleet infrastructure over the past 5 years was $3.6 million.

Table 5-13: Historical Capital Expenditure

Capital Year	Fleet	Equipment	Total
2023	$5,555,000	$499,000	$6,054,000
2022	$3,609,000	$583,000	$4,192,000
2021	$2,205,000	$0	$2,205,000
2020	$1,559,000	$0	$1,559,000
2019	$2,267,000	$0	$2,267,000
2019-2023 Average	**$3,039,000**	**$541,000**	**$3,580,000**

5.4 Full Funding Need Profile

The total annual full funding needs for fleet assets under like-for like replacement and green fleet expansion scenarios were combined with the following:

- Capital reinvestment needs (**Section 5.2**)
- Projected fleet O&M cost (**Section 5.1.2**).
- One percent of the annual replacement cost was added to account for the asset disposal cost. Note that PS 3280 Asset Retirement Obligations is a new accounting standard covering asset retirement obligations that applies to all Canadian public sector entities that prepare their financial statements under PSAB.

5.4.1 PWES Fleet Assets Full Funding Needs

Figure 5-14 shows a full picture of the City's PWES fleet funding forecast for the next 10 years, under the like-for-like scenario. This graph provides the City with clear understanding of the full funding requirements, essential for effective financial planning activities. Specifically, the reinvestment needs for PWES Fleets are categorized as "Replace" (refer to **Table 5-7** for like-for-like scenario and **Table 5-10** for green fleet expansion). These reinvestment needs are presented alongside the City's projected PWES Fleet O&M costs (refer to **Table 5-4** for details). Additionally, one percent of the annual replacement cost was added to account for the asset disposal cost. With these additions, the City's PWES Fleet full funding requirement increases to approximately $91.6 million over the next 10 years, averaging $9.2 million per year in inflated dollar value for like-for-like scenario, and approximately $93.6 million over the next 10 years, averaging $9.4 million per year in inflated dollar value for green fleet expansion scenario.

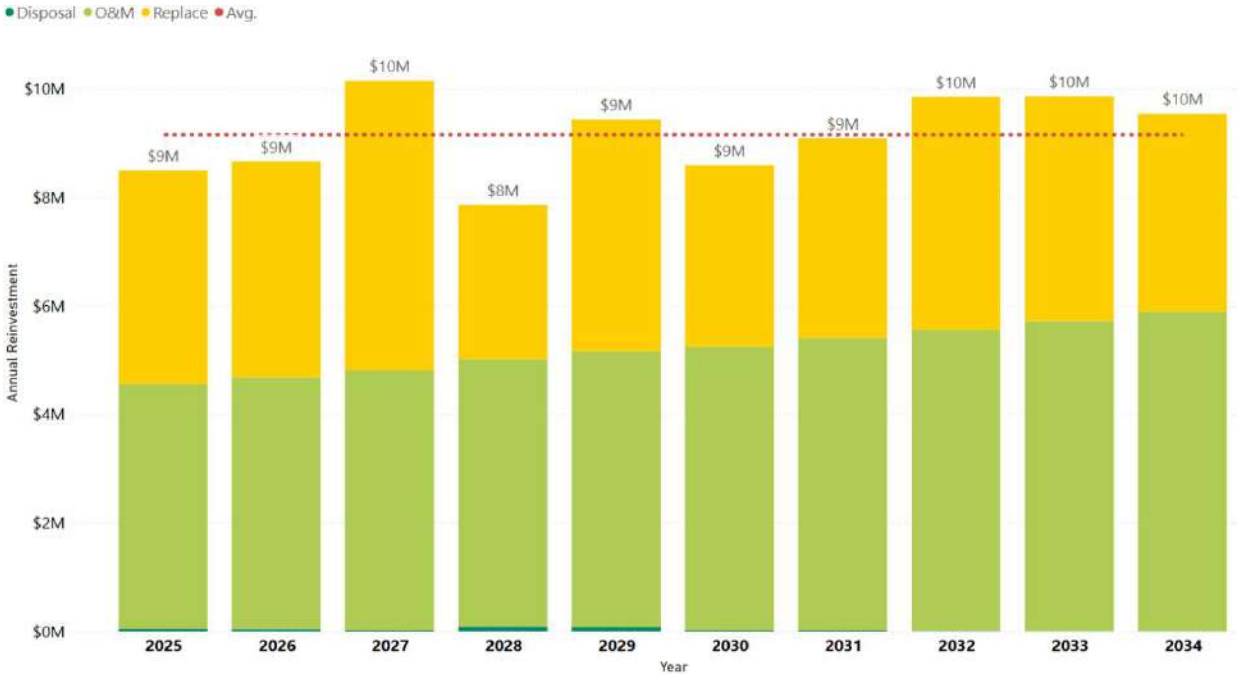


Figure 5-14: PWES Fleet Full Funding Need Profile (Like-for-Like)

5.4.2 CDES Fleet Assets Full Funding Needs

Figure 5-15 shows a full picture of the City's CDES fleet funding forecast for the next 10 years, under the like-for-like scenario. This graph provides the City with clear understanding of the full funding requirements, essential for effective financial planning activities. Specifically, the reinvestment needs for CDES Fleets are categorized as "Replace" (refer to **Table 5-8** for like-for-like scenario and **Table 5-11** for green fleet expansion). These reinvestment needs are presented alongside the City's projected CDES Fleet O&M costs (refer to **Table 5-4** for details). Additionally, one percent of the annual replacement cost was added to account for the asset disposal cost. With these additions, the City's CDES Fleet full funding requirement increases to approximately $68.1 million over the next 10 years, averaging

$6.8 million per year in inflated dollar value for like-for-like scenario, and approximately $72.0 million over the next 10 years, averaging $7.2 million per year in inflated dollar value for green fleet expansion scenario.

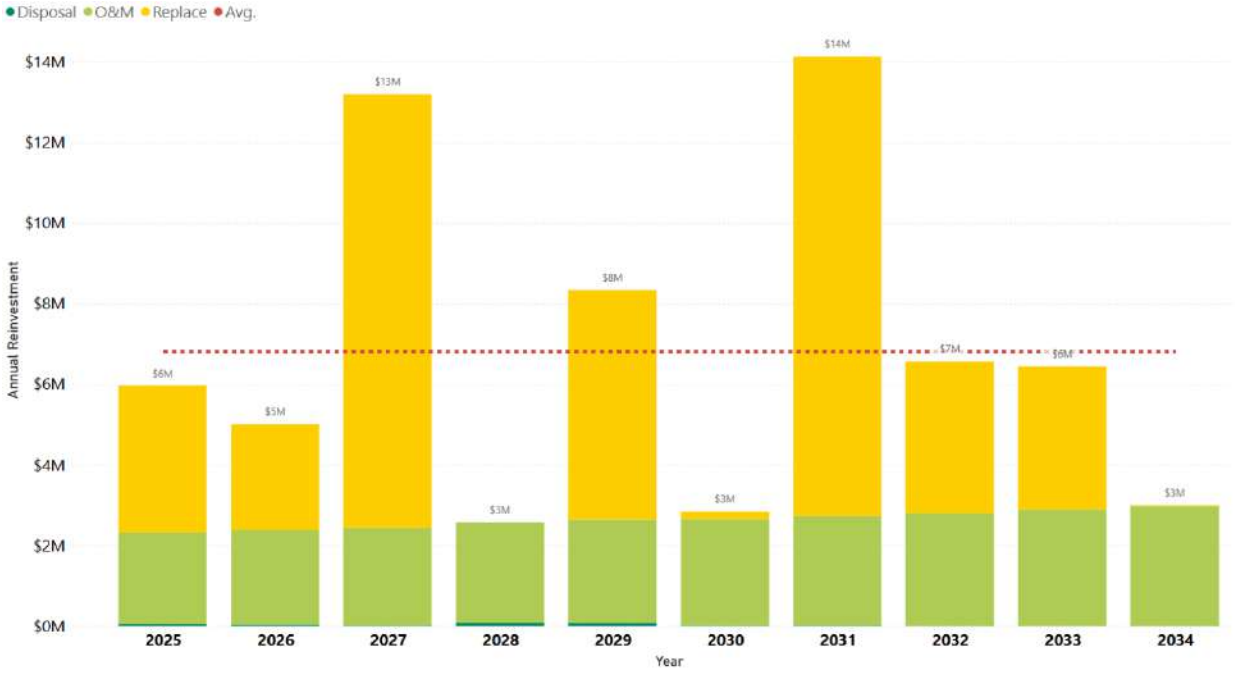


Figure 5-15: CDES Fleet Full Funding Need Profile (Like-for-Like)

5.5 Capital Reinvestment Funding Gaps & Risk

The City intends to continue to invest in the growth and renewal of the fleet assets over the next 10 years. **Table 5-14** compares the City's planned capital reinvestment budget against the capital reinvestment funding needs. The shortfall between the City's planned capital reinvestment budget against the capital reinvestment funding needs is referred to as the "funding gap".

Table 5-14: Funding Gap – Capital Reinvestment Funding Needs vs. Budget Forecast

Asset Class	10-Year Need Total (Like-for-Like / Green Fleet Expansion)	10-Year City Budget Total	10-Year Gap Total (Like-for-Like / Green Fleet Expansion)
PWES Fleet	$39.5 million / $41.6 million	$36 million	$3.5 million / $5.6 million
CDES Fleet	$41.7 million / $45.6 million	$38 million	$3.7 million / $7.6 million

The capital expansion funding need is outlined in **Section 5.3**, which further exacerbates the funding for the City's fleet assets by highlighting additional investments required to accommodate future growth.

As described in **Section 3.5**, risks are identified for each service level performance measure. **Table 5-15** provides a high-level overview of the key risks associated with funding gaps, as well as the potential consequences and impacts of not meeting the proposed service levels.

Table 5-15: Risk of Delayed Intervention for Fleet Assets

Key Risk	Potential Consequences/Impacts
Operational Reliability and Service Delivery Risks	• **Increased Equipment Downtime** Aging, unreplaced vehicles are more prone to mechanical failures, reducing fleet availability and disrupting critical municipal services (e.g., transit, road maintenance, emergency response). • **Reduced Quality of Service** Declining vehicle reliability impairs the City's ability to meet expected quality of service, especially during peak demand or emergencies.
Escalating Maintenance and Lifecycle Costs	• **Higher Repair Costs per Vehicle** Older vehicles require more frequent and costly maintenance, diverting operational funds that could be used for proactive fleet renewal or efficiency upgrades. • **Inefficient Use of Resources** Maintaining poor-condition assets yields diminishing returns and increases the total cost of ownership.
Safety and Compliance Risks	• **Increased Safety Incidents** Operating beyond service life raises the risk of mechanical failures that could endanger staff and the public. • **Regulatory Non-Compliance** Vehicles may fail to meet provincial safety, emissions, or inspection requirements, leading to legal liabilities or forced decommissioning.
Environmental and Sustainability Risks	• **Inability to Meet GHG Reduction Goals** Without fleet renewal, the City may fall short of climate targets due to continued reliance on older, high-emission vehicles. • **Delayed Electrification** Limited capital investment may stall the transition to hybrid or electric vehicles, increasing long-term emissions and fuel costs.
Financial and Strategic Planning Risks	• **Capital Replacement Backlog** Deferring replacements creates a "bow wave" of aging assets that will eventually require large, simultaneous capital investments, overwhelming future budgets. • **Loss of Funding Opportunities** The City may become ineligible for federal or provincial grants that require timely asset renewal or minimum condition thresholds.
Reputational and Public Trust Risks	• **Public Perception of Mismanagement** Frequent breakdowns, unreliable services, and visibly aging fleet assets can erode public confidence in the City's asset management practices.

5.6 Funding Strategies

The City's public works fleet is primarily supported by the property tax levy, while transit heavily depends on funding from both Federal and Provincial governments, constituting approximately 75% of its financial support. However, there is a growing concern about the sustainability of government funding for transit. The lack of continuous financial support from the government may result in a significant decrease in capital investment, affecting the City's ability to deliver services to desired levels. In light of these concerns, AECOM encourages the City to actively explore alternative funding sources to mitigate potential challenges. This section introduces the following potential funding options that could be considered, acknowledging that the City's eligibility for these funds is subject to certain criteria:

- Canada Community-Building Fund (CCBF)
- Investing in Canada Infrastructure Program
- Zero Emission Transit Fund
- Canada Infrastructure Bank (CIB)
- Federal incentives for zero-emission vehicles (ZEVs)

- The Incentives for Zero-Emission Vehicles Program
- The Incentives for Medium- and Heavy-Duty Zero-Emission Vehicles (iMHZEV) Program

- Green Municipal Fund (GMF)
- Green Freight Program (GFP)

5.6.1 Canada Community-Building Fund (CCBF)

The CCBF, previously known as the Federal Gas Tax Fund, is a permanent source of upfront funding distributed twice a year to territories and provinces. The delivery of the CCBF to municipalities varies by province or territory, with allocation following a per-capita basis for provinces, territories, and First Nations[13].

The CCBF is administered in Ontario through a bilateral agreement with the Government of Ontario, the Association of Municipalities of Ontario (AMO), and municipalities. This program allocates approximately $816 million annually to 641 communities in Ontario, with an additional top-up of $816.5 million provided in 2020 to expedite communities' recovery from the COVID-19 pandemic. Notably, as of 2022, the City has received over $9 million through the CCBF, granting the City flexibility to strategically invest across 19 distinct project categories[14].

5.6.2 Investing in Canada Infrastructure Program

Administered by the Government of Canada, the Investing in Canada Infrastructure Program delivers long-term and stable funding to communities with the aim of addressing environmental challenges, fostering clean growth, and enhancing resilience to climate change. Through bilateral agreements, over $33 billion in funding is allocated to provinces and territories, supporting a diverse range of infrastructure projects nationwide[15].

The program encompasses investments across four targeted funding streams: the public transit stream, the green infrastructure stream, the community, culture, and recreation infrastructure stream, and the rural and northern communities' infrastructure stream. The public transit stream allocates funds for the construction, expansion, and enhancement of public transit infrastructure. The focus of these investments is on projects that aim to increase the capacity of public transit systems, enhance the quality and safety of existing or future transit infrastructure, and improve overall access to public transit systems. In pursuit of funding through this stream, the City has actively submitted proposals for the following projects[16]:

- Electrification of Transit System.
- Transit Facility and Equipment Upgrades.
- Purchase of Rolling Stock Assets.
- Relocation of the Downtown Transit Terminal Construction and Renovation.
- Transit Facility and Equipment Upgrades.
- Purchase of Transit Ticket Vending Machines.
- Purchase and Installation of Transit Bus Shelter.

[13] The Canada Community-Building Fund. (2022). Infrastructure Canada. Infrastructure Canada - The Canada Community-Building Fund. Retrieved on February 12th, 2024.

[14] Ontario's 2021–22 federal Canada Community-Building Fund allocations and top-up amounts. (2021). Infrastructure Canada. Backgrounder: Ontario's 2021–22 federal Canada Community-Building Fund allocations and top-up amounts - Canada.ca. Retrieved on February 12th, 2024.

[15] Investing in Canada Infrastructure Program. (2023). Infrastructure Canada. Infrastructure Canada - Investing in Canada Infrastructure Program. Retrieved on February 12th, 2024.

[16] Investing in Canada Infrastructure Program: Projects Under Review. (2022). Infrastructure Canada. Infrastructure Canada - Investing in Canada Infrastructure Program: Projects Under Review. Retrieved on February 12th, 2024.

5.6.3 Zero Emission Transit Fund

The Zero Emission Transit Fund is a separate fund that builds on the existing Investing in Canada Infrastructure Program[17]. Through this fund, the Government of Canada is investing $2.75 billion over five years, starting in 2021, to support public transit and school bus operators in planning for electrification. The funding also supports the purchase of 5,000 zero-emission buses and the construction of necessary infrastructure, including charging facilities and facility upgrades.

There are two components under the Zero Emission Transit Fund for which projects are eligible for funding:

- Planning Projects: Eligible projects include studies, modeling, and feasibility analyses that will support the development of future larger-scale capital projects.
- Capital Projects: Eligible capital projects include buses, charging and refueling infrastructure, and other ancillary infrastructure needs.

5.6.4 Canada Infrastructure Bank (CIB)

The CIB is a Crown corporation mandated to invest in transformative infrastructure projects. With almost 50 partnerships spanning the entire country, including small communities and large urban areas, the CIB focuses on five key investment areas: public transit, green infrastructure, clean power, trade and transportation, and broadband infrastructure[18].

In the public transit sector, their involvement extends to advising, investing in, and building knowledge with public transit owners and service providers, with a particular emphasis on initiatives such as zero-emission buses, light rail transit, and bus rapid transit. Since the announcement of the $10 billion Growth Plan in October 2020, the CIB has formed partnerships and approved investments for the purchase of 1,300 zero-emission public transit and school buses. Moving forward, the CIB has set a long-term target to invest $5 billion in public transit, with a specific allocation of at least $1.5 billion for zero-emission buses and associated infrastructure[19].

5.6.5 Federal incentives for zero-emission vehicles (ZEVs)

There are Federal incentives available for buying or leasing zero-emission vehicles (ZEVs) through two programs, each tailored to different vehicle types[20]:

- **The Incentives for Zero-Emission Vehicles (iZEV) Program**

  The Incentives for Zero-Emission Vehicles (iZEV) Program, launched in May 2019, aims to promote the adoption of Zero-Emission Vehicles (ZEVs) among Canadians and Canadian organizations. Individuals and organizations in Canada are eligible for up to $5,000 at the point of sale when purchasing or leasing light-duty ZEVs such as cars, SUVs, and light pick-up trucks.

- **The Incentives for Medium- and Heavy-Duty Zero-Emission Vehicles (iMHZEV) Program**

  Initiated on July 11th, 2022, the Incentives for Medium- and Heavy-Duty Zero-Emission Vehicles (iMHZEV) Program offers up to $200,000 at the point of sale for the purchase or lease of medium- and heavy-duty Zero-Emission Vehicles (ZEVs) with a gross weight rating exceeding 8,500 lbs. To qualify, the vehicle must be intended for use on public streets, roads, highways, or other paved surfaces. Eligible organizations can benefit from up to 10 incentives in a calendar year, reaching a maximum cap of $1,000,000.

[17] Zero Emission Transit Fund. (2023). Infrastructure Canada. Infrastructure Canada - Zero Emission Transit Fund. Retrieved on February 12th, 2024.

[18] Public Transit. (n.d.). Canada Infrastructure Bank. Public Transit | Canada Infrastructure Bank (CIB) (cib-bic.ca). Retrieved on February 12th, 2024.

[19] Government of Canada targets zero emission bus transportation with launch of new fund. (2021). Infrastructure Canada. Government of Canada targets zero emission bus transportation with launch of new fund - Canada.ca. Retrieved on February 12th, 2024.

[20] Zero-emission vehicles. (2024). Transport and Infrastructure, Government of Canada. Zero-emission vehicles - Incentives - Canada.ca Retrieved on February 12th, 2024.

5.6.6 Green Municipal Fund (GMF)

The GMF is a financial initiative in Canada dedicated to supporting sustainability and environmental projects at the municipal level. Managed by the Federation of Canadian Municipalities (FCM), the GMF provides funding and resources to assist municipalities across the country in undertaking projects that contribute to environmental sustainability, energy efficiency, and the reduction of greenhouse gas (GHG) emissions[21].

In the context of fleet management, the GMF allocates funds for pilot projects, feasibility studies, and capital projects aimed at reducing or avoiding fossil fuel use in municipal service delivery vehicles. Eligible projects should aim to reduce greenhouse gas (GHG) emissions by 20% compared to an existing or modeled baseline measurement. Priority during the evaluation of applications will be given to projects that demonstrate transformative potential, significant impacts, and a strong implementation framework.

5.6.7 Green Freight Program (GFP)

The GFP aims to assist fleets in reducing fuel consumption and greenhouse gas emissions. It offers support through various means, such as fleet energy assessments, retrofits, engine repowers, adopting logistical best practices, and acquiring low-carbon vehicles[22]. The program operates through two funding streams. Stream 1 (Assess and Retrofit) offers grant funding of up to $250,000 for Third-Party Fleet Energy Assessments and Truck/Trailer Equipment Retrofits. Meanwhile, Stream 2 (Repower and Replace) offers non-repayable contributions for fuel switching, engine repowers, and the procurement of low-carbon alternative fuel vehicles. Under Stream 2, the program covers up to 50% of the incremental cost for purchasing low-carbon alternative fuel vehicles or 50% of total project costs, with a maximum cap of $5 million per project. It is important to note that Stream 2 is currently closed, and submitted proposals are under review.

5.6.8 Alternative Strategies

Recognizing the constrains of internal funding and limitations and uncertainties associated with external funding, it becomes increasingly important to explore complementary approaches that do not depend solely on financial sources. In this context, alternative strategies play a critical role in enhancing the City's ability to manage service levels and asset performance within existing fiscal constraints. **Table 5-16** highlights some non-financial strategies that could help the City address the potential funding gaps for fleet assets.

Table 5-16: Non-Financial Strategies to Address Potential Funding Gaps for Fleet Assets

Strategy	Description / Actions
Condition-Based Maintenance	Shift from time-based to condition-based and criticality-based maintenance where possible. Using condition assessments (e.g., visual inspections or performance metrics) helps extend asset life by targeting maintenance where it's most needed.
Preventive Maintenance Programs	Develop and implement preventive maintenance schedules to address minor defects before they lead to larger failures. Preventive measures often cost less than emergency repairs and can delay the need for full replacement.
Training and Knowledge Sharing	Provide training to O&M staff on best practices for maintaining different asset types. Encourage internal knowledge sharing to improve consistency and efficiency in asset care.
Community and Interdepartmental Engagement	Continuously collaborate with other City departments and the public to identify issues early and gather feedback on service levels. This can help align asset strategies with user needs and expectations.

[21] Funding opportunities. (n.d.). Green Municipal Fund. Funding opportunities | Green Municipal Fund. Retrieved on February 12th, 2024.

[22] Green Freight Program. (2023). Natural Resources Canada. Green Freight Program (canada.ca). Retrieved on February 12th, 2024.

6 Implementation Plan and Continuous Improvement

Continuous improvement is an important component of any AM program and is achieved through the implementation of recommended improvement initiatives which support sustainable service delivery. AECOM has identified a set of activities that represents the next stage of AM planning and implementation within the City, as shown in **Table 6-1**.

Table 6-1: Recommended AM Improvement Initiatives

Index	Improvement Initiative	Description
1.	Refine the asset hierarchy and inventory.	Continue to refine the asset inventory and close existing data gaps, to have a more accurate representation of the current state of the fleet assets; and, ultimately, to make more informed and defensible decisions. • AECOM recommends the City to continue maintaining the fleet inventory, keep updating the inventory as assets are acquired or disposed. • Continue collecting the installation date information of fleet assets to better estimate their remaining service life. Once the gap is closed, the City will be able to conduct more accurate lifecycle analyses, forecast reinvestment needs with greater confidence, and enhance long-term asset management planning. • Develop and implement unique identifiers for all fleet assets. It will enable more efficient asset tracking, condition monitoring, and lifecycle management.
2.	Establish and implement a data information management strategy	• Asset data will be centralized, digitized and accessible to all staff. • Annual updates for the state of infrastructure data attributes such as the asset inventory, including the age and condition of the assets. • Staff will have the ability to collect and update asset data in the field and in real time. • Workflows will be documented and digitized
3.	Track the vehicle operational data within the Computerized Maintenance Management System (CMMS)	• The operation data for vehicles should be recorded within the CMMS. • Vehicle operational data including: - Monthly odometer reading - Vehicle operation hours tracking - Vehicle idle time monitoring - Fuel consumption - Vehicle service date and next service date forecast - Any vehicle inspection and diagnosis reports - Parts replacement and vehicle repair history - Factory warranty expiration dates - Vehicle insurance policy and expiration date - Insurance claims history • Keeping track of the vehicle's operational data is beneficial for monitoring the vehicle status, preventing critical malfunction and service interruption, planning adequate vehicle service, retaining moderate insurance premiums, and making decisions on lifecycle activities, such as vehicle renewal, replacement, and retirement.
4.	Develop a formalized fleet condition assessment process and use condition grading schemes for fleet assets.	• The fleet condition assessment grading system should include a description directly tied to each condition grade, along with details about the asset's performance and the necessary level of corrective and preventive maintenance required for assets falling within a certain condition rating category. This process will enable the City to keep track of and better forecast asset renewal needs. • Perform condition assessments on the most critical assets first. This ensures that assets are assessed using the same methodology and prioritized based on their criticality. It facilitates a more defensible business case when addressing issues of asset degradation with senior management and the Council.
5.	Refine the LoS Framework.	This AMP represents the City's LoS in alignment with the requirements of O. Reg. 588/17 July 1, 2025, deadline. The City should continue its efforts to: • Regularly record LoS performance measures to monitor changes over time and identify emerging trends.

Index	Improvement Initiative	Description
		• Review and update performance measures as needed to ensure they remain relevant and effective. • Periodically assess proposed LoS to confirm alignment with shifting community expectations, regulatory changes, City priorities, available resources, and observed performance trends—supporting adaptive and responsive service delivery. • Continuously enhance demand management by routinely evaluating future demand drivers that influence service delivery and asset use, integrating these insights into long-term capital planning to ensure LoS remains responsive to changing needs.
6.	Incorporate risk assessment for future iterations of the AM plan, and use the risk assessment results to drive future condition assessments and financial needs forecasting	• Conduct a comprehensive criticality and risk assessment of assets to inform work prioritization. • Review risk attribute values periodically to ensure alignment with business objectives and risk appetite. • Overlay the risk model with the current state of the assets (i.e., condition) and the financial forecast. Using this approach, the City could focus its monitoring, maintenance, renewal and replacement budget and activities on high-risk assets. Medium-risk infrastructure could be addressed through the mitigation of failure via regular monitoring, while low-risk assets could be accepted with caution.
7.	Establish a sustainable fleet asset funding model that fits the needs of the community	• Establish and maintain detailed funding and budget information for fleet assets to support effective asset management planning. Once this information is in place, it is recommended that the City re-run the financial model to assess funding gaps, update condition projections, and refine reinvestment strategies based on realistic budget scenarios. • In light of the annual funding need outlined in **Figure 5-14** and **Figure 5-15**, it is recommended that the City allocate an average of **$4.0 million** per year over the next 10 years for capital reinvestment in PWES fleets, and **$4.0 million** per year over the next 10 years for capital reinvestment in CDES fleets. Additionally, a total of **$7.8 million** should be budgeted annually for O&M expenditures during the same period. • Review financial modeling assumptions on reinvestment rate and replacement values and update the financial model with new information as it becomes available. The financial model is based on several key assumptions that could have a significant impact on the outcomes of the model. • Explore funding resources and non-financial strategies that the City may take into consideration while performing strategic lifecycle and financial strategies.
8.	Continue to improve AM initiatives across the City by maintaining a high level of AM awareness through training, communication, and knowledge sharing.	• Conduct an AM Software Assessment to identify future system requirements that may include enhancing existing software, adding-on, or replacing. • Develop a Knowledge Retention Strategy & Internal Communications Plan to document staff AM knowledge and experience for reporting and succession planning purposes. Communicate AM improvement initiatives and enhance natural AM awareness internally through internal communication.
9	Grant application program	• The City should initiate an internal program for developing grant applications tailored to organizational objectives and align to the criteria of various funding programs. (refer to **Section 5.6** for available grant options). • Guidance includes: - Aligning with grant-specific criteria: prepare the grant application align with the requirements, and place emphasis on the key aspects relevant to the grant objectives. - Developing a grant application proposal: the application will be a project proposal that resonates with the grant agencies' goals, which should articulate clear objectives and expected outcome. - Budget planning: the financial plans must resonate with the grant's objectives, presenting transparency in fund utilization and emphasizing the project's viability and long-term financial sustainability. - Demonstrating feasibility and organization capacity: presenting a realistic project timeline, clear milestones, and a well-thought-out implementation plan. - Compliance, Reporting, and Effective Project Management: a robust project management strategy should be devised, illustrating the City's capacity to effectively manage, oversee, and report on the project's progress, in accordance with the grant's stipulations.

Index	Improvement Initiative	Description
		- Preparing and Organizing Supporting Documents: these documents will be organized and presented in a manner that lucidly supports and enhances the application. - Final Review and Submission Process: prior to submission, each application should undergo a thorough review to ensure it meets the specific criteria and guidelines of the respective grant program.
10	Organize public and Council engagement activities	• Establish a structured approach to public and Council engagement to ensure the AMP aligns with community expectations, supports informed decision-making, and enhances transparency, the City is committed to establishing a structured approach to public and Council engagement. While several engagement activities have already been undertaken, these efforts lay the foundation for a more consistent and strategic approach moving forward. • For Council engagement, the City has shared updates through presentations and media events. To further support elected officials, it is recommended that the City develop Councillor Tool Kits. These kits would provide clear, consistent messaging—covering topics such as infrastructure planning, investment priorities, asset management, service levels, and climate impacts—to help Councillors effectively respond to public inquiries. • On the public side, communication can be enhanced by creating a dedicated project webpage to centralize information such as FAQs, timelines, and contact details, while enabling two-way engagement. A targeted social media strategy, including sponsored posts on platforms like Facebook and Instagram, is also recommended to increase visibility and encourage community involvement.

According to the observed trends across all LoS measures, and the associated risks of not meeting targeted performance levels, (refer to **Section 3.4, 3.5, 3.6**), the following **Table 6-2** outlines recommended improvement initiatives aligned with each LoS measure. These actions aim to mitigate risk, optimize lifecycle performance, and support strategic decision-making for future fleet planning and investment.

Table 6-2: Improvement Initiatives Regarding the LoS Measures

LoS Measure	Future Trend	Improvement Initiatives
Number of Vehicles that are Electric or Hybrid	Expected to increase to meet GHG goals	Develop a phased electrification roadmap; secure grants; prioritize EVs in procurement
Total Annual Fuel Volume Used for Vehicles	Targeted to decrease	Implement eco-driving programs; optimize routing; use telematics to monitor idle/fuel use
% of Vehicles and Equipment Past Their Optimum Service Life	Projected to increase	Adopt risk-based renewal plans; extend life via PM; pursue predictable capital funding
Total Idle Time for Front Line Vehicles	Must decrease for efficiency	Enforce anti-idling policy; use automatic shut-off tech; monitor idle through telematics
Mileage or Hours per Vehicle	Increasing due to constrained fleet size	Rotate fleet usage; right-size assignments; analyze workload distribution
Total Repairs per Vehicle	Trending upward with aging fleet	Enhance PM; retire high-cost units; adopt TCO tracking; upskill maintenance teams
Total Transit Ridership per Year	Flat or declining due to population loss	Optimize routes; introduce on-demand service; promote ridership through incentives
Average Age of Fleet in Years	Remains stable if replacement stays consistent	Maintain rolling replacement plan; extend asset life with high-quality PM
Total Annual Fuel Consumption	Expected to decrease	Transition to hybrid/electric buses; optimize schedules; apply for green funding
Percentage of assets in Good and Very Good Condition	Expected to decrease without renewal	Standardize condition assessments; prioritize capital renewal; integrate AM software

Appendix A - Fleet Asset Inventory

The City's Fleet asset inventory is presented as a separate MS Excel file.

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City of Sault Ste. Marie Asset Management Plan Parks & Cemetery

May 2025

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List of Abbreviations

Abbreviation	Description
AM	Asset Management
AMP	Asset Management Plan
CCTV	Closed Circuit Television
CIBI	Canadian Infrastructure Benchmarking Initiative
CMMS	Computerized Maintenance Management System
Ea.	Each
ESL	Expected Service Life
FIPPA	Freedom of Information and Protection of Privacy Act
GHG	Green House Gas
GIS	Geographic Information System
Ha	Hectare
KPI	Key Performance Indicator
LoS	Level of Service
m^2	Square Meter
MFIPPA	Municipal Freedom of Information and Protection of Privacy Act
O&M	Operations and Maintenance
O. Reg.	Ontario Regulation
RSL	Remaining Service Life

1 Introduction

AECOM Canada ULC (AECOM) was retained by The City of Sault Ste. Marie (the "City") to update the asset management plan developed in 2022 to comply with the third phase (Phase III) of the Ontario Regulation 588/17 (O. Reg. 588/17) requirements in respect to its core municipal infrastructure assets. The scope of work is outlined in AECOM's proposal dated September 20, 2024, and subsequent project correspondence.

1.1 Background

Sault Ste. Marie is a City located on the St. Mary's River, North of the United States of America, bordering on two of the Great Lakes with an estimated population of 73,368 (2016). The City provides a wide range of public services to their constituents, with the expectation from the public that these services are expected to function efficiently at a certain level. The provision of these services requires the management of the physical assets to meet desired service levels, manage risks, and provide long-term financial sustainability. These assets include, but are not limited to, roads, bridges, sidewalks, wastewater assets, stormwater management assets, landfills, fleets, buildings, and parks.

In accordance with the terms of reference for this assignment, it is understood that the City is proceeding with an asset management plan to comply with the third phase of the regulatory requirements in respect to its core and non-core municipal infrastructure assets, in accordance with O. Reg. 588/17, by July 1, 2025. The non-core assets to be covered in the scope, as defined by the regulation, include the City's protection services, solid waste, parks and cemetery, facilities, fleet, roadway appurtenances, and active transportation.

1.2 Scope and Objectives

In 2015, the City's first Asset Management Plan (AMP) was published. In 2019, by the City Council approval, the Strategic Asset Management (AM) Policy for the City came into effect. In 2022, the City published its core asset AMPs. Following that, the City developed the AMPs for its noncore assets in 2024.

Organizations that implement good AM practices will benefit from improved business and financial performance, effective investment decisions, and better risk management. Stakeholders can expect lower total asset life cycle costs, higher asset performance, and confidence in sustained future performance.

The AMPs capture the City's infrastructure assets and deliver a financial and technical roadmap for the management of the City's assets. The intent of this plan is to provide the means for the City to maximize value from its assets, at the lowest overall expense, while, at the same time, enhancing service levels for its residents.

The objective of Phase III is to update all the core and non-core AMPs to comply with the July 1st, 2025, deadline set by O. Reg. 588/17. Phase III will update the AMP by incorporating the latest asset information, with a focus on:

- Updating the current AMPs to integrate proposed Levels of Service (LoS).
- Defining the lifecycle activities and associated costs required to achieve those LoS.
- Identify the available funding and any funding shortfalls.
- Document the risk(s) of failing to meet the proposed LoS for all asset classes over a 10-year period.

This AMP is an update of the 2024 AMP for the City's parks and cemetery assets, as shown in **Table 1-1**. Other core and non-core AMPs are presented under separate reports.

Table 1-1: In-Scope Parks and Cemetery Assets

Asset Group	Department	Sub-Assets
Parks	Park Land	Active Park Land Undeveloped Park Land
	Recreation	Field Surface, Sports Court, Court Accessories, Pool, Park Amenity
	Park Structure	Park Amenity
	Park Building	Courtside Service Building, Band Shell Building, Comfort Stations, Bay Garage, Green House
	Park Equipment	Lawn & Surface Maintenance, Operation
	Water Treatment	Drinking Water Treatment Facility
Cemetery*	Cemetery Equipment	Lawn & Surface Maintenance, Operation, Crematorium, Information System

*The cemetery facilities are covered in Facility AMP, and the cemetery fleets are covered in Fleet AMP.

The following elements are included within the scope of this AMP:

- Asset hierarchy, a summary of the asset inventory, including the replacement cost of the assets, the average age of the assets, the condition of the assets, and data gaps analysis (**Sections 2**).
- The City's level of service (LoS) objectives, stakeholder identification, current LoS determined in accordance with the qualitative descriptions and technical metrics outlined in O. Reg 588/17, proposed service levels, LoS forecast, and future demand drivers (**Section 3**).
- Asset lifecycle management strategies, lifecycle activities, and funding needs to achieve proposed LoS, risk of not meeting proposed LoS, available funding and funding gap, and alternative (non-financial) strategies to manage funding shortfall (**Section 4** and **Section 5**).

1.3 Asset Management Provincial Requirements

The O. Reg. 588/17 came into effect in 2018 and stipulates specific AM requirements to be in place within Ontario municipalities by certain key dates (**Table 1-2**). The development of this AMP is one of the steps to guide the City towards meeting the July 1st, 2025, deadline.

Table 1-2: O. Reg. 588/17: AM Planning for Municipal Infrastructure

Deadline Date	Regulatory Requirement
July 1st, 2019	All municipalities are required to prepare their first Strategic AM Policy.
July 1st, 2022	All municipalities are required to have an AM Plan for its entire core municipal infrastructure (i.e., water, wastewater, stormwater, roads, and bridges & culverts).
July 1st, 2024	All municipalities are required to have an AM Plan for infrastructure assets not included under their core assets.
July 1st, 2025	All AM Plans must include information about the LoS that the municipality proposes to provide, the lifecycle activities and associated costs needed to achieve those LoS, available funding, any funding shortfalls, and the risk of failing to meet the proposed LoS.

2 State of Infrastructure

Parks and cemetery assets are managed by the City's Public Work - Park Division, who is responsible for the maintenance of grounds and assets at municipal parks, sports complexes, and various other facilities, including park structures, recreation facilities, park buildings, parklands, park equipment, drinking water treatment facilities. Cemetery Assets, including cemetery equipment, are managed by the Community Services Department. The cemetery offices, columbaria and mausoleums are covered in the Facility AMP. Currently, the Park Division manages 83 parks, including the Strathclair, Queen Elizabeth and Elliott Park outdoor sports complex, and the assets range significantly in both complexity and value. The types of service work that the Park division carries out include grass cutting, fielding lining, floral bed, playground maintenance, tree management, refuse collection, and dock and building maintenance.

The inventory of the parks and cemetery is a comprehensive catalogue detailing the quantity, condition, and specifications of these components within the City. By analyzing the inventory and assessing the data gaps, this section facilitates informed decision-making and strategic resource allocation, providing essential insights into the maintenance needs and financial requirements.

2.1 Asset Hierarchy

To fulfill the requirements of O. Reg. 588/17 and to pave the way for robust long-range asset management planning, the City requires a logically segmented asset breakdown structure (hierarchy) under the scope of this AMP. Achieving this requires a sufficiently granular classification of parks and cemetery assets, enabling the identification of individual assets due for renewal. Striking the right balance is also crucial, as there is a fine trade-off between ensuring adequate granularity to provide essential information and avoiding excessive granularity that could make the effort to collect and manage information more burdensome than the usefulness derived from it.

The City has a wide range of parks and cemetery assets organized hierarchically. This breakdown of the infrastructure is derived from the way that assets are presented within the data sources, which indicates the program area's responsibilities and parent-child relationships within each asset type. In **Figure 2-1**, the hierarchy of parks and cemetery is illustrated, showcasing four main categories: park structure, recreation, parkland, park equipment, park buildings water treatment, and cemetery equipment. The parks and cemetery buildings are covered in the Facility AMP, and the parks and cemetery fleets are covered in the Fleet AMP. Each category is further broken down into subcategories. This asset hierarchy establishes a logical indexing of the City's parks and cemetery assets, categorizing them into primary (parent) and secondary (child and grandchild) assets. Such a structure forms the foundational framework for subsequent discussions and analysis, enabling the drill-down to a specific asset within the hierarchy to support maintenance planning or track costs at the asset level or higher levels.

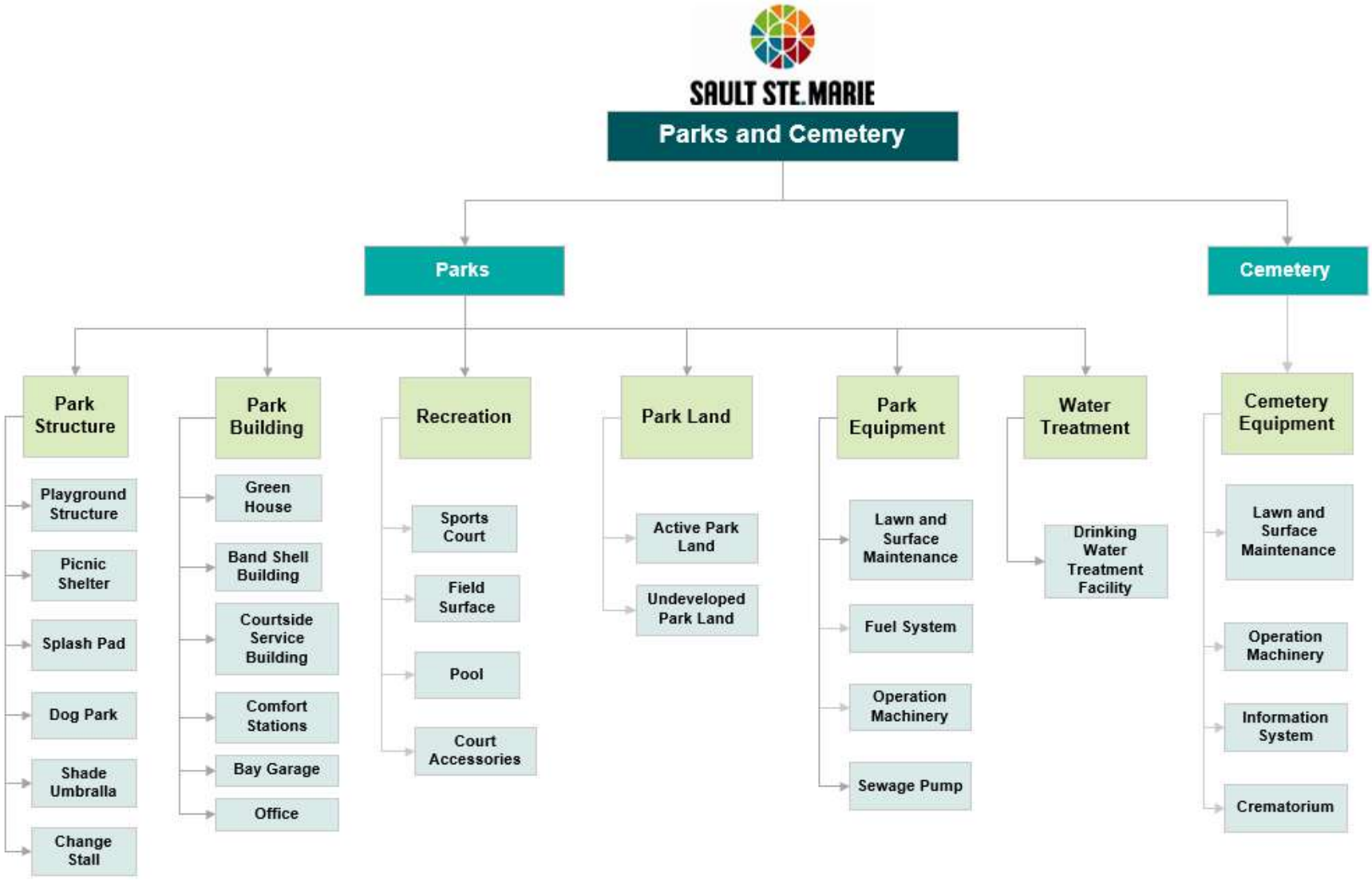


Figure 2-1: City of Sault Ste. Marie Park & Cemetery Asset Hierarchy

2.2 Current State of Assets

2.2.1 Asset Inventory

A completed parks and cemetery asset inventory is compiled based on the raw data provided by the City at the initial stage of the project, which was obtained from the following sources:

- Recreation and Culture Assets Phase 2
- Copy of Equipment Cemetery 2022
- Cemetery Fleet & Assets, Feb 16, 2023
- Active Capital Assets 2021
- FINAL 2023 UPDATE SSM Public Works Replacement Plan Workbook updated 20230309
- 2022 Biennial Structure Inspections
- Phase 3 AMP Inventory Updates

Table 2-1 presents the summary of the City's parks and cemetery asset inventory, with their corresponding quantities.

Table 2-1: Park & Cemetery Asset Inventory Summary

Asset Group	Asset Class	Asset Categories	Quantity	Unit	Inventory Details
Parks	Park Structure	Park Amenities	78	Ea.	68 Playgrounds 1 Dog park 5 Picnic Shelters 2 Splash pads 2 Change Stall 1 Shad Umbrella
	Recreation	Sports Courts	39	Ea.	8 Basketball courts 3 Bocce courts 2 Disc golf courses 5 Outdoor rinks 8 Pickleball courts 2 Skate parks 10 Tennis courts 1 Track
		Field Surface	43	Ea.	1 Cricket pitch 2 Football fields 4 Intermediate Soccer Fields 7 Junior Soccer Fields 9 Mini Soccer Fields 6 Senior Soccer Fields 13 Slow-Pitch Fields 1 Ultimate Frisbee Field
		Pools	660	m^2	2 Outdoor swimming pools
		Court Accessories	104	Ea.	11 Bleachers 5 Field Irrigation System 31 Small Bleachers 39 Track and field lights 10 Baseball dugouts 18 Soccer Shelters
	Park Building	Green House	787	m^2	1 Bellevue Park green house

Asset Group	Asset Class	Asset Categories	Quantity	Unit	Inventory Details
		Office	460	m^2	1 Pointe De Chenes Park offices 1 Bellevue Park staff operation building
		Band Shell Building	444	m^2	1 Bellevue Park band shell building
		Courtside Service Building	1,193	m^2	1 Strathclair Park slow-pitch courtside service buildings 1 Strathclair Park soccer courtside service buildings 1 Elliott Sport Complex courtside service buildings 1 North Street courtside service buildings 1 Esposito Park courtside buildings
		Comfort Stations	450	m^2	1 Pointe De Chenes Park comfort stations
		Bay Garage	369	m^2	1 Pointe De Chenes Park bay garages
	Park Land	Active Park Land	377	Ha	147 Active park land
		Undeveloped Park Land	N/A	N/A	17 Undeveloped park land
	Park Equipment	Lawn & Surface Maintenance	25	Ea.	25 Equipment include sweepers, weeder eaters, tillers, brooms, riding mowers, sander spreaders and seeders
		Operation Machinery	1	Ea.	1 Post driver
	Water Treatment	Drinking Water Treatment Facility	2	Ea.	1 Water treatment plant 1 Secondary water treatment plant
Cemetery*	Cemetery Equipment	Lawn & Surface Maintenance	46	Ea.	40 Equipment include sweepers, weeder eaters, tillers, brooms, riding mowers, sander spreaders and seeders
		Operation Machinery	15	Ea.	15 Equipment include air compressors, generators, lift, hammers, wackers, welders, lowering devices, etc.
		Crematorium	2	Ea.	1 Cremator 1 Emission monitoring system
		Information System	1	Ea.	1 Server

*The cemetery facilities are covered in Facility AMP, and the cemetery fleets are covered in Fleet AMP.

2.2.2 Current Asset Replacement Value

The asset replacement value is the estimated cost that would be incurred to replace an existing asset with a new one of similar functionality, at current market prices. This value represents the monetary amount required to reproduce or procure an asset equivalent to the one being assessed. Examining the distribution of asset replacement values allows the City to comprehend which asset categories hold the highest value for both the City and the public.

The finalized asset replacement values were determined with the largest numbers of the following:

- Escalating the original asset purchase costs to 2025 dollars, by the average inflation rate of the past 10 years (2014-2024) at 2.11%.[1]
- Current replacement cost from the AECOM cost library.

Table 2-2 presents the unit replacement cost and the total replacement value for parks and cemetery asset categories within the City. The final asset replacement values were applied with 15% engineering (Design & Contract Administration) markup and 30% contingencies. In this AMP, park lands with designated active park names are classified as active parkland, while those without such names are categorized as undeveloped parkland. Additionally, based on its asset characteristics, park land is not considered a capital asset requiring replacement, therefore there are no asset replacement values assigned to the park lands. Lands for cemeteries and active parks by their nature are treated as a consumable asset and therefore the condition and remaining ESL should be tied directly to the forecast remaining capacity and life expectancy.

Notably, the recreation constitutes the most significant portion, accounting for a replacement value of approximately $39 million, followed by the park structure at $22 million, the park buildings at $6.6 million, cemetery equipment at $2.3 million, water treatment at $0.85 million, and park equipment at $0.42 million. The combined replacement value for all these categories amounts to approximately $71.6 million. Note that all total replacement values are rounded to the nearest thousand.

[1]Statistics Canada (Non-residential Building Construction Price Index), Altus Group Construction Cost Guide

Table 2-2: Park & Cemetery Current Replacement Value

Asset Group	Asset Class	Asset Categories	Replacement Cost Range	Total Replacement Value (2025 Dollars) With Markup
Parks	Park Structure	Park Amenity	$19,900-$977,800	$22,383,000
	Subtotal			**$22,383,000**
	Recreation	Sports Court	$68,700-$2,316,400	$9,485,000
		Field Surface	$42,800-$2,581,600	$15,533,000
		Pool	$870,000-$1,044,000	$2,048,000
		Court Accessories	$12,700-$373,500	$12,080,000
	Subtotal			**$39,119,000**
	Park Buildings	Green House	$53,000-$230,700	$519,000
		Office	$45,500-$262,400	$1,256,000
		Band Shell Building	$92,600-$411,100	$1,112,000
		Courtside Service Building	$18,000-$230,500	$2,271,000
		Comfort Stations	$77,000-$286,600	$857,000
		Bay Garage	$39,100-$273,400	$591,000
	Subtotal			**$6,606,000**
	Park Land	Active Park Land	N/A	N/A
		Undeveloped Park Land	N/A	N/A
	Park Equipment	Lawn & Surface Maintenance	$9,200-$121,200	$411,000
		Operation Machinery	$10,200	$12,000
	Subtotal			**$423,000**
	Water Treatment	Drinking Water Treatment Facility	$797,800	$854,000
	Subtotal			**$854,000**
Cemetery*	Cemetery Equipment	Lawn & Surface Maintenance	$600-$195,000	$929,000
		Operation Machinery	$2,100-$131,300	$816,000
		Crematorium	$227,500	$487,000
		Information System	$18,300	$20,000
	Subtotal			**$2,252,000**
Total Parks				**$69,385,000**
Total Cemetery				**$2,252,000**
Total Parks and Cemetery				**$71,637,000**

*The cemetery facilities are covered in Facility AMP, and the cemetery fleets are covered in Fleet AMP.

It is noted that the replacement costs are estimated based on the Class 4[2] cost estimation approach. These estimates are typically prepared with limited information, resulting in wide accuracy ranges. Class 4 estimates serve various purposes, including project screening, feasibility assessment, concept evaluation, and preliminary budget approval. They are utilized for detailed strategic planning, business development, project screening at more advanced stages, alternative scheme analysis, confirmation of economic and technical feasibility, and approval to proceed to the next stage. Typically, depending on the construction complexity of the project, relevant reference information, and other associated risks, the accuracy ranges for Class 4 estimates fall within the following bounds (could exceed based on various criteria):

- On the lower side, -10% to -20%
- On the higher side, +20% to +30%

It is also worth noting that the total replacement values are presented in inflated dollars and have been marked up by 45%, including the contingency and engineering service.

2.2.3 Age and Remaining Service Life

In practice, various assets will deteriorate at different rates and not necessarily linearly over time. However, it is pivotal to keep in mind the level of effort required to predict failure compared with the asset value. More sophisticated deterioration modelling may be warranted for very high-value assets, whilst the cost of deterioration modelling for low-value assets may very well exceed the replacement cost of the asset. The actual service life can vary significantly from the estimated service life (ESL). The latter is defined as the period over which an asset is available for use and able to provide the required LoS at an acceptable risk and serviceability (i.e., without unforeseen costs of disruption for maintenance and repair). In some instances, a variation in expected vs. actual service life is evident due to the following factors:

- **Operating conditions and demands**: Some assets are operated intermittently or even infrequently or are being operated at a lower demand than their designed capacity. Thus, the actual operating “age” of the asset is reduced.
- **Environment**: Some assets are exposed to very aggressive environmental conditions (e.g., corrosive chemicals), while other assets are in relatively benign conditions; thus, the deterioration of assets is affected differently.
- **Maintenance**: Assets are maintained through the refurbishment or replacement of components, which prolongs the service life of the asset.
- **Technological Obsolescence**: Some assets can theoretically be maintained indefinitely, although considerations such as cost to maintain the asset, its energy efficiency, and the cost to upgrade to an updated technology that would result in cost savings are likely to render this approach uneconomical.

Initially, the average age was calculated based on the purchase and installation year of each individual asset. Then, based on the age of the asset and the ESL (collected from a State of Infrastructure Workshop with the City, and additional information provided by the City), the remaining service life (RSL) was calculated. It should be noted that in the case where age was higher compared to ESL, RSL was considered as zero.

Table 2-3 and **Figure 2-2** present the weighted average age, weighted average ESL, and remaining service life for various asset sub-categories within the City’s parks and cemetery assets. The average age of the asset’s ranges from 3 to 47 years, with average ESLs that vary from 7 to 150 years. It should be noted that recreation, cemetery equipment, and park equipment are the oldest in comparison with other assets, with less than 30% of the assets’ ESL remaining. Overall, the park assets have surpassed 50% of their ESL life (with the exception of active park lands), while the cemetery assets have exceeded 70% of their ESL.

[2] Association for the Advancement of Cost Engineering (AACE) International Recommended Practice No. 18R-97. Cost Estimate Classification System - As Applied In Engineering, Procurement, and Construction for the Building and General Construction Industries, 2020, Retrieved in February 2024

Table 2-3: Parks & Cemetery Asset Average Age, ESL, and Remaining Service Life

Asset Group	Asset Class	Asset Categories	Weighted Average Age	Weighted Average ESL	Remaining Service Life
Parks	Park Structure	Park Amenity	18	27	9
	Recreation	Sports Court	14	19	5
		Field Surface	20	20	0
		Pool	43	45	2
		Court Accessories	3	25	22
	Park Buildings	Green House	11	30	19
		Office	35	50	15
		Band Shell Building	28	50	22
		Courtside Service Building	26	47	21
		Comfort Stations	27	47	20
		Bay Garage	27	54	27
	Park Land	Active Park Land	47	150	103
		Undeveloped Park Land		N/A	
	Park Equipment	Lawn & Surface Maintenance	9	12	3
		Operation Machinery	8	10	2
	Water Treatment	Drinking Water Treatment Facility	27	60	33
Cemetery*	Cemetery Equipment	Lawn & Surface Maintenance	9	14	5
		Operation Machinery	14	17	3
		Crematorium	22	25	3
		Information System	4	7	3

*The cemetery facilities are covered in Facility AMP, and the cemetery fleets are covered in Fleet AMP.

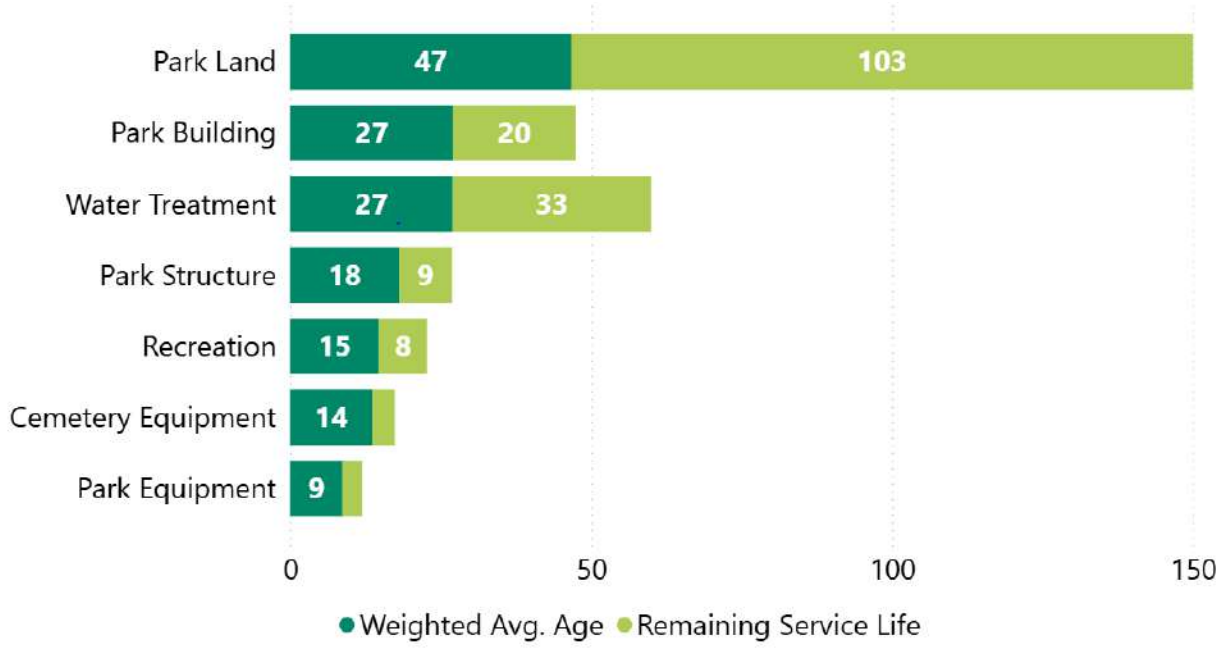


Figure 2-2: Parks & Cemetery Asset Weighted Average Age and Remaining Service Life

Figure 2-3 shows the installation profile of the City's parks assets (excluding the park lands) according to asset classes. The City's parks assets demonstrate a significant wave of development during the past two decades. Minimal investment occurred before 1990, with cumulative replacement values remaining under $3 million. Starting from the 1990s, investments became more diversified and substantial. The period from 2000–2009 stands out with the highest replacement value at $40.4 million, driven predominantly by recreation ($22M) and park structure assets ($17M), indicating a major development phase focused on recreation and amenities. The 2010–2019 and 2020–2029 periods continued this trend, with combined investments of $6.7 million and $14.4 million, respectively. These recent installations show a shift towards modern recreational infrastructure, alongside steady investment in park buildings and equipment, reflecting evolving park functionality and support infrastructure needs.

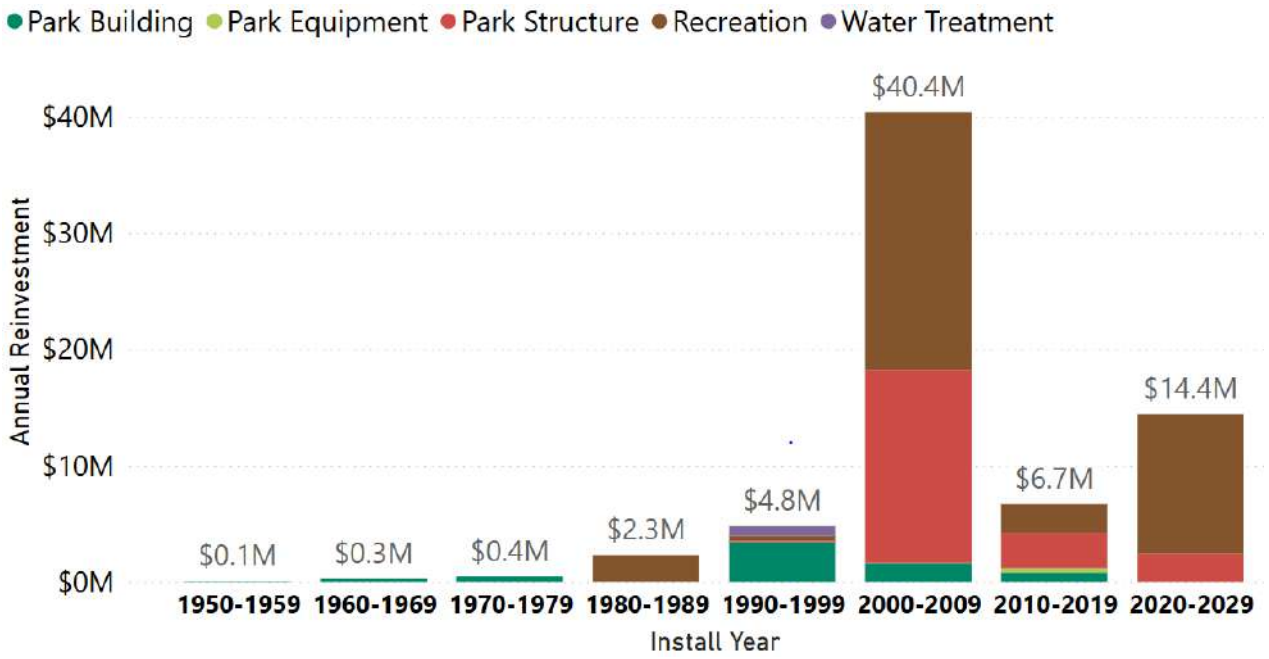


Figure 2-3: Park Assets Installation Profile

Figure 2-4 shows the installation profile of the City's cemetery assets according to asset sub-classes. The 2000–2009 period saw a total replacement value of $0.9 million, largely split between crematorium assets and operation machinery. This was followed by a peak investment phase in 2010–2019, with a total value of $1.3 million, predominantly driven by lawn & surface maintenance and equipment upgrades. The most recent period (2020–2029) shows minimal additions, totaling only $0.1 million, focused mainly on lawn maintenance and a small share of information systems. This trend suggests a deceleration in new capital investment, possibly reflecting asset maturity or shifting operational strategies for cemetery services.

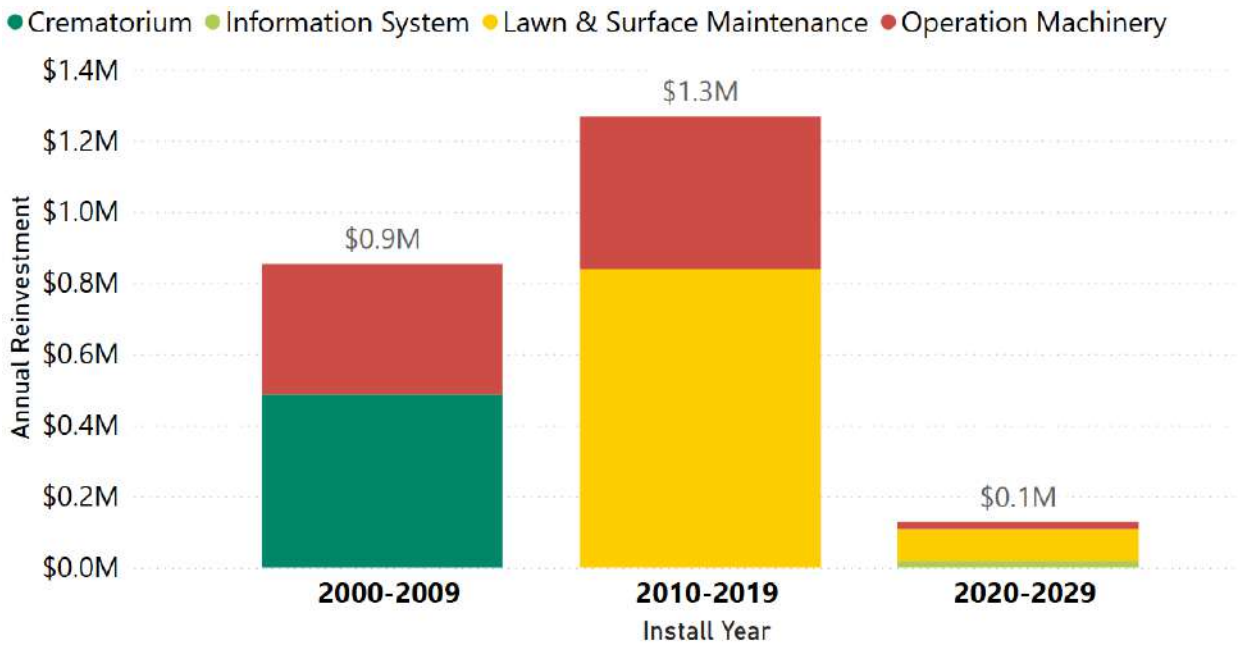


Figure 2-4: Cemetery Assets Installation Profile

2.2.4 Asset Condition

Regular condition assessments for parks and cemetery assets are recommended to monitor the condition and support the asset management decision. For other asset categories that do not have condition assessment results, the two-parameter Weibull distribution function was used to assess the current condition and to project the future condition of the City's parks and cemetery assets. The Weibull distribution has been used extensively in reliability studies and lifetime prediction models in industries ranging from automotive to oil & gas and provides a suitable distribution for this type of analysis.

The underlying premise of the Weibull-shaped deterioration is that while some assets fail prematurely due to severe conditions or improper installation, other assets are very long-lived and function well beyond their theoretical ESL. In order to perform a high-order network-level analysis, it was assumed that assets would fail (and require replacement) within a deterioration envelope/curve approximated by a Weibull probability distribution. The two-parameter Weibull cumulative distribution has two parameters for scale and shape, as set out in Equation [1]: The underlying premise of the Weibull-shaped deterioration is that while some assets fail prematurely due to severe conditions or improper installation, other assets are very long-lived and function well beyond their theoretical ESL. To perform a high-order network-level analysis, it was assumed that assets would fail (and require replacement) within a deterioration envelope/curve approximated by a Weibull probability distribution. The two-parameter Weibull cumulative distribution has two parameters for scale and shape, as set out in Equation [1]:

$$f(x;\alpha,\beta) = e^{-\left(\frac{x}{\beta}\right)^{\alpha}} \quad [1]$$

Where: x = Age
α = Shape parameter (or slope)
β = Scale parameter

A set of Weibull cumulative distribution functions were leveraged to simulate a set of deterioration curves for assets with different ESLs as shown in **Figure 2-5**.

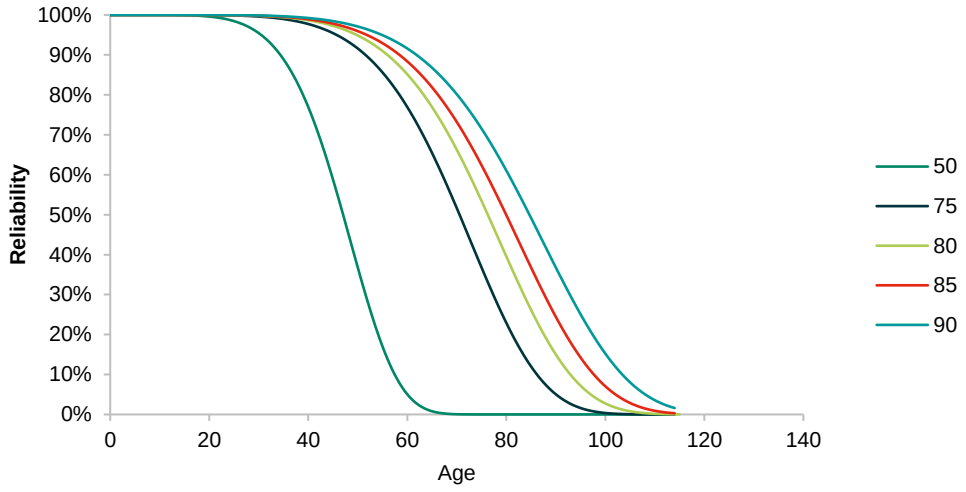


Figure 2-5: Asset Deterioration Curve Samples

The asset condition ratings were based on the five-point condition rating scale presented in **Table 2-4.**

Table 2-4: Condition Assessment Rating Details

Physical Condition Rating	Condition Description
1 - Very Good	The asset is new or in new condition, meets or exceeds all current standards of practice, shows no signs of deterioration, and is fully operable.
2 - Good	The asset has minimal signs of deterioration, generally meets all current standards of practice, and is fully operable.
3 - Fair	The asset may show moderate signs of deterioration, generally meets the current standard of practice, asset performance may decrease and cause service interruptions and is fully operable.
4 - Poor	The asset is approaching its end-of-life expectancy, shows significant signs of deterioration, major components may need to be rebuilt or replaced, may be functioning at an acceptable level is expected to deteriorate further.
5 - Very Poor	The asset is beyond its life expectancy, may no longer meet the current standard of practice, major component may no longer be serviceable, shows significant deterioration, functions at a limited capacity, and may pose a safety hazard if used.

Given the relatively long estimated service life of park land assets (150 years) and the fact that full replacement is unlikely to occur at the end of their service life, these assets have been excluded from the condition analysis. **Table 2-5** and **Figure 2-6** summarize the condition grade of the City's parks and cemetery with associated replacement values. 35% of the assets are in very good condition, with a total replacement value of approximately $25 million, and 16% of the assets are in very poor condition, with a total replacement value of $11.6 million. Good condition accounts for 15% of the existing inventory, having a replacement value of around $10.4 million. Fair and poor condition assets make up 19% and 16%, respectively, with estimated replacement values at $10.3 million and $14 million.

Table 2-5: Park & Cemetery Asset Condition Summary

Rank	Condition Rating	Replacement Value	% of Replacement Value
1	Very Good	$25,415,000	35%
2	Good	$10,436,000	15%
3	Fair	$10,263,000	14%
4	Poor	$13,946,000	19%
5	Very Poor	$11,596,000	16%
Total		**$71,656,000**	**100%**

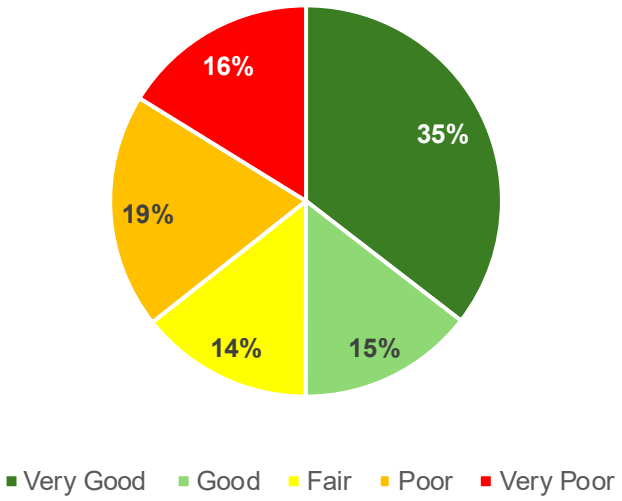


Figure 2-6: Parks and Cemetery Asset Condition Weighted by Replacement Value

Figure 2-7 shows the condition summary breakdown for each asset class, weighted by replacement value. The condition distribution of the City's parks and cemetery assets reveals that recreation assets present the highest portions of assets in a relatively poor state, with approximately $11.9 million in poor and $7.9 million in very poor condition, accounting for 50% of their total replacement value. It is noted that park structure assets with a total replacement value of $5.3 million are currently rated in poor or very poor condition. In contrast, park buildings and cemetery equipment are generally in better condition, with most assets rated good or very good. These findings highlight a pressing need for targeted reinvestment strategies, particularly for recreation and park structure assets, to mitigate service level impacts and manage future asset deterioration.

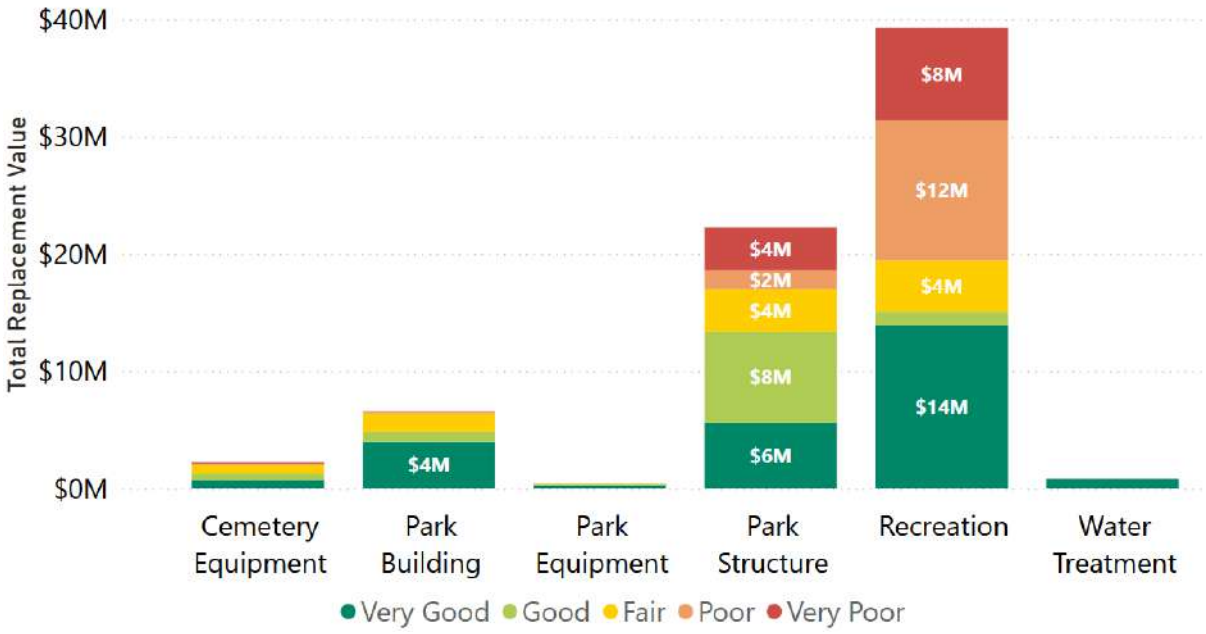


Figure 2-7: Condition Summary for Each Parks and Cemetery Asset Class by Replacement Value

2.3 Asset Data Gap Analysis

This section summarizes the current state of the City's asset data by assessing the quality of the asset inventory. Specifically, this section identifies existing data gaps, determines the overall confidence in the current asset data, and introduces good practices of data management.

2.3.1 Data Gap Observations

The City's parks and cemetery assets were previously stored across multiple spreadsheets. This project has successfully centralized the data into a single inventory. Additionally, it has addressed and filled gaps in key data, such as expected service life and replacement costs, achieving a 100% completeness rate. **Table 2-6** provides a summary of data completeness levels in the compiled parks and cemetery inventory across key data attributes. It is recommended that the City continue to work on filling any remaining gaps, ensuring a comprehensive and up-to-date database.

Table 2-6: Asset Data Completeness

Asset Group	Inventory Completeness (%)					
	Asset ID	Location	Install Date	Condition	Expected Service Life	Replacement Cost
Parks and Cemetery	52%	50%	100%	100%	100%	100%

2.3.2 Data Confidence

The quality of asset data is critical to effective AM, accurate financial forecasts, and informed decision-making. For this reason, it is important to know the reliability of the information is for the State of Infrastructure analysis of the parks and cemetery assets. **Table 2-7** provides a description of the data confidence grades used to classify the reliability of the asset data. This can serve as a reference for the City to assess the quality of their asset data. A brief summary and explanation of the available data can be seen in **Table 2-8**. Overall, the parks and cemetery asset inventory data are comprehensive in terms of the four key parameters required for the AM data analysis.

Table 2-7: Data Confidence Grading Scale

Confidence Grades	Description
A - Highly reliable	Data is based on sound records, procedures, investigations, and analysis, documented properly and agreed upon as the best method of assessment. The dataset is complete and estimated to be accurate ± 2%
B - Reliable	Data is based on sound records, procedures, investigations, and analysis, documented properly, but has minor shortcomings, for example, some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. The dataset is complete and estimated to be accurate ± 10%
C - Uncertain	Data is based on sound records, procedures, investigations, and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. The dataset is substantially complete, but up to 50% data is extrapolated, and the accuracy is estimated ± 25%
D - Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. The dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy ± 40%
E - Unknown	None or very little data held.

Table 2-8: Asset Data Confidence

Asset Group	Inventory Confidence					
	Asset ID	Location	Install Date	Condition	Expected Service Life	Replacement Cost
Parks and Cemetery	C	C	A	A	A	A

2.3.3 Data Management Practice

The asset data lifecycle is a sequence of stages that data goes through from its initial build (i.e., data capture and entry) to its eventual archival and/or deletion at the end of its useful life[3]. A clear definition and understanding of the organization's process for acquiring, storing, utilizing, assessing, improving, archiving, and deleting data (see **Figure 2-8**) will ensure good data management practices and help to sustain levels of data quality required to support AM activities.



Figure 2-8: Asset Information Lifecycle

[3] TechTarget Network (2020): Definition: Data Life Cycle

The seven key stages of the asset data lifecycle are described in more detail below:

- **Acquiring New Data**: The majority of new asset data arises from asset creation, refurbishment, and overhaul activities. New data may also come by way of inheritance or transfers from other business units, organizations, or third parties. As such, it is important to have clearly defined processes in place not only to add or update asset data but also to migrate and merge data from other sources.
    - New parks and cemetery assets should be consistently added to the inventory, and a minimum required data set defined to maintain inventory accuracy and reliability. The required data includes the asset material, size, specification, new equipment make, model, Vehicle Identification Number, fuel type, original purchase price, purchase dates, purchase location, etc.
- **Storing Data**: The way asset data is stored is an important consideration for overall data quality. Having a planned approach to data storage will inevitably reduce the likelihood of duplication and inconsistencies across datasets within the organization. Depending on the needs of the organization, this stage may involve procuring new software to adequately house the data, along with a data backup and recovery plan to ensure that the necessary data protection and privacy standards are met.
    - Assets are typically stored in either the Computerized Maintenance Management System (CMMS) or the maintained asset inventory spreadsheet. For parks and cemetery assets, typical information including park structure specification, sports courts and field surface material and size, parks and cemetery buildings' frame type, story and associated mechanical and electrical equipment need to be captured and maintained to be updated during the daily data management process.
- **Utilizing / Analysing Data**: This aspect of the asset information lifecycle is where users encounter the data to support data-driven activities within the organization. Data can be viewed, processed, edited, and published to allow users to access the data outside the organization. Critical data that has been modified should be fully traceable to maintain the integrity of the data. As such, it is important to communicate to the users why asset data is so important and how it is used to inform decisions within the organization.
    - The City should conduct regular inspections and condition assessments for its playground structure, sports courts and field surfaces, benches, picnic tables, parks and cemetery buildings, swimming pools, and lighting poles to adequately support the associated asset lifecycle activities decision-making including renewal, repair, and replacement.
- **Assessing Data**: Assessing the data quality helps to determine the level of confidence in the information and ensures that decision-makers are making informed decisions based on the quality of data available to them. Moreover, it is important to fully understand the availability and quality of the asset data before issuing information publicly. Some of the results of data degradation, due to improper or lack of assessment, may include:
    - Poor asset performance due to lack of information and understanding of asset behaviour.
    - Non-compliance with statutory regulations or safety requirements.
    - Safety incidents due to risks not being identified or reported.
    - Asset failure due to gaps in maintenance planning.
- **Improving Data**: Improving data quality involves establishing clear targets which are intended to be communicated widely across the organization. It is imperative that the organization understands the costs, benefits, and risks associated with any data improvements since the cost of the improvement may outweigh the overall benefit. It is also important to note that *more* data does not necessarily mean *better* data. It is very possible to collect data that does not add value to the organization. As such, it is critical that the organization aligns its data improvement targets with its AM objectives and considers the data-driven decisions staff need to make at the operational and strategic level, to ensure that the *right* data is being improved upon.
- **Archiving Data**: Archiving data is the process of storing data that is no longer active or required but is able to be retrieved in case it is needed again. Data that is archived is stored in a location where no usage or maintenance occurs. It is recommended that a data archive strategy exists within an organization in order to lay out the data archival requirements, which includes the following factors:

- Consider what data should be archived and articulate the reasons behind the archival decisions.
- Examine any legal obligations pertaining to the retention of data records.
- Determine the appropriate duration for retaining different categories of data records.
- Evaluate the risks associated with the inability to retrieve specific data records.
- Specify the authorized individuals or entities who should have access to archived data records.
- Establish the expected timeframe for retrieving archived data records.
- Communicate these requirements across the organization to ensure staff understand why records are being archived, how they can access archived data records, and for how long archived data records can still be accessed.

- **Deleting Data:** The deletion of data is the final component of the asset information lifecycle. Typically, within organizations, there is resistance to permanently delete data, otherwise known as data “squirrelling”, due to the overall capacity of storing data increasing and the cost decreasing. However, within the organization’s data archive strategy, a retention period should be specified to indicate when data should be deleted, along with any processes to follow, such as obtaining prior authorization.

2.3.3.1 Current Data Management State

The City’s Public Work - Park Division staff are involved in parks and cemetery asset data management. The City’s parks and cemetery asset data is currently stored in GIS, Excel spreadsheets, reports, and as-built drawings. Currently, the City updates assets in the GIS post-construction, and there may be a lag in obtaining as-builts and adding/updating data.

The City is following the mandate in records retention procedures for municipalities as per the Freedom of Information and Protection of Privacy Act (FIPPA) and the Municipal Freedom of Information and Protection of Privacy Act (MFIPPA).

2.3.3.2 Future Data Management State

The City will develop and implement a software strategy that helps streamline data management following this AMP. Eventually, the City plans to have a clear and efficient data management process and a comprehensive and robust asset inventory to support their AM decision-making. The implementation plan for data improvement is presented in **Section 6**.

3 Level of Service

3.1 Purpose

Level of Service (LoS) supports every aspect of the overall AM system. The objective of establishing clearly defined service levels is to help the City meet stakeholder values, achieve its strategic goals, make informed decisions, and implement effective asset lifecycle activities.

Documenting LoS is a proven practice that will enable the City to:

- Link corporate strategic objectives to customer expectations and technical operations.
- Balance customer needs and expectations while evaluating the effectiveness of operations and whether the right LoS is being provided at the right cost.
- Transition from an “Asset Stewardship” approach that focuses on making decisions based on maintaining assets in an acceptable condition to a “Serviceability” approach that is geared towards making decisions based on balancing the costs, risks, and goals for the LoS being provided by the City’s assets.
- Communicate the physical nature of infrastructure that the City owns and is financially responsible for, while promoting the use of LoS to enable effective consultation with stakeholders regarding alternative funding options according to desired LoS outcomes.
- Make recommendations on strategies that the City can take now to minimize future renewal costs while ensuring that adequate LoS can be delivered without burdening future generations.
- Assess internal (e.g., program changes) and external (e.g., climate change) factors that have the potential to impact the City’s ability to deliver services and how these factors may impact the LoS being provided.
- Implement a corporate continuous improvement program to further optimize AM across all service areas.

The O. Reg. 588/17 requires that all AMPs include the current and proposed LoS, determined in accordance with the requirements provided (see **Section 1.3**).

3.2 Objectives

Defining LoS objectives is important for drawing a line of sight between the City’s corporate objectives and the tangible asset performance outcomes. To do so, the LoS objectives must take into consideration stakeholder interests to develop asset performance measures that aim to meet the needs and expectations of the community. By doing this, the City will ensure that their assets are striving towards optimal performance, not only operationally, but economically, socially, and sustainably as well. Every stakeholder has certain interests in the service being provided, and in general, the City’s corporate objective is to lift up the community and build pride, and attract people (visitors, employers and employees). The City’s Comprehensive Background Report[4] (2021) for the New Official Plan outlined the overarching themes that reflect the City’s values, as shown in **Table 3-1**. Each overarching theme is also assigned a corporate service objective.

The development of the level of service targets should be aligned with these corporate objectives, which will be addressed in the next iteration of the AMP.

Table 3-1: The City’s Overarching Themes and LoS Objectives

Overarching Themes	LoS Objective
Healthy Community	Supports healthy living, active transportation, access to passive and active recreation, social interaction and the creation of spaces that are comfortable, safe and accessible for all ages and abilities (the “8 to 80 Cities” concept).
Environmental Sustainability	Supports energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions and climate change adaptation.

[4] City of Sault Ste Marie. 2021. Comprehensive Background Report.

Overarching Themes	LoS Objective
Integrated Mobility	Supports accessibility and choice of a diversity of transportation modes.
Sense of Place	Fosters a welcoming place for all that establishes the connection and provides a memorable experience to visitors.
Sustainable Growth	Stimulates reinvigoration of neighbourhoods to provide a complete range of housing, services, employment and recreation.
Economic Resiliency	Supports the growth and diversification of the city's economy.
Social Equity	Contributes to creating a welcoming and inclusive community, focusing on the removal of systemic barriers so that everyone has access to an acceptable standard of living and can fully participate in all aspects of community life.
Cultural Vitality	Celebrates the Sault's history, diverse communities and natural and cultural heritage, with the Downtown as the Sault's core destination for arts and culture.

3.3 Stakeholder Identification

A stakeholder is any person or organization that can affect, be affected by, or perceive themselves to be affected by a decision or an activity. Stakeholder analysis is the process of understanding stakeholder needs, expectations and perceptions relative to the stakeholder's level of interest and level of influence over the organization. The organization typically engages with their stakeholders to:

- Establish which activities or services matter most.
- Understand their risk appetite and risk threshold.
- Understand their willingness to pay for services.

Stakeholders can take many forms and may be internal (i.e., staff, Council) or external (i.e., the public, regulatory agencies, suppliers, neighbouring municipalities, etc.) to the organization. The following groups were identified as key stakeholders for the parks and cemetery service at the LoS workshops. This is not intended to be an exhaustive list; however, the following groups provide a good starting point for the City to move forward to the next stage.

- Residential Customers.
- Industrial, Commercial & institutional (ICI) Customers.
- Visitors.
- Regulatory Agencies.
- Neighbouring Municipalities.
- Developers.
- First Nations.
- Environmental Groups.
- Internal City Departments.
- Council Committees.
- Parks and Recreation Advisory Committee.
- Environmental Sustainability Committee.

3.3.1 Legislated and Regulatory Requirements

Parks and cemetery assets are critical to the City's ability to provide essential services to the community, and for protecting the health and safety of the public. As such, key legislative requirements exist for the City's infrastructure assets, which ensure that minimum requirements are met and standards are in place that promote a high quality of life (i.e., clean drinking water and safe roads, etc.). A sample of key Federal and Provincial legislated requirements is

outlined below in **Table 3-2**. Monitoring and development programs relevant to parks and cemetery assets are also listed.

Table 3-2: Legislated and Regulatory Requirements

Federal	Provincial
• Canadian Environmental Protection Act (CEPA) • Fisheries Act	• Environmental Protection Act (EPA) - Ontario Regulation 351 – Marinas • Public Parks Act • Cemeteries Act • Pesticides Act • Ontario Drainage Act • Accessibilities for Ontarians with Disabilities Act • Health Protection and Promotion Act - Ontario Regulation 565 - Public Pools • Recreational Water Protocol • Bereavement Authority of Ontario • Ministry of Environment • Conservations Authority Act - Ontario Regulation 97 – Conservation Authorities Regulation

3.4 O. Reg. 588/17 Levels of Service Metrics

Currently, O. Reg. 588/17 identifies LoS metrics for core assets. A number of key LoS performance measures for parks and cemetery assets have been identified in consultation with City staff through workshops, are detailed in **Section 3.5**.

3.5 Proposed Levels of Service

Establishing LoS targets is an important part of continual improvement and performance management. Without performance targets, it is difficult to ascertain whether goals are being met, or the extent of the gap if they are not. Incorporating targets into the City's LoS Framework helps to ensure that targets are reasonable, aligned with customer expectations, and evaluated on an objective basis by considering cost-benefit trade-offs.

One of the key challenges in setting infrastructure performance targets in a municipal environment is that they can often become biased and/or politically motivated. Therefore, it is important to review LoS targets with internal and external stakeholders, especially the customers who will be impacted the most by changes in service delivery. An important aspect of evaluating LoS targets is determining how the user is willing to pay for the service. Regulatory requirements are an exception; however, they only provide the minimum service standard. Cost is still an important parameter to consider when assessing the merits of service improvements. To deal with the financial realities, it is necessary to:

- Calculate how much the service costs based on the current LoS.
- Determine the cost associated with varying the LoS.
- Assess the customers' willingness to pay.

It is important that any targets set be realistic and achievable. Therefore, it is not advisable that the City sets any firm targets until their current performance has been fully assessed.

Table 3-3: LoS Trend Legend

Symbol	Name	Description	Example
	Positively Increasing	The KPI is trending in a good direction, showing continuous improvement over time. This indicates progress toward desired goals and positive performance outcomes.	*The percentage of roads in good condition is increasing.*
	Positively Stable	The KPI is at a strong and desirable level, with no expected increase or decrease. Maintaining this trend ensures consistent performance and long-term stability.	*The number of medical incidents reported is 0 and should be maintained at this level*
	Positively Decreasing	The KPI is trending in a good direction while decreasing over time. A lower value in this case represents an improvement, helping achieve desirable service levels.	*Fuel usage is currently desirable and decreasing with better technology*
	Negatively Increasing	The KPI is trending in a bad direction and worsening over time. This suggests an ongoing issue that may require intervention to prevent further negative impacts.	*The maintenance backlog is increasing into an even larger gap.*
	Negatively Stable	The KPI remains at a poor level, with no expected improvement or further decline. While the situation is not worsening, it also means no progress is being made toward improvement.	*Road conditions are poor, current replacement efforts may prevent the condition from worsening but will not improve the overall condition.*
	Negatively Decreasing	The KPI is trending in a bad direction while decreasing over time. A declining value in this case indicates a worsening condition, requiring attention to mitigate risks and negative consequences.	*The number trained staff members are decreasing.*

A summary of the City's parks and cemetery service level metrics are presented in **Table 3-4.**

Table 3-4: Parks and Cemetery Current and Proposed Levels of Service

LoS #	Service Area	LoS Measure	Unit of Measure	LoS Category	Current Performance	Trend	Lifecycle Activities to Meet Proposed LoS (Positive Trend) / to Mitigate the Impact of the Proposed LoS (Negative Trend)	Financial	Risk of Not Meeting Proposed LoS	Note
1	Cemetery	First treatments	#	Customer	2020: 1 2021: 0 2022: 1 2023: 0 2024: 0	Current: → Target: →	N/A	Budget Impact: Low	Low	N/A
2	Cemetery	Annual natural gas consumption for the cremator	GJ	Technical	2020: 103,192 2021: 103,641 2022: 115,794 2023: 118,542 2024: 101,466	Current: → Target: →	Ensure the burners are operating efficiently and the fuel-air mix is optimized to prevent excessive gas usage. When replacements are due, install modern, energy-efficient burners that consume less gas. Develop a formal maintenance schedule based on manufacturer guidelines to avoid performance degradation.	Budget Impact: Medium Associated Cost: $90,000 every 3-4 years	Increased fuel consumption directly increases operational expenses, putting pressure on the cemetery service budget. Higher fuel use leads to greater CO_2 emissions, conflicting with the City's GHG reduction goals (e.g., Net Zero by 2050).	N/A
3	Cemetery	# of grave repairs	#	Technical	2020: 313 2021: 345 2022: 399 2023: 282 2024: 521	Current: → Target: →	Regular complement of student employees (15) Conduct scheduled inspections to proactively identify early signs of deterioration (e.g., sinking graves, damaged headstones, unstable surrounds) before they require major repairs. Improve soil stabilization to prevent settlement or erosion, which are common causes of grave structure issues. Ensure adequate site drainage to prevent water pooling, which accelerates soil settlement and structural deterioration around graves. Manage roots from nearby trees or shrubs that can disturb grave structures over time.	Budget Impact: Medium Associated Cost: $133,000 in 2024	Delaying or missing necessary repairs can lead to more severe and costly structural failures in gravesites. Unrepaired graves may lead to soil settlement or erosion, impacting adjacent plots and requiring more extensive site remediation. Missed repairs contribute to a faster decline in the overall condition of cemetery infrastructure, increasing future renewal costs.	N/A
4	Cemetery	Asset Condition: Percentage of assets in Fair or Better condition	%	Technical	2024: 89%	Current: → Target: →	Conduct condition assessments at least annually for key assets like pathways, retaining walls, headstones, columbarium structures, fencing, and site furnishings. Replace or rehabilitate assets that have dropped below fair condition, prioritizing based on criticality and safety. Prioritize maintenance and renewal based on asset criticality and likelihood of failure.	Budget Impact: Medium	An increasing number of assets in poor condition can overwhelm the annual maintenance budget. Poorly maintained cemetery assets negatively impact visitor experience and may restrict public access to certain areas for safety reasons. Major asset failures could require temporary closures or restricted access to sections of the cemetery.	N/A
5	Parks	Number of hours of sports fields booked annually	#	Technical	N/A	Current: ↑ Target: ↑	Additional lighting for more play hours, increased maintenance budget, improved infrastructure, more facilities, technology to make activities possible in all seasons (insulation for outdoor rinks), and all climates (irrigation and drainage systems), more supporting facilities like temporary washrooms and changing rooms, and permanent supporting facilities.	Budget Impact: High	Loss of asset from asset closure due to condition. Decreased quality of life and standard living. Customers unable to partake in activities. Customer dissatisfaction and complaints	Demand is increasing due to sport popularity like Pickleball and usage from College/University-level sports. Some sports, like Pickleball, are unable to track hours due to activity type.
6	Parks	Total number of new trees planted annually	#	Technical	N/A	Current: ↑ Target: ↑	Current demand of 150 trees per year can be met. An increase may result in additional procurement of staffing and resources for tree care, labour, and treatment.	Budget Impact: Medium	Decreased quality of life and standard of living. Negative climate impact. Urban heat island effect. Increase complaints.	Annual tree planting program that receives funding and interest from nearby stakeholders like communities, Canada Forestry, and Council.
7	Parks	Percentage of playgrounds inspected monthly	%	Technical	N/A	Current: ↓ Target: ↑	Implementing electronic inspections. Improving the condition of playgrounds so that less time needs to be spent on repair. Identifying methods of precenting vandalism.	Budget Impact: High	Lawsuits against the City. Poor community image. Decreased usage of playgrounds.	The City is unable to meet suggested inspection requirements. Park inspections require trained staff who are certified, limiting staff availability. The City has recently received approval to hire a new employee but cannot predict if inspection requirements will be met.
8	Parks	Asset Condition: Percentage of assets in Good and Very Good condition	%	Technical	2024: 88%	Current: ↓ Target: ↓	Increased funding. Increase qualified staff for operations and maintenance. Reduction in number of assets.	Budget Impact: High	Further deterioration of assets leading to litigation. Loss of assets.	As current resources are insufficient for both capital and maintenance needs, the infrastructure gap continues to grow.

Performance Trend Legend:

↑ Positively Increasing	→ Positively Stable	↓ Positively Decreasing	↑ Negatively Increasing	→ Negatively Stable	↓ Negatively Decreasing

3.6 2025-2034 10-Year Levels of Service Forecast

Considering the City's characteristics, growth projections, and strategic objectives, the proposed performance trend for each LoS metric for the next 10 years is projected and outlined in **Table 3-5**. This table indicates whether each measure is expected to trend upward, downward, or remain stable, taking into account the nature of the measure, data availability, and whether the projected trend impacts positively or negatively on the proposed LoS.

Table 3-5: 2025-2034 10-Year Levels of Service Forecast for Parks and Cemetery

LoS #	Service Area	LoS Measure	Unit of Measure	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Target Trend	Basics for Forecast
1	Cemetery	First treatments	#	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	→	SME (Subject Matter Expert) opinion
2	Cemetery	Annual natural gas consumption for the cremator	GJ	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	→	SME opinion
3	Cemetery	# of grave repairs	#	300 - 400	300 - 400	300 - 400	300 - 400	300 - 400	300 - 400	300 - 400	300 - 400	300 - 400	300 - 400	→	SME opinion
4	Cemetery	Asset Condition: Percentage of assets in Good and Very Good condition	%	89%					Positively Maintain					→	• The current 2025 Level of Service (LoS) performance is at 89%, which aligns with the operational requirements of cemetery services. • The goal is to secure adequate funding to sustain this level of service over time.
5	Parks	Number of hours of sport fields booked annually	#						Positively Increasing					↑	SME opinion
6	Parks	Total number of new trees planted annually	%						Positively Increasing					↑	SME opinion
7	Parks	Percentage of playgrounds inspected monthly	%						Positively Increasing					↑	• The number of playground structures inspected each month will be increased to comply with regulatory requirements.
8	Parks	Asset Condition: Percentage of assets in Good and Very Good condition	%	58%					Negatively Decreasing					↓	• The current 2025 Level of Service (LoS) performance stands at 58%, reflecting the aging and deteriorating condition of several park assets. • Given the limited forecasted funding, it is unlikely that this level of service can be maintained or improved without additional investment.

Performance Trend Legend:

↑ Positively Increasing	→ Positively Maintain	↓ Positively Decreasing	↑ Negatively Increasing	→ Negatively Maintain	↓ Negatively Decreasing

3.7 Future Demand Drivers

Demand management is a critical component of managing the desired LoS in a sustainable manner, now and into the future. Understanding demand drivers enables the City to proactively develop effective, long-term strategies that are suitable for the City's unique political, environmental, social, and technological landscape.

A summary of factors identified from the LoS workshop that would impact parks and cemetery service levels includes, but is not limited to, the following:

- Energy and demand management.
- Aging park infrastructure.
- Active living customer demands.
- Funding level.
- Climate change.
- Staffing expertise.
- Cemetery demands.
    - Mausoleum sales.
    - Green burials.

On November 2, 2021, the City's Planning Division released the Comprehensive Background Report for updating the Official Plan. The City's Official Plan guides local decision-making on land use, development, and public infrastructure over the next 20 years. The City's population is expected to reach 80,000 people by 2031, and 83,300 people by 2036. Employment is projected to grow by approximately 6,000 jobs, from 31,000 jobs in 2016 to 36,900 jobs in 2036.

When additional assets to accommodate this population and employment growth are introduced to the City's portfolio, additional human resources, training and funding are required to maintain and operate and renew or replace those assets. O. Reg. 588/17 requires municipalities by July 1, 2025, to estimate capital expenditures and significant operating costs to achieve the proposed LoS and accommodate projected increases in demand caused by population and employment growth. This includes the estimated capital expenditures and significant operating costs related to new construction and/or upgrading existing municipal infrastructure assets. This has been addressed in **Section 5.3**.

4 Asset Management Strategies

4.1 Asset Lifecycle Management Introduction

Asset lifecycle management focuses on the specific activities that should be undertaken during all phases of the asset lifecycle. Considering entire asset lifecycles can ensure that the City makes sound decisions that consider present and future service delivery needs.

The overarching goal of lifecycle management is to maximize the long-term benefits and services that our assets deliver while minimizing the associated costs and risks in the long run. Every asset has a lifecycle cost, which is the total cost of all the activities undertaken throughout its service life. Part of the purpose of the asset management planning process is to fully understand and predict the long-range financial requirements for the City's infrastructure to facilitate planning and resource management in the most cost-effective manner possible. **Figure 4-1** illustrates how costs typically accumulate over an asset's life. It is worth noting that the accumulation of the ongoing operations and maintenance, renewal & replacement and disposal costs is many multiples of the initial acquisition costs. As such, it is important to fully understand the entire lifecycle costs across an asset's entire life before proceeding with asset acquisition.

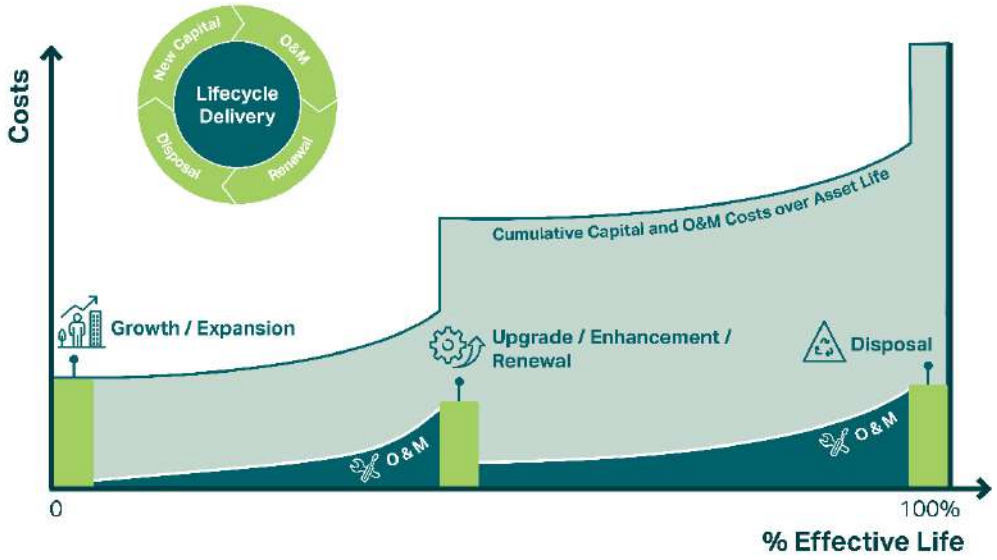


Figure 4-1: Lifecycle Cost Accumulation Over Asset Life

Asset lifecycle management strategies are typically organized into the following categories.

1. **Asset Acquisition / Procurement / Construction**: Acquisition includes expansion activities and upgrading activities to extend services to previously unserved areas or expand services to meet growth demands and to meet functional requirements. When acquiring new assets, the City should evaluate credible alternative design solutions that consider how the asset is to be managed at each of its lifecycle stages. Asset management and full life cycle considerations for the acquisition of new assets include, but are not limited to the following:



    - The asset's operability and maintainability.
    - Supply chain considerations.
    - Availability and management of detours.
    - Staff skill and availability to manage the asset.

- The manner of the asset's eventual disposal.

2. **Asset Operations and Maintenance (O&M)**: As new infrastructure is commissioned, the City accepts the responsibility of operating and maintaining the infrastructure according to O&M standards to ensure that the infrastructure is safe and reliable. Operations staff provide the day-to-day support required to operate the infrastructure. In few cases, operation costs are minor, but for most there are significant increases. For example, underground pipes require almost no operational support while a facility such as a park and cemetery equipment requires full-time staff to operate the facility safely and efficiently. Maintenance expenses include periodic preventive maintenance to ensure that the infrastructure can provide reliable service throughout the life of the asset and corrective maintenance that is required to repair defective assets as and when needed. Inadequate funding for O&M will have an adverse impact on the lifespan of assets. The amount of O&M resources required in any period is a function of the current inventory of infrastructure and total O&M needs required for each asset. As the inventory of infrastructure grows, total O&M requirements will also grow.



3. **Renewal and Replacement:** The third portion of full life cycle costing relates to the renewal and replacement of infrastructure that have deteriorated to the point where it no longer provides the required service. Renewal cost is sometimes incurred during the life of an asset where an investment is made to improve the condition and / or functionality of the asset e.g., repairing of playground structures. Replacement activities that are expected to occur once an asset has reached the end of its useful life and rehabilitation is no longer an option.



4. **Decommissioning and Disposal:** There will inevitably come a point in time when an asset must be removed from service and, depending on the type of asset, there may be significant costs associated with its decommissioning and disposal. Factors that may influence the decision to remove an asset from service include changes to legislation that cause the asset to be in non-compliance, the inability of the asset to cope with increased service levels, technology advances that render the asset obsolete, the cost of retaining the asset is greater than the benefit gained, or the current risk associated with the asset's failure is not tolerable.



Normally, major costs that may be incurred during disposal and decommissioning derive from the environmental impact of the disposal and, if required, the rehabilitation and decontamination of land. In some cases, there will be residual liabilities and risks to consider if a decision is made to partially abandon the asset as opposed to fully disposing of its components. However, some cost savings may be achieved through the residual value of the asset or by exploring alternative uses for the asset. In all cases, it is important to consider disposal and decommissioning as the strategy employed has the potential to attract significant stakeholder attention. For that reason, the costs and risks associated with disposal and decommissioning should be equally considered in the City's capital investment decision-making process.

4.2 Asset Acquisition Strategies

The City's need for new parks and cemetery assets is propelled by both aging infrastructure and a growing demand for services and additional facilities. The aging infrastructure, characterized by wear and tear over time, poses challenges in maintaining the safety and functionality of existing parks and cemetery assets. Acquiring new assets becomes imperative to ensure that the City continues to deliver safe and well-maintained facilities for residents.

In addition, the City recognizes the diverse recreational needs of the residents. With a strong interest in activities such as cricket, pickleball, skateboarding, and hiking, residents expect the City to add new park amenities. Furthermore, residents emphasize a desire for neighborhood-based play options, reflecting a preference for localized and community-centric recreational opportunities. Essential support amenities, including benches and washrooms, are also vital to enhance residents' experiences. Last but not least, the City acknowledges the growing interest in physical activity among senior residents, with a dedicated effort to ensure accessibility and ease for this demographic.

Table 4-1 summarizes the acquisition activities associated with the City's parks and cemetery assets.

Table 4-1: Acquisition Activities for Parks and Cemetery Assets

Asset Group	Activities Undertaken by the City	Notes
Parks	• Develop more space: - Build neighborhood parks. - Develop sports fields, ball courts, and bike/skate parks. • Add new park structures: - Acquire new senior-friendly facilities and park structures. - Add new signs to raise environmental awareness.	The City's master plan underscores the intention to implement a park revitalization program, which, despite lacking recent support, has been pursued through collaborations with non-profit organizations. The City is currently revitalizing two parks. The City's park density, measured in hectares per 1,000 residents, stands at 5.16, surpassing the City of Toronto's 2.8 and slightly higher than the City of Sudbury's 4.
Cemetery	Purchase and lease new equipment.	The City has established a Mausoleum Strategic Plan for the next decade, allocating $1.5 million to $2 million for new builds.

4.3 Asset Operations and Maintenance Strategies

Effective O&M of assets is crucial for sustainable performance and longevity. Managing O&M costs involves developing comprehensive strategies that optimize resource utilization while ensuring asset reliability. Proactive maintenance schedules and condition monitoring can help identify potential issues before they escalate, reducing unplanned downtime and minimizing repair costs. Implementing energy-efficient technologies and best practices in parks and cemetery AM also contribute to cost-effectiveness over the asset's lifecycle. **Table 4-2** summarizes the O&M activities associated with the City's parks and cemetery assets.

Table 4-2: O&M Activities for Parks and Cemetery Assets

Asset Group	Activities Undertaken by the City
Parks	• Conduct condition assessments every 3-5 years with the following exceptions: - Playground equipment is inspected monthly by certified playground practitioners (City Staff), as regulated by the Canadian Standards Association (CAN/CSA-Z614-14: Children's Play spaces and Equipment). - Bi-annual inspections are conducted for buildings, bridges on hub trails, bleachers, and high mass lighting. - Structural assessments are completed by external engineering consultants alongside the bi-annual bridge inspections. • Conduct safety and condition inspections periodically. • Conduct scheduled repair and maintenance: - Re-coat the structure with peeling paint or corrosion. - Fix or replace the damaged parts. - Conduct court/field surface cleaning and patch repairs. - Conduct parking lot surface cleaning and patch repairs. - Rent mobile washrooms during peak seasons at popular sites. - Conduct routine maintenance, including plant maintenance, lawn trimming, snow removal, utility maintenance, garbage cleaning, and pest and animal control.
Cemetery	• Conduct equipment repair. • Conduct oil and filter changes for cemetery equipment • Maintain bearing structures annually. • Rent equipment during peak seasons and contract out maintenance as needed.

4.4 Renewal and Replacement Strategies

Renewal often involves upgrading or refurbishing existing assets to extend their lifespan, while replacement entails acquiring new assets. The costs associated with these activities include not only the direct expenses of acquisition

but also indirect costs such as downtime during the transition, training for new technologies, and potential disposal or recycling costs.

In line with the acquisition of parks and cemetery assets, the City's choice to renew and replace these assets is prompted by factors such as aging infrastructure and increasing demand. **Table 4-3** summarizes the renewal and replacement activities associated with the City's parks and cemetery assets.

Table 4-3: Renewal and Replacement Activities for Parks and Cemetery Assets

Asset Group	Activities Undertaken by the City
Parks	• Replace the old park structures. • Resurface the old courts/fields. • Re-coat the swimming pools. • Restore and expand visitor amenities, including garbage bins.
Cemetery	• Replace equipment on a regular basis or at the end of its service life.

4.5 Decommissioning and Disposal Strategies

Effective asset decommissioning and disposal are integral components of strategic AM. As the City's parks and cemetery assets approach the end of their lifecycle or become obsolete, a systematic approach to their removal and decommissioning becomes imperative. This process involves careful planning, environmental considerations, and adherence to the City's regulatory requirements.

However, the disposal of assets within the realm of parks and cemetery demands unique consideration due to their special nature. According to the City, parks or cemetery that have been developed and named are highly unlikely to be disposed of. This sentiment is reinforced by strong support from both residents and the Council for safeguarding municipal parks and green spaces, reflecting a shared commitment to preserving these vital community spaces. Therefore, there is a consensus that the bar for the disposal of parkland should be set exceptionally high to ensure careful scrutiny and thoughtful decision-making, thus maintaining the integrity and purpose of these valued public spaces.

4.6 Risk Associated with Lifecyle Activities

In the context of AM, risk is defined as the consequence or impact of uncertainties on AM objectives. These uncertainties span a spectrum of events, including financial market fluctuations, unexpected asset failures, changes in regulatory environments, and other factors capable of influencing the performance or condition of assets. Risk management, developed to handle uncertainties in a systematic and timely manner, is a practical framework that ensures thoughtful decision-making and protects the achievement of goals. The risk management process generally follows a series of steps, as outlined in **Table 4-4**.

Table 4-4: Key Steps in the Risk Management Process

Step	Description
• Establish the context	• Define the scope of the risk management process and the objectives that the City seeks to achieve through effective risk management. • Consider the City's internal and external factors and understand stakeholder expectations.
• Risk identification	• Identify potential risks that could impact the City's AM objectives.
• Risk analysis	• Utilize qualitative or quantitative analysis methods to assess risks.
• Risk evaluation	• Evaluate the likelihood and impact of identified risks. • Prioritize risks based on their criticality.
• Risk treatment	• Develop strategies to reduce the likelihood and impact of identified risks. • Implement preventive measures to address potential issues proactively. • Establish contingency plans for managing risks that cannot be eliminated.

Step	Description
• Monitor and review	• Regularly update risk assessments to reflect evolving circumstances. • Develop KPIs and monitoring tools to track the effectiveness of risk treatment strategies. • Learn from the City's past experiences and continuously improve risk management strategies.

Over the course of an asset's service life, the accelerating rate of deterioration with age poses inherent risks, inevitably leading to a corresponding increase in maintenance costs. **Figure 4-2** illustrates a general asset deterioration curve. This trend becomes particularly pronounced in the final phase of the asset's service life, where the cost of maintenance experiences a rapid escalation, highlighting the financial risks associated with prolonged neglect. This phenomenon underscores the critical importance of preventive maintenance in the early stages of an asset's service life. By addressing risks proactively during these initial periods, the potential financial burden tied to accelerated deterioration in later stages can be effectively mitigated.

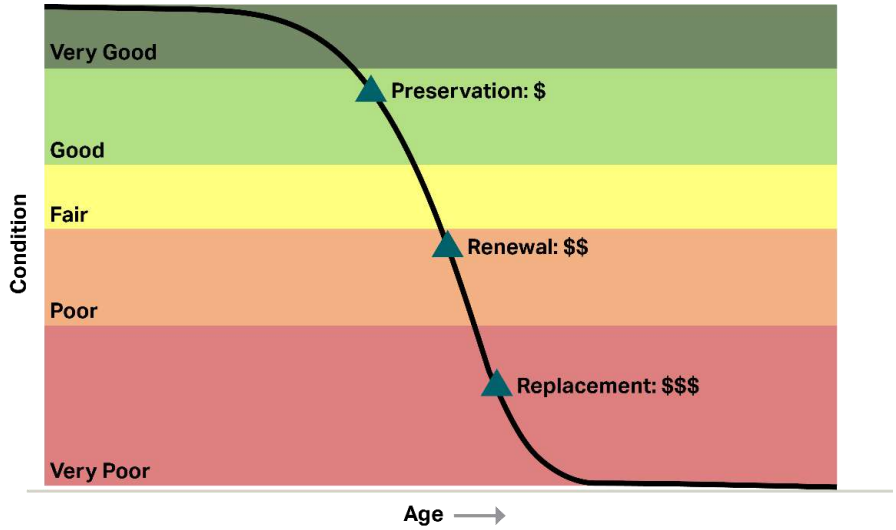


Figure 4-2: Asset Deterioration Curve and Renewal Costs

Beyond the general guidance, the City's approach to risk management should be tailored to their overarching goals, financial resources, and willingness to tolerate uncertainties. It is important to note that failure to meet the proposed LoS also poses several risks, including fines or penalties imposed by government authorities, driver confusion, and increased likelihood of accidents. To help shape the City's risk management process, AECOM recommends taking into account the following key considerations:

1. **Navigating the Challenge of Excess Park Land**

   This situation arises from the necessity of striking a delicate balance between providing ample green spaces for the community and managing these areas efficiently. While parks play a crucial role in enhancing residents' quality of life, an excess may lead to challenges such as increased maintenance costs, potential underutilization, or other financial considerations. The Council's desire to reduce park land reflects the need to align the city's resources with the optimal size and functionality of its park system. This ensures that the available land is used effectively and efficiently to meet the evolving needs of the community."

2. **Growing Accessibility Requirements**

   As the demand for higher levels of service grows, the City faces an increased need to ensure that parks and cemetery assets align with accessibility standards, accommodating the diverse needs of the community. However, the City's aging infrastructure poses an additional risk, as some equipment may not meet evolving standards, potentially resulting in accessibility gaps. To address these challenges, the City should adopt a holistic approach that combines technological innovation, policy adjustments, and systematic infrastructure upgrades.

3. Regulatory Park Structures and Sports Field Surface Inspections

Maintaining park structure and sports fields are crucial for keeping the City's recreational service safe. Not only does neglecting them pose a safety hazard, but it can also lead to costly lawsuits against the City.

4. Increased Maintenance Costs

Regular maintenance of parks and cemetery assets is a cost-effective strategy that prevents the escalation of minor issues into major repairs or replacements (see **Figure 4-2**).

5. Filling the Data Gaps for Parks Asset Inventory

The City's current inventory assessment emphasizes land officially named as parks, thereby excluding areas without this designation or zoning. Notably, instances exist where the City has zoned land for parks that currently lack an official name. In response to this, AECOM recommends that the City conduct a comprehensive review to assess the complete park inventory. Furthermore, AECOM suggests distinguishing between wood lots (non-servicing parks) and officially named parks to enhance the accuracy and nuance of data management.

5 Funding Need Analysis

Financial forecasting and capital planning are a critical element in ensuring the efficient and sustainable management of infrastructure. This involves estimating future financial needs and developing a strategic plan to secure the necessary funding for the maintenance, renewal, or expansion of assets. By accurately forecasting financial requirements and implementing a well-structured capital plan, the City can not only ensure the long-term viability of their infrastructure systems but also effectively manage costs, reduce environmental risks, and protect public health.

The financial projections presented in the subsequent sections provide visualizations of the results from the financial model. The subsequent sections are structured as follows:

Section 5.1 summarizes historical capital and O&M expenditures, along with budget forecasts for the next 10 years (2025–2034).

Section 5.2 outlines the assumptions used in the financial model to guide reinvestment and replacement decisions for each parks and cemetery subcategory and estimates the annual funding requirements over the 10-year period. The projected levels of service over this period are also presented.

Section 5.3 presents the full funding needs for the next 10 years, including capital, O&M, and disposal costs.

Section 5.4 summarizes the risk of funding gaps, and **Section 5.5** explores possible funding sources and alternative strategies to support the parks and cemetery asset management lifecycle activities.

5.1 Capital and Operating Budget

Based on the review of the budget documents provided by the City, including:

- Summary Capital Budget - 2020 to 2024
- Long Term Financial Plan Model - Final Client Version

This section presents the annual average budgets allocated for capital replacement as well as operations and maintenance.

5.1.1 Capital Budget - Historical Expenditure and Future Forecast

The detailed historical capital expenditure for parks and cemetery assets was unavailable during the preparation of this study. Additionally, the Council has not yet approved the Capital Budget forecast for parks and cemetery assets over the next five years. Based on identified asset renewal and replacement funding needs, the City has proposed applying the funding scenarios outlined in **Table 5-1**. Capital budget details for other asset categories and subcategories were not available at the time this AMP was developed.

Table 5-1: Parks and Cemetery Capital Budget Forecast

Asset Class	Sub-Category	5-Year Annual Average
Parks	Park Structure, Park Building, Recreation, Park Land, Park Equipment, water treatment	Restricted funding scenario: $ 0.29 million
Cemetery	Cemetery Equipment	Restricted funding scenario: $ 0.19 million

5.1.2 Operating Budget - Historical Expenditure and Future Forecast

Table 5-2 presents the forecasted 10-year average budgets from the previous AMP (2024). In the previous AMP, operating budget forecasts were developed based on input from the City, the replacement value of assets without installation dates, and their ESLs. As such, this AMP continues to use the forecasted operating budgets from the 2024 AMP, adjusted for inflation to reflect future dollar values.

Table 5-2: Parks and Cemetery Forecasted 10-Year Total and Annual O&M Budget

O&M Category	Annual Average O&M Budget	10-Year Total
Parks	$5,001,000	$50,011,000
Cemetery	$264,000	$2,640,000
Total	**$5,265,000**	**$52,651,000**

5.2 Capital Reinvestment Funding Needs Analysis

This section outlines the capital funding scenarios analysis approach, assumptions, and presents service level trends regarding asset condition under various budget scenarios.

5.2.1 Lifecycle Model Approach and Assumptions

The lifecycle analysis was performed using a Power BI model, integrating key asset attributes such as asset inventory, age, expected service life, replacement values, and condition data to develop theoretical asset replacement cycles. A financial dashboard was developed to effectively visualize and communicate the lifecycle modelling outcomes.

The annual reinvestment needs for the parks and cemetery assets were determined based on their age and ESL in years in inflated dollar values and are based on the following assumptions:

- **Base year**: the base year used is 2025. Any historic asset valuations have been inflated using the experienced inflation rate.
- **Analytical period**: the analysis period for capital reinvestment needs is from 2025 to 2034, and the analysis period for full funding needs is from 2025 to 2034.
- **Cost markup**: for 15% engineering (Design & Contract Administration) markup and 30% contingencies.
- **Backlog Smooth-out**: replace assets that are in Very Poor condition and have already exceeded their ESL, depending on their designated replacement year (Designated Replacement Year = Asset Install Year + Estimated Service Life), The backlog replacements were planned to be allocated within the first four years of the analysis period, determined by applying the following logic:
  - If the designated asset replacement year is between 1975 and 1990, they will be replaced on 2025-06-01.
  - If the designated asset replacement year is between 1991 and 2005, they will be replaced on 2026-01-01.
  - If the designated asset replacement year is between 2006 and 2010, they will be replaced on 2027-01-01.
  - If the designated asset replacement year is between 2011 and 2015, they will be replaced on 2028-01-01.

- If the designated asset replacement year is between 2016 and 2020, they will be replaced on 2029-01-01.

- **Inflation rate**: the inflation rates adopted for the financial model are presented in **Table 5-3**. The inflation for 2025 and later years is determined based on the City's input.

Table 5-3: Inflation Rate [5]

Year	Inflation Rate
2023	7.1%
2024	6%
2025 - 2034	2%

- **Annual reinvestment strategy**: for the reinvestment of large polygon surface areas, such as parkland and soccer/football field surface, and the Pointe De Chenes Park Drinking Water Treatment Plant, the partial repair and replacement are more feasible than the full replacement approach. In this case, the annual reinvestment needs for parklands and soccer/football fields are estimated based on the assumption listed in **Table 5-4**.

Table 5-4: Parks and Cemetery Asset Capital Reinvestment Assumptions

Asset Categories	Annual Reinvestment Rate (2025-2034)	Annual Average Reinvestment Cost (2025-2034)	Assumption
Active Parkland	$200/Ha of parkland	$75,000	$200/Ha of park land annually to cover the patch repair or partial replacement of hard pavement surface and lawn reseeding.
Field Surface	1%	$148,000	1% of the full replacement values annually to cover the patch repair or partial replacement of the field surface, the condition of the assets will be maintained as the current condition.
Track	5%	$118,000	5% of the full replacement values annually to cover the patch repair or partial replacement of the track surface, the condition of the assets will be maintained as the current condition.
Pointe De Chenes Park Drinking Water Treatment Plant	1.5%	$12,200	1.5% of the full replacement values annually to cover the repair or partial replacement as needed, and the condition of the assets will be maintained as the current condition.

- **Capital Expansion and O&M Funding Needs**: The annual new asset acquisition (expansion) funding and O&M funding needs are forecasted by escalating the City's average historical expansion expenditure from 2019 to 2024 with the inflation rate forecast presented in **Table 5-3.**
- **Asset Disposal Funding Needs**: The annual disposal and decommissioning (disposal) funding needs are forecasted by annual capital reinvestment needs multiplied by the disposal rate, which is assumed as 1% in this exercise.
- The costs numbers are rounded to the nearest $1,000.

5.2.2 Budget Scenarios Settings

Table 5-5 outlines the budget scenario settings used in the model for parks and cemetery assets. Scenario 1 (S1) represents a "Do Nothing" approach with zero expenditure. Scenario 2 (S2) reflects an ideal, unconstrained budget scenario, where the City is able to replace assets at the end of their service life as needed. Scenario 3 (S3) is

[5] Past inflation data obtained from NRBCPI using the non-residential; yearly result taken from an average of quarterly results. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810027601

evaluating the City's proposed budgets and considers that the assets in the poorest condition and with the highest replacement values will be prioritized annually for renewal. However, the model is designed to accommodate additional budget scenarios in the future as more budget information is provided.

Table 5-5: Parks and Cemetery Budget Scenarios

Scenario	Description	Budgets
S1 Do Nothing	Spend Nothing	$0
S2 Unlimited Budget	Replace assets at the end of life	Unlimited
S3 Limited Budget	Evaluating the City's proposed budgets and considering that the assets in the poorest condition and with the highest replacement values will be prioritized annually for renewal.	$0.29 million for Parks Assets $0.19 million for Cemetery Assets

5.2.3 Budget Scenarios & 10-Year Service Level Forecast

This section presents the budget scenario results and the 10-year service level forecast for parks and cemetery assets.

5.2.3.1 Park Assets Funding Needs

In the unconstrained budget scenario (S2), the City's park assets require an average annual capital reinvestment of $3.3 million (in inflated dollar values) from 2025 to 2034, as presented in **Figure 5-1**. This is equivalent to a total of approximately $33.2 million over the next 10-year period. A significant portion of this funding is allocated to the replacement of the Park Structure, averaging $1.8 million annually, with peak spending projected in 2029 at $6.7 million. Another key contributor is recreation, requiring approximately $1.1 million per year, also reaching its highest expenditure in 2028 ($3.9 million).

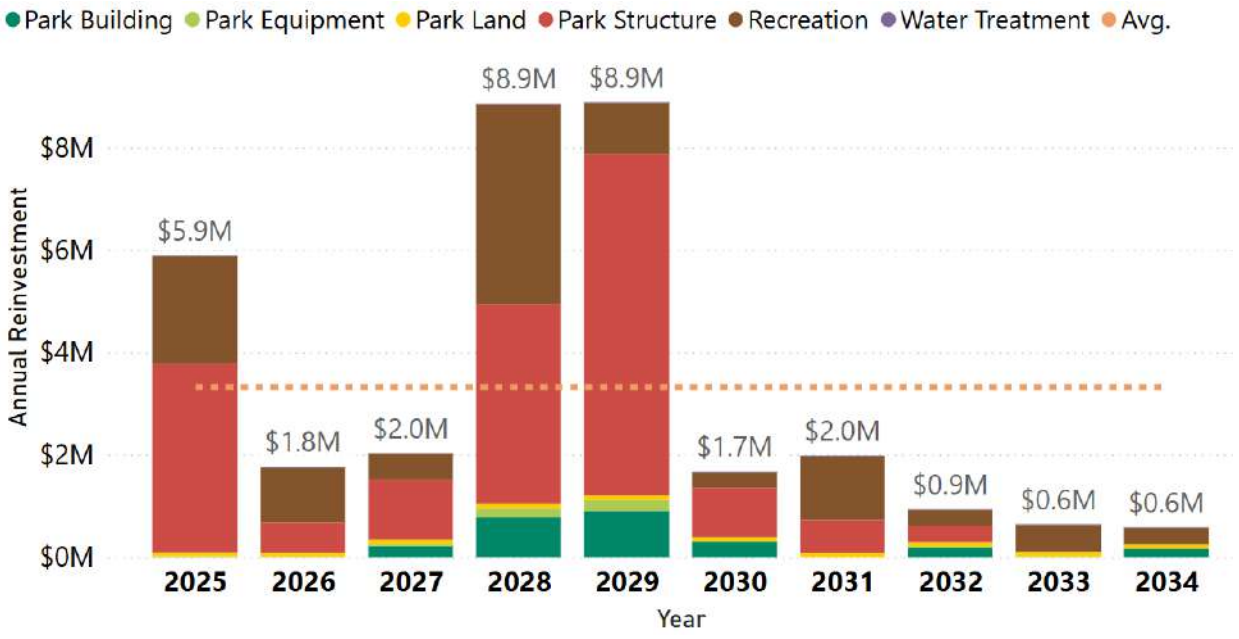


Figure 5-1: 10-Year Capital Reinvestment Funding Needs for Park Assets - Unlimited Budget Scenario

The detailed 10-year reinvestment needs for the parks assets are presented in **Table 5-6** in inflated dollar values.

Table 5-6: Park Assets 10-Year Total and Annual Average Reinvestment Need

Asset Category	Annual Average Need	10-Year Total
Park Building	$255,000	$2,550,000
Park Equipment	$49,000	$490,000
Park Land	$84,000	$840,000
Park Structure	$1,796,000	$17,960,000
Recreation	$1,127,000	$11,270,000
Water Treatment	$14,000	$140,000
Total	**$3,325,000**	**$33,250,000**

5.2.3.2 Park Assets 10-Year LoS Trend Forecast

Figure 5-2 presents the projected condition of park assets under the two funding scenarios over the 10-year analysis period, excluding the park land assets. Currently, 64% of park assets are in fair or better condition.
Under Scenario S1 – Do Nothing, the proportion of assets in fair or better condition declines to just 34% by 2034. In contrast, under Scenario S2 – Unlimited Budget, which equates to an average annual reinvestment of $3.3 million, the percentage of assets in fair or better condition improves to 76%. Under Scenario S3, with a constrained annual budget of $0.29 million over the next 10 years, the proportion of assets in fair or better condition is projected to decline to 37%. Given that the City's proposed future budget of $0.29 million is reasonably insufficient to maintain the current asset condition. The proposed funding level only partially mitigates asset decline and is inadequate to prevent long-term degradation, highlighting the need for increased investment to avoid compounding maintenance backlogs.

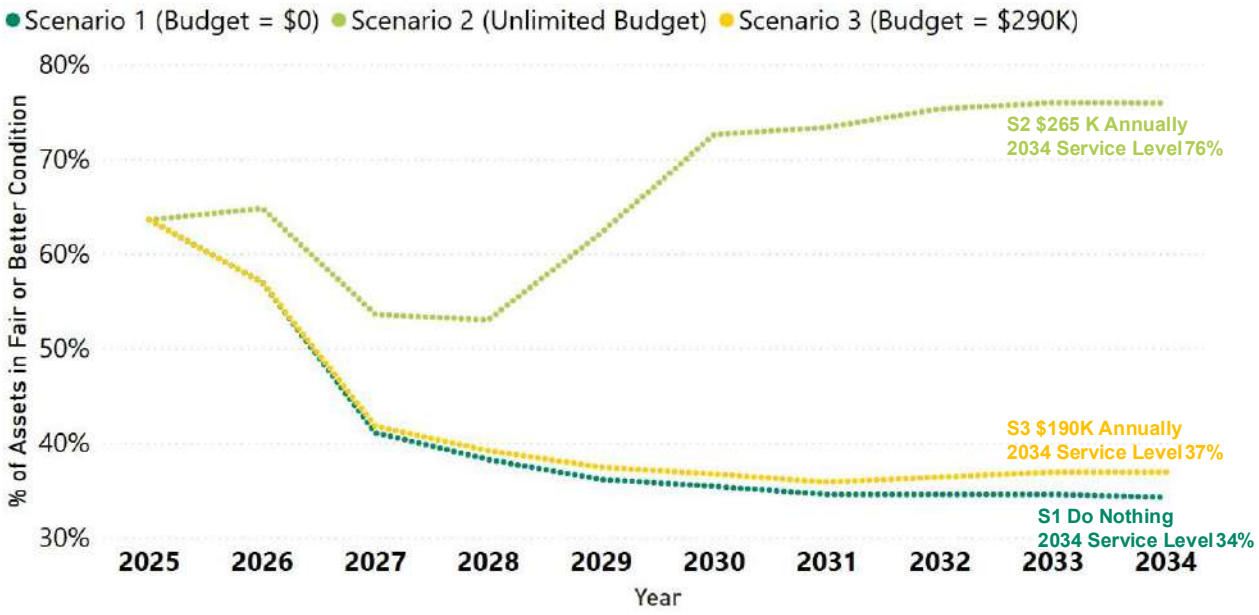


Figure 5-2: Park Assets Levels of Service Trend for All Budget Scenarios

Figure 5-3 illustrates the projected condition distribution of park assets from 2025 to 2034 under the constrained budget scenario (S3), with a $0.29 million annual capital reinvestments budgets. Over the 10-year period, the proportion of assets in good condition declines from 14% to just 2%, reflecting the limited capacity for meaningful asset renewal. Assets in fair condition indicate a similar trend, declines from 16% to 1%. The most critical concern is the substantial and growing percentage of assets in poor and very poor condition, which together rise sharply to 63% by 2034. In particular, assets in very poor condition increase significantly from 17% in 2025 to 62% by the end of the forecast period. This trend clearly indicates that the proposed $0.29 million annual budget is insufficient to maintain existing asset conditions, leading to accelerated deterioration and increasing long-term renewal needs. To avoid further asset failure and costly future interventions, it is imperative that the City strategically increases its capital reinvestment funding for park assets to a more sustainable level.

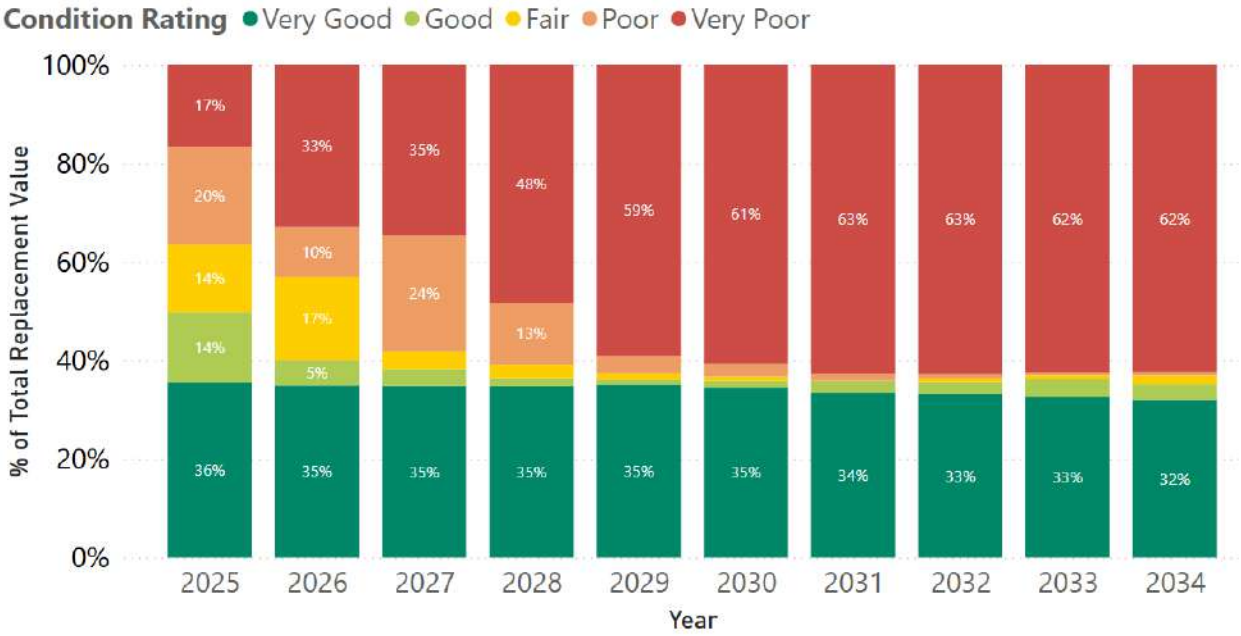


Figure 5-3: Park Assets Condition Projection under Scenario 3 - $0.29 million Annually

5.2.3.3 Cemetery Assets Funding Needs

In the unconstrained budget scenario (S2), the City's cemetery assets require an average annual capital reinvestment of $0.27 million (in inflated dollar values) from 2025 to 2034, as presented in **Figure 5-5**. This is equivalent to a total of approximately $2.7 million over the next 10-year period. A significant portion of this funding is allocated to the replacement of the Lawn & Surface Maintenance equipment, averaging $0.12 million annually, with peak spending projected in 2029 at $0.44 million. Another key contributor is the Operation Machinery, requiring approximately $74 thousand per year, also reaching its highest expenditure in 2028 ($0.25 million).

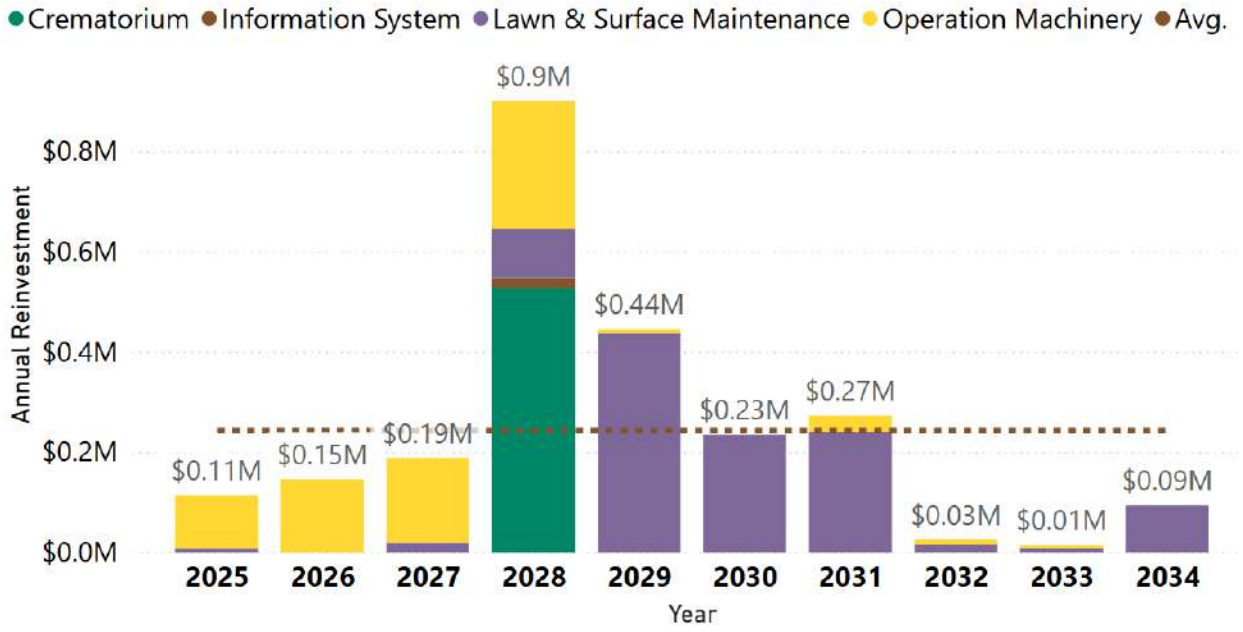


Figure 5-4: 10-Year Capital Reinvestment Funding Needs for Cemetery Assets - Unlimited Budget Scenario

The detailed 10-year reinvestment needs for the cemetery assets are presented in **Table 5-7** in inflated dollar values.

Table 5-7: Cemetery Assets 10-Year Total and Annual Average Reinvestment Need

Asset Category	Annual Average Need	10-Year Total
Crematorium	$53,000	$530,000
Information System	$22,000	$220,000
Lawn & Surface Maintenance	$116,000	$1,160,000
Operation Machinery	$74,000	$740,000
Total	**$265,000**	**$2,650,000**

5.2.3.4 Cemetery Assets 10-Year LoS Trend Forecast

Figure 5-2 presents the projected condition of parks and cemetery assets under the two funding scenarios over the 10-year analysis period, excluding the park land assets. Currently, 89% of cemetery assets are in fair or better condition.

Under Scenario S1 – Do Nothing, the proportion of assets in fair or better condition declines to just 0% by 2034. In contrast, under Scenario S2 – Unlimited Budget, which equates to an average annual reinvestment of $0.27 million, the percentage of assets in fair or better condition improves to 90%. Under Scenario S3, with a constrained annual budget of $0.19 million over the next 10 years, the proportion of assets in fair or better condition is projected to decline to 72%. The City's proposed future budget of $0.19 million, while not sufficient to maintain the current asset condition level (89% in fair or better condition), is considered a practical and viable investment to support long-term service level sustainability. This funding level is expected to mitigate the severe asset deterioration projected under the "Do Nothing" scenario and provides a balanced approach to maintaining acceptable performance within constrained fiscal parameters.

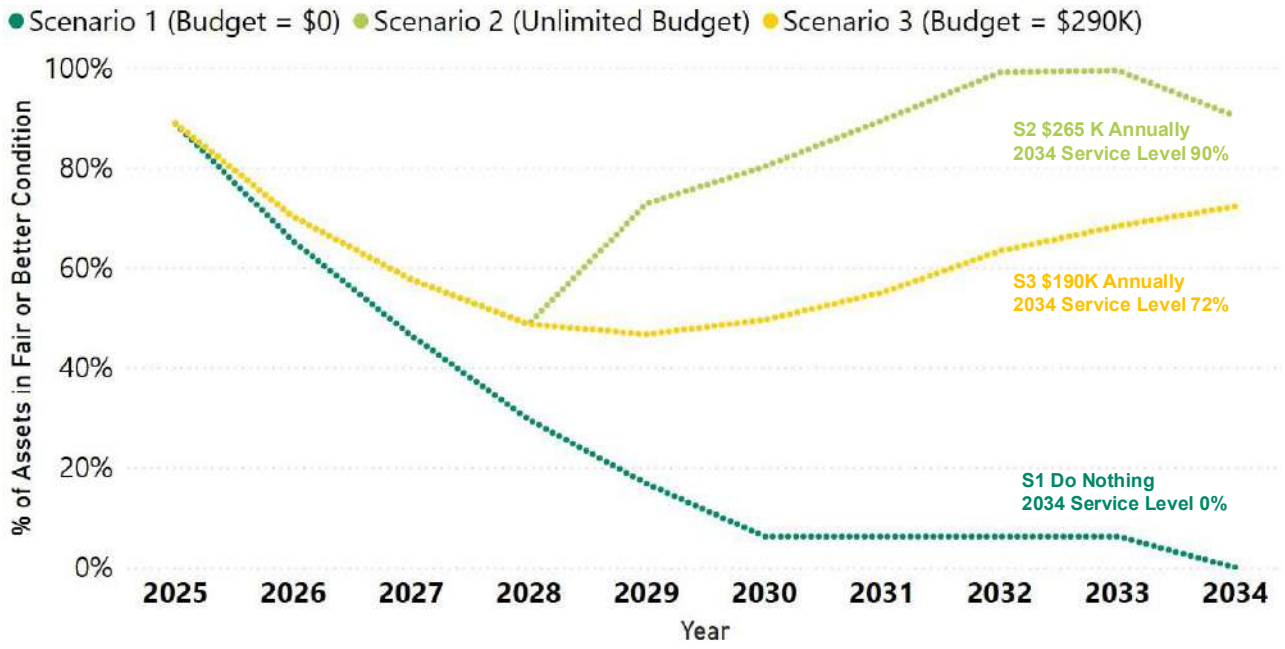


Figure 5-5 Cemetery Assets Levels of Service Trend for All Budget Scenarios

Figure 5-6 illustrates the projected condition distribution of cemetery assets from 2025 to 2034 under the constrained budget scenario (S3), with a $0.19 million annual capital reinvestment budget. Over the 10-year period, the proportion of assets in very good condition improves steadily from 32% to 66%, indicating some renewal efforts despite limited funding. Assets in good condition decline from 25% to 4%, while fair condition assets decrease significantly from 32% to 6%, reflecting a shift in asset condition distribution over time. However, the most critical concern is the persistently high percentage of assets in poor and very poor condition during the early years, peaking at 45% in 2031 before gradually improving. Notably, by 2034, very poor assets still account for 21% of the portfolio. This trend indicates that although the $0.19 million annual budget supports gradual improvement in asset conditions, it is not adequate to fully eliminate the existing renewal backlog or prevent a significant portion of assets from deteriorating into critical condition. It is imperative that the City strategically increase its capital reinvestment funding for cemetery assets to a more sustainable level.

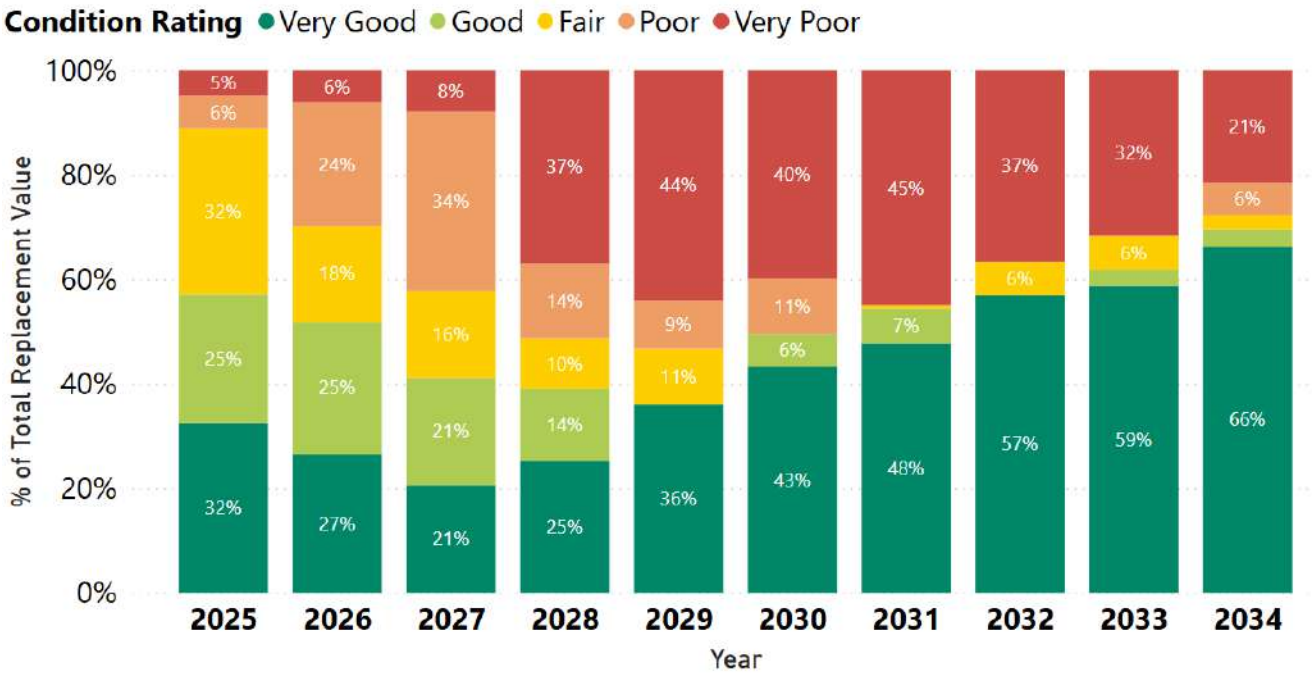


Figure 5-6: Cemetery Assets Condition Projection under Scenario 3 - $0.19 million Annually

5.3 Full Funding Need Profile

The total annual full funding needs for parks and cemetery assets were combined with the following:

- Capital reinvestment needs (**Section 5.2**)
- Projected parks and cemetery O&M cost (**Section 5.1.2**).
- One percent of the annual replacement cost was added to account for the asset disposal cost. Note that PS 3280 Asset Retirement Obligations is a new accounting standard covering asset retirement obligations that applies to all Canadian public sector entities that prepare their financial statements under PSAB.

5.3.1 Park Assets Full Funding Needs

Figure 5-7 shows a full picture of the City's park assets funding forecast for the next 10 years. This graph provides the City with a clear understanding of the full funding requirements, essential for effective financial planning activities. Specifically, the reinvestment needs for park assets are categorized as "Replace" (refer to **Table 5-6**). These reinvestment needs are presented alongside the City's projected park O&M costs (refer to **Table 5-2** for details). Additionally, one percent of the annual replacement cost was added to account for the asset disposal cost. With these additions, the City's park assets' full funding requirement increases to approximately $83.6 million over the next 10 years, averaging $8.4 million per year in inflated dollar value.

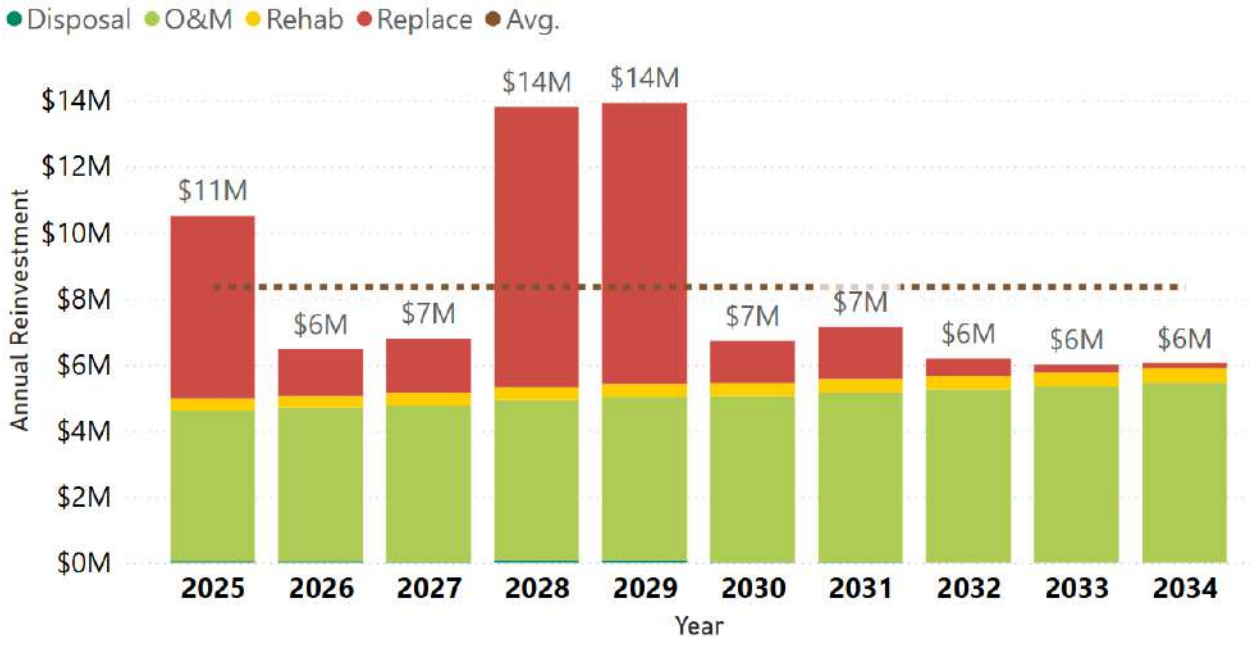


Figure 5-7: Park assets Full Funding Need Profile

5.3.2 Cemetery Assets Full Funding Needs

Figure 5-8 shows a full picture of the City's cemetery assets funding forecast for the next 10 years. This graph provides the City with a clear understanding of the full funding requirements, essential for effective financial planning activities. Specifically, the reinvestment needs for cemetery assets are categorized as "Replace" (refer to **Table 5-7**). These reinvestment needs are presented alongside the City's projected cemetery O&M costs (refer to **Table 5-2** for details). Additionally, one percent of the annual replacement cost was added to account for the asset disposal cost. With these additions, the City's cemetery assets' full funding requirement increases to approximately $52.2 million over the next 10 years, averaging $5.3 million per year in inflated dollar value.

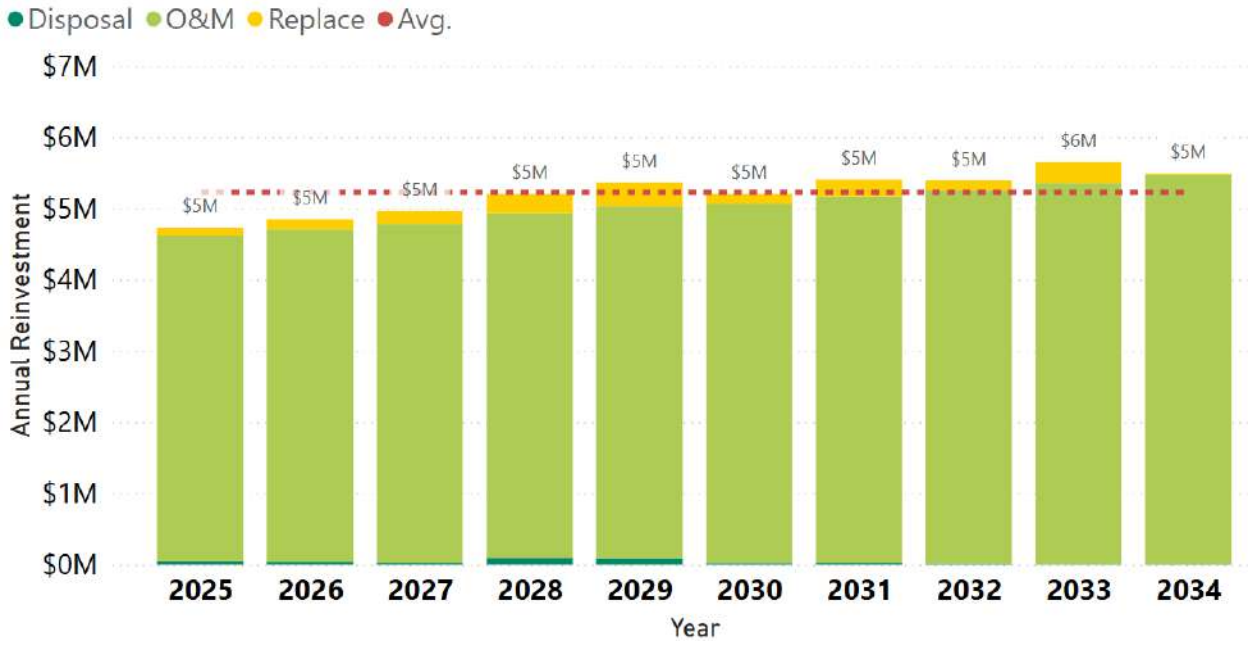


Figure 5-8: Cemetery Assets Full Funding Need Profile

5.4 Capital Reinvestment Funding Gaps & Risk

The City intends to continue to invest in the growth and renewal of the parks and cemetery assets over the next 10 years. **Table 5-8** compares the City's planned capital reinvestment budget against the capital reinvestment funding needs. The shortfall between the City's planned capital reinvestment budget against the capital reinvestment funding needs is referred to as the "funding gap".

Table 5-8: Parks & Cemetery Funding Gap – Capital Reinvestment Funding Needs vs. Planned Budget

Asset Class	10-Year Need Total	10-Year City Budget Total	10-Year Gap Total
Parks	$33.3 million	$2.9 million	$30.4 million
Cemetery	$2.65 million	$1.9 million	$0.75 million

As described in **Section 3.5**, risks are identified for each service level performance measure. **Table 5-9** provides a high-level overview of the key risks associated with funding gaps, as well as the potential consequences and impacts of not meeting the proposed service levels.

Table 5-9: Risk of Delayed Intervention for Parks and Cemetery Assets

Key Risk	Potential Consequences/Impacts	Affected Asset Categories
Operational Reliability and Service Delivery Risks	• **Increased Equipment Downtime** Aging, unreplaced assets are more prone to failures, reducing asset availability and disrupting critical municipal services (e.g., playground, recreational service, etc.) • **Unreliable Service Levels** Declining assets' reliability impairs the City's ability to meet expected LoS, especially during peak demand.	• Park Equipment • Park Amenities • Sports Courts • Pool • Court Accessories • Courtside Service Buildings • Cemetery Equipment

Key Risk	Potential Consequences/Impacts	Affected Asset Categories
Escalating Maintenance and Lifecycle Costs	• **Higher Repair Costs per Asset** Older assets require more frequent and costly maintenance, diverting operational funds that could be used for proactive asset renewal or efficiency upgrades. • **Inefficient Use of Resources** Maintaining poor-condition assets yields diminishing returns and increases the total cost of ownership.	• Park Equipment • Park Amenities • Sports Courts • Court Accessories • Courtside Service Buildings • Cemetery Equipment
Safety and Compliance Risks	• **Increased Safety Incidents** Operating beyond service life raises the risk of asset failures that could endanger staff and the public, especially the failure of amenity and recreational facilities will raise the chance of safety hazard. • **Regulatory Non-Compliance** Assets may fail to meet provincial safety and inspection requirements, leading to legal liabilities or forced decommissioning.	• Park Amenities • Sports Courts • Field Surface • Pool • Court Accessories
Financial and Strategic Planning Risks	• **Capital Replacement Backlog** Deferring replacements creates a "bow wave" of aging assets that will eventually require large, simultaneous capital investments, overwhelming future budgets. • **Loss of Funding Opportunities** The City may become ineligible for federal or provincial grants that require timely asset renewal or minimum condition thresholds.	• All parks and cemetery asset categories
Reputational and Public Trust Risks	• **Public Perception of Mismanagement** Frequent breakdowns, unreliable services, and visibly aging assets can erode public confidence in the City's asset management practices. • **Reduced Support for Future Investment** Stakeholders and the Council may be less inclined to approve future budgets if current assets are poorly maintained and underperforming.	• All parks and cemetery asset categories

5.5 Funding Strategies

The City secures funding for its park assets primarily through the property tax levy. As for the cemetery, the City is working towards achieving full funding for both capital and operating expenditures through user fees. Furthermore, the City actively ensures support for park infrastructure by engaging in grant applications and collaborative initiatives with community partners, agencies, and organizations. Impressively, the City has established a successful track record, garnering support from various groups and demonstrating a history of effective collaboration in its grant endeavours. Moreover, the City strategically engages with Federal grant sources, including the Canada Healthy Communities Initiative and Infrastructure Canada. In some instances, the City also secures multi-level funding for notable projects such as the downtown plaza and the Old Stone House.

In addition to the City's current funding sources, AECOM also suggests the following options that could be considered, acknowledging that the City's eligibility for these funds is subject to certain criteria:

- Canada Community-Building Fund (CCBF)
- Ontario Community Infrastructure Fund (OCIF)
- Green Municipal Fund (GMF)
- Municipal Asset Management Program (MAMP)
- Enabling Accessibility Fund (EAF)
- Northern Ontario Heritage Fund Corporation (NOHFC)

5.5.1 Canada Community-Building Fund (CCBF)

The CCBF, previously known as the Federal Gas Tax Fund, is a permanent source of upfront funding distributed twice a year to territories and provinces. The delivery of the CCBF to municipalities varies by province or territory, with allocation following a per-capita basis for provinces, territories, and First Nations[6].

The CCBF is administered in Ontario through a bilateral agreement with the Government of Ontario, the Association of Municipalities of Ontario (AMO), and municipalities. This program allocates approximately $816 million annually to 641 communities in Ontario, with an additional top-up of $816.5 million provided in 2020 to expedite communities' recovery from the COVID-19 pandemic. Notably, as of 2022, the City has received over $9 million through the CCBF, granting the City flexibility to strategically invest across 19 distinct project categories[7].

5.5.2 Ontario Community Infrastructure Fund (OCIF)

The OCIF is a program designed to support municipalities with small populations (less than 100,000), along with those situated in northern and rural areas. Its primary objective is to aid communities in overcoming challenges related to infrastructure maintenance and improvement while facilitating the development and updating of their asset management plans. Eligible communities receive annual allocations and have the option to accumulate these grants for up to five years to address substantial infrastructure projects. The fund is an essential component of the provincial government's commitment to fostering strong, resilient, and well-equipped communities across Ontario[8].

5.5.3 Green Municipal Fund (GMF)

The GMF is a financial initiative in Canada dedicated to supporting sustainability and environmental projects at the municipal level. Managed by the Federation of Canadian Municipalities (FCM), the GMF provides funding and

[6] The Canada Community-Building Fund. (2022). Infrastructure Canada. Infrastructure Canada - The Canada Community-Building Fund. Retrieved on February 15th, 2024.

[7] Ontario's 2021–22 federal Canada Community-Building Fund allocations and top-up amounts. (2021). Infrastructure Canada. Backgrounder: Ontario's 2021–22 federal Canada Community-Building Fund allocations and top-up amounts - Canada.ca. Retrieved on February 15th, 2024.
[8] Ontario Community Infrastructure Fund. (2023). Ministry of Infrastructure, Ontario. Ontario Community Infrastructure Fund | ontario.ca. Retrieved on February 15th, 2024.

resources to assist municipalities across the country in undertaking projects that contribute to environmental sustainability, energy efficiency, and the reduction of greenhouse gas (GHG) emissions[9].

In the context of parks and cemetery, the GMF allocates funds for feasibility studies and capital projects that allow local recreational and cultural facilities to achieve 50% GHG reductions within 10 years and 80% GHG reductions within the next 20 years. Some of the available funding opportunities are as follows:

- Study: GHG reduction pathway feasibility.
- Capital project: GHG impact retrofit.
- Capital project: GHG reduction pathway retrofit.

5.5.4 Municipal Asset Management Program (MAMP)

The MAMP is aimed at improving AM practices within municipalities. Designed to assist municipalities in gaining a better understanding, planning, and efficient and sustainable management of their infrastructure assets, the program may offer funding to support the development or improvement of AM plans. This financial support is intended to incentivize municipalities to adopt and implement sustainable AM practices[10].

5.5.5 Enabling Accessibility Fund (EAF)

The EAF is a Federal government program aimed at supporting projects that enhance accessibility for individuals with disabilities. The fund provides financial assistance to eligible organizations for initiatives such as infrastructure improvements, renovations, and retrofitting to create more accessible spaces. Its goal is to contribute to a barrier-free and inclusive society by addressing physical barriers and promoting equal access in community spaces[11].

5.5.6 Northern Ontario Heritage Fund Corporation (NOHFC)

The NOHFC is an organization that provides financial support and promotes economic development in the northern regions of Ontario. Established to stimulate growth and sustainability, NOHFC offers funding for various projects, such as business expansion, job creation, infrastructure development, and community initiatives. Within the NOHFC, the Community Enhancement Program is an initiative aimed at supporting community-driven projects[12]. This program provides financial assistance for local initiatives that enhance community infrastructure, amenities, and services. Eligible projects may include the development or improvement of recreational facilities, community spaces, and essential services.

5.5.7 Alternative Strategies

Recognizing the constrains of internal funding and limitations and uncertainties associated with external funding, it becomes increasingly important to explore complementary approaches that do not depend solely on financial sources. In this context, alternative strategies play a critical role in enhancing the City's ability to manage service levels and asset performance within existing fiscal constraints. **Table 5-10** highlights some non-financial strategies that could help the City address the potential funding gaps for parks and cemetery assets.

[9] Funding opportunities. (n.d.). Green Municipal Fund. Funding opportunities | Green Municipal Fund. Retrieved on February 14th, 2024.
[10] Municipal Asset Management Program. (n.d.). Federation of Canadian Municipalities. Municipal Asset Management Program | FCM. Retrieved on February 14th, 2024.
[11] About Enabling Accessibility Fund. (2023). Government of Canada. Enabling Accessibility Fund - Canada.ca. Retrieved on February 14th, 2024.
[12] Community Enhancement Program. (2024). Northern Ontario Heritage Fund Corporation. Community Enhancement Program | NOHFC. Retrieved on February 14th, 2024.

Table 5-10: Non-Financial Strategies to Address Potential Funding Gaps for Parks and Cemetery Assets

Strategy	Description / Actions
Condition-Based Maintenance	Shift from time-based to condition-base maintenance where possible. Using condition assessments (e.g., visual inspections or performance metrics) helps extend asset life by targeting maintenance where it's most needed.
Preventive Maintenance Programs	Develop and implement preventive maintenance schedules to address minor defects before they lead to larger failures. Preventive measures often cost less than emergency repairs and can delay the need for full replacement.
Training and Knowledge Sharing	Provide training to O&M staff on best practices for maintaining different asset types. Encourage internal knowledge sharing to improve consistency and efficiency in asset care.
Community and Interdepartmental Engagement	Continuously collaborate with other City departments and the public to identify issues early and gather feedback on service levels. This can help align asset strategies with user needs and expectations.

6 Implementation Plan and Continuous Improvement

Continuous improvement is an important component of any AM program and is achieved through the implementation of recommended improvement initiatives which support sustainable service delivery. AECOM has identified a set of activities that represents the next stage of AM planning and implementation within the City, as shown in **Table 6-1**.

Table 6-1: Recommended AM Improvement Initiatives

Index	Improvement Initiative	Description
1.	Refine the asset hierarchy and inventory	Continue to refine the asset inventory and close existing data gaps to have a more accurate representation of the current state of the parks and cemetery assets; and, ultimately, to make more informed and defensible decisions. – AECOM recommends the City to continue maintaining the parks and cemetery asset inventory, keep updating the inventory as assets are acquired or disposed. – Continue collecting the installation date information of parks and cemetery assets to better estimate their remaining service life. Once the gap is closed, the City will be able to conduct more accurate lifecycle analyses, forecast reinvestment needs with greater confidence, and enhance long-term asset management planning. – Develop and implement unique identifiers for all parks and cemetery assets. It will enable more efficient asset tracking, condition monitoring, and lifecycle management.
2.	Establish and implement a data information management strategy	• Asset data will be centralized, digitized and accessible to all staff. • Annual updates for the state of infrastructure data attributes such as the asset inventory, including the age and condition of the assets. • Staff will have the ability to collect and update asset data in the field and in real time. • Workflows will be documented and digitized.
3.	Develop a formalized parks and cemetery assets condition assessment process and use consistent condition grading schemes for these assets	• Currently, the condition of the parks and cemetery asset is not tracked with a well-developed asset condition rating grading system specialized for parks and cemetery assets. • The grading system should include a description directly tied to each condition grade, along with details about the asset's performance and the necessary level of corrective and preventive maintenance required for assets falling within a certain condition rating category. This process will enable the City to keep track of and better forecast asset renewal needs. • Perform condition assessments on the most critical assets first, such as park structures and sport courts. This ensures that assets are assessed using the same methodology and prioritized based on their criticality. It facilitates a more defensible business case when addressing issues of asset degradation.
4.	Refine the LoS Framework	This AMP represents the City's LoS in alignment with the requirements of O. Reg. 588/17 July 1, 2025, deadline. The City should continue its efforts to: • Regularly record LoS performance measures to monitor changes over time and identify emerging trends. • Review and update performance measures as needed to ensure they remain relevant and effective. • Periodically assess proposed LoS to confirm alignment with shifting community expectations, regulatory changes, City priorities, available resources, and observed performance trends—supporting adaptive and responsive service delivery. • Continuously enhance demand management by routinely evaluating future demand drivers that influence service delivery and asset use, integrating these insights into long-term capital planning to ensure LoS remains responsive to changing needs.
5.	Incorporate risk assessment for future iterations of the AM plan, and use the risk assessment results to drive	• Conduct a comprehensive criticality and risk assessment of assets to inform work prioritization.

Index	Improvement Initiative	Description
	future condition assessments and financial needs forecasting	• Review risk attribute values periodically to ensure alignment with business objectives and risk appetite. • Overlay the risk model with the current state of the assets (i.e., condition) and the financial forecast. Using this approach, the City could focus its monitoring, maintenance, and renewal and replacement budget and activities on high-risk assets. Medium-risk infrastructure could be addressed through the mitigation of failure via regular monitoring, while low-risk assets could be accepted with caution.
6.	Establish a sustainable parks and cemetery funding model that fits the needs of the community	• Establish and maintain detailed funding and budget information for parks and cemetery assets to support effective asset management planning. Once this information is in place, it is recommended that the City re-run the financial model to assess funding gaps, update condition projections, and refine reinvestment strategies based on realistic budget scenarios. • In light of the annual funding need outlined in **Figure 5-1** and **Figure 5-4,** it is recommended that the City allocate an average of **$3.3 million** per year over the next 10 years for capital reinvestment in park assets, and **$0.27 million** per year over the next 10 years for capital reinvestment in cemetery assets. Additionally, a total of **$5.3 million** should be budgeted annually for O&M expenditures during the same period. • Review financial modeling assumptions on reinvestment rate and replacement values and update the financial model with new information as it becomes available. The financial model is based on several key assumptions that could have a significant impact on the outcomes of the model. • Explore funding resources and non-financial strategies that the City may take into consideration while performing strategic lifecycle and financial strategies.
7.	Continue to find ways to improve AM initiatives across the City by maintaining a high level of AM awareness through training, communication, and knowledge sharing.	• Conduct an AM Software Assessment to identify future system requirements, which may involve enhancing existing software, adding new features, or replacing the current system. • Develop a Knowledge Retention Strategy and Internal Communications Plan to document staff AM knowledge and experience for reporting and succession planning purposes. Communicate AM improvement initiatives and enhance AM awareness internally through internal communication.
8.	Grant and funding application program	• The City should initiate an internal program for developing grant applications tailored to organizational objectives and align to the criteria of various funding programs. (refer to **Section 5.5** for available grant options). • Guidance includes: - Aligning with grant-specific criteria: prepare the grant application align with the requirements, and place emphasis on the key aspects relevant to the grant objectives. - Developing a grant application proposal: the application will be a project proposal that resonates with the grant agencies' goals, which should articulate clear objectives and expected outcome. - Budget planning: the financial plans must resonate with the grant's objectives, presenting transparency in fund utilization and emphasizing the project's viability and long-term financial sustainability. - Demonstrating feasibility and organization capacity: presenting a realistic project timeline, clear milestones, and a well-thought-out implementation plan. - Compliance, Reporting, and Effective Project Management: a robust project management strategy should be devised, illustrating the City's capacity to effectively manage, oversee, and report on the project's progress, in accordance with the grant's stipulations. - Preparing and Organizing Supporting Documents: these documents will be organized and presented in a manner that lucidly supports and enhances the application. • Final Review and Submission Process: prior to submission, each application should undergo a thorough review to ensure it meets the specific criteria and guidelines of the respective grant program.
10	Organize public and Council engagement activities	• Establish a structured approach to public and Council engagement to ensure the AMP aligns with community expectations, supports informed decision-making, and enhances transparency, the City is committed to establishing a structured approach to public and Council engagement. While several engagement activities have already been undertaken, these efforts lay the foundation for a more consistent and strategic approach moving forward.

Index	Improvement Initiative	Description
		• For Council engagement, the City has shared updates through presentations and media events. To further support elected officials, it is recommended that the City develop Councillor Tool Kits. These kits would provide clear, consistent messaging—covering topics such as infrastructure planning, investment priorities, asset management, service levels, and climate impacts—to help Councillors effectively respond to public inquiries. • On the public side, communication can be enhanced by creating a dedicated project webpage to centralize information such as FAQs, timelines, and contact details, while enabling two-way engagement. A targeted social media strategy, including sponsored posts on platforms like Facebook and Instagram, is also recommended to increase visibility and encourage community involvement.

Appendix A – Parks and Cemetery Asset Inventory

The City's Parks and Cemetery asset inventory is presented as a separate MS Excel file.

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SOLID WASTE ASSET MANAGEMENT PLAN

FINAL | 60735219 | June 2025



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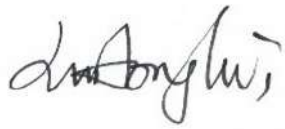
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Revision 1	August 14th , 2024	Revision to account for SSO and Updated Business Plan		Chris Lombard	Project Manager
Revision 2 - Draft LoS Update	May 30th, 2025	Draft - Solid Waste AM Plan Update		Chris Lombard	Project Manager
Revision 2 - Final LoS Update	June 12th, 2025	Final Report - Solid Waste AM Plan Update		Chris Lombard	Project Manager

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List of Abbreviations

Abbreviation	Description
AM	Asset Management
AMP	Asset Management Plan
ARC	Arc Chambers
CCTV	Closed Circuit Television
CIBI	Canadian Infrastructure Benchmarking Initiative
CMMS	Computerized Maintenance Management System
Conveyance-FM	Conveyance – Force Mains
Conveyance-GRAV	Conveyance – Gravity Mains
Conveyance-MH & CHAM	Conveyance – Manholes and Chambers
Conveyance-SC	Conveyance – Service Connections
EA	Environmental Assessment
ESL	Expected Service Life
FIPPA	Freedom of Information and Protection of Privacy Act
FLSH	Flushing
GIS	Geographic Information System
ID	Internal Diameter
I&I	Inflow & infiltration
LoS	Level of Service
MFIPPA	Municipal Freedom of Information and Protection of Privacy Act
MHSW	Municipal Hazardous or Special Waste program
N/A	Not Applicable
NPRI	National Pollutant Release Inventory
O&M	Operations and Maintenance
O. Reg.	Ontario Regulation
OTS	Ontario Tire Stewardship
PUC	Public Utilities Commission
RSL	Remaining Service Life
SCADA	Supervisory Control and Data Acquisition
SSO	Source Separated Organics
WEEE	Waste Electrical and Electronic Equipment Program
WWTP-EE	Wastewater Treatment Plant East End
WWTP-WE	Wastewater Treatment Plant West End

1 Introduction

AECOM Canada ULC (AECOM) was retained by The City of Sault Ste. Marie (the "City") to update the Solid Waste Asset Management Plan developed in 2024 to comply with the third phase (Phase III) of the Ontario Regulation 588/17 (O. Reg. 588/17) requirements in respect to its core municipal infrastructure assets. The scope of work is outlined in AECOM's proposal dated September 20, 2024, and subsequent project correspondence.

1.1 Background

Sault Ste. Marie is a City located on the St. Mary's River, North of the United States of America, bordering on two of the Great Lakes with an estimated population of 72,051 (2021). The City provides a wide range of public services to their constituents with the expectation from the public that these services are expected to function efficiently at a certain level. The provision of these services requires the management of the physical assets to meet desired service levels, manage risks, and to provide long term financial sustainability. These assets include, but are not limited to roads, bridges, sidewalks, wastewater assets, stormwater management assets, landfill, fleets, buildings, and parks.

In accordance with the terms of reference for this assignment, it is understood that the City is proceeding with an asset management plan to comply with the third phase of the regulatory requirements in respect to its core municipal infrastructure assets, in accordance with O. Reg. 588/17, by July 1, 2025. The non-core assets to be covered in the scope, as defined by the regulation, include the City's protection services, solid waste, parks and cemetery, facilities, fleet, roadway appurtenances, and active transportation.

1.2 Scope and Objectives

In 2015, the City's first Asset Management Plan (AMP) was published. In 2019, by the City Council approval, the Strategic Asset Management (AM) Policy for the City came into effect. In 2022, the City published its core asset AMPs. Following that, the City developed the AMPs for its non core assets in 2024.

Organizations that implement good AM practices will benefit from improved business and financial performance, effective investment decisions, and better risk management. Stakeholders can expect lower total asset life cycle costs, higher asset performance, and confidence in sustained future performance.

The AMPs capture the City's infrastructure assets and deliver a financial and technical roadmap for the management of the City's assets. The intent of this plan is to provide the means for the City to maximize value from its assets, at the lowest overall expense while, at the same time, enhance service levels for its residents.

The objective of Phase III is to update all the core and non-core AMPs to comply with the July 1st, 2025, deadline set by O. Reg. 588/17. Phase III will update the AMP by incorporating the latest asset information, with a focus on:

- Updating the current AMPs to integrate proposed Levels of Service (LoS).
- Defining the lifecycle activities and associated costs required to achieve those LoS.
- Identify the available funding and any funding shortfalls.
- Document the risk(s) of failing to meet the proposed LoS for all asset classes over a 10-year period.

This AMP is an update of the 2024 AMP for the City's Solid Waste department, as shown in **Table 1-1**. There are several updates to the inventory, state of infrastructure and capital planning from the previous version. Other core and non core AMPs are presented under separate reports.

Table 1-1: In-Scope Solid Waste Assets

Asset Category	Sub-Assets
Storm/Ground Water	Pump stations, conveyance, other.
Sanitary	Conveyance, tanks.
Buildings	Office, maintenance and operational.
Leachate	Process mechanical (static and rotating), electrical, control and instrumentation.
Landfill Gas	Process mechanical (static and rotating), electrical, control and instrumentation.
Environmental Monitoring	Monitoring well equipment, erosion and sediment controls, weather stations.
Waste Collection	Waste handling, waste transport.
Landfill Infrastructure	Roads, pads and lots, land, scales, appurtenances and miscellaneous.
Landfill Equipment	Heavy equipment, material handling, light vehicles.
Liners & Capping	Landfill caps, landfill liners.

The following elements are included within the scope of this AMP:

- Asset hierarchy, a summary of the asset inventory, including the replacement cost of the assets, the average age of the assets, the condition of the assets, and data gaps analysis (**Sections 2**).
- The City's level of service objectives, stakeholder identification, current levels of service (LoS) determined in accordance with the qualitative descriptions and technical metrics outlined in O. Reg 588/17, proposed service levels, LoS forecast, and future demand drivers (**Section 3**).
- Asset lifecycle management strategies, lifecycle activities and funding needs to achieve proposed LoS, risk of not meeting proposed LoS, available funding and funding gap, and alternative (non-financial) strategies to manage funding shortfall (**Section 4** and **Section 5**)

1.3 Asset Management Provincial Requirements

The O. Reg. 588/17 came into effect in 2018 and stipulates specific AM requirements to be in place within Ontario municipalities by certain key dates (**Table 1-2**). The development of this AMP is one of the steps to guide the City towards meeting the July 1st, 2025 deadline.

Table 1-2: O. Reg. 588/17: AM Planning for Municipal Infrastructure

Deadline Date	Regulatory Requirement
July 1st, 2019	All municipalities are required to prepare their first Strategic AM Policy.
July 1st, 2022	All municipalities are required to have an AM Plan for its entire core municipal infrastructure (i.e., water, wastewater, stormwater, roads, and bridges & culverts).
July 1st, 2024	All municipalities are required to have an AM Plan for infrastructure assets not included under their core assets.
July 1st, 2025	All AM Plans must include information about the LoS that the municipality proposes to provide, the lifecycle activities and associated costs needed to achieve those LoS, available funding, any funding shortfalls, and the risk of failing to meet the proposed LoS.

2 State of Infrastructure

Solid waste sites and assets encompass a diverse range of equipment crucial to the functionality, safety, and reliability of the City's solid waste sites and services. The City's solid waste assets include heavy equipment, fixed infrastructure (such as roads and pipelines), gas and leachate collection, landfill cell cap and liners, as well as various supporting assets and structures.

The inventory of solid waste assets is a comprehensive catalog detailing the quantity, condition, and specifications of all of the relevant components within the City. By analyzing the inventory and assessing the data gaps, this section facilitates informed decision-making and strategic resource allocation, providing essential insights into the maintenance needs and financial requirements.

The current hierarchy is a revision of the version presented in the previous AM plan taking into account asset inventory changes and updates since the previous version.

2.1 Asset Hierarchy

To fulfill the requirements of O. Reg. 588/17 and to pave the way for robust long range asset management planning, the City necessitates a logically segmented asset breakdown structure (hierarchy) within the ambit of this AMP. Achieving this requires a sufficiently granular classification of solid waste assets, enabling the identification of individual assets due for renewal. Striking the right balance is also crucial, as there is a fine trade-off between ensuring adequate granularity to provide essential information and avoiding excessive granularity that could make the effort to collect and manage information more burdensome than the usefulness derived from it.

The inventory submitted and analysed within this AMP was created using the following sources as well as staff interviews and discussion with Solid Waste facility consultants currently working with the City.

- City of SSM (2021) Active Capital Assets
- City of SSM (2021) Business Plan revised June 28 2021, and November 2023 revision
- AECOM (2022) Site Development and Operations Report
- AECOM (2021) Final Business Plan Update Memorandum
- Dillon Consulting (2022) Monitoring Report (Final)
- AECOM (2023) Draft Final EA – June 30 2023
- City of SSM (2023) CMMS Work orders for Methane Field
- Comcor Environmental (2023) Annual Proposal
- Comcor Environmental (2023) LFGCS Field Inspection

Figure 2-1 shows the hierarchy of solid waste assets is illustrated, showcasing 10 main categories: storm/ground water, sanitary, buildings, leachate, landfill gas, environmental monitoring, waste collection, landfill infrastructure, landfill equipment, and liners & capping. Each category is further broken down into subcategories. This asset hierarchy establishes a logical indexing of the City's solid waste assets, categorizing them into primary (parent) and secondary (child- and grandchild) assets. Such a structure forms the foundational framework for subsequent discussions and analysis, enabling the drill-down to a specific asset within the hierarchy to support maintenance planning or track costs at the asset level or higher levels.

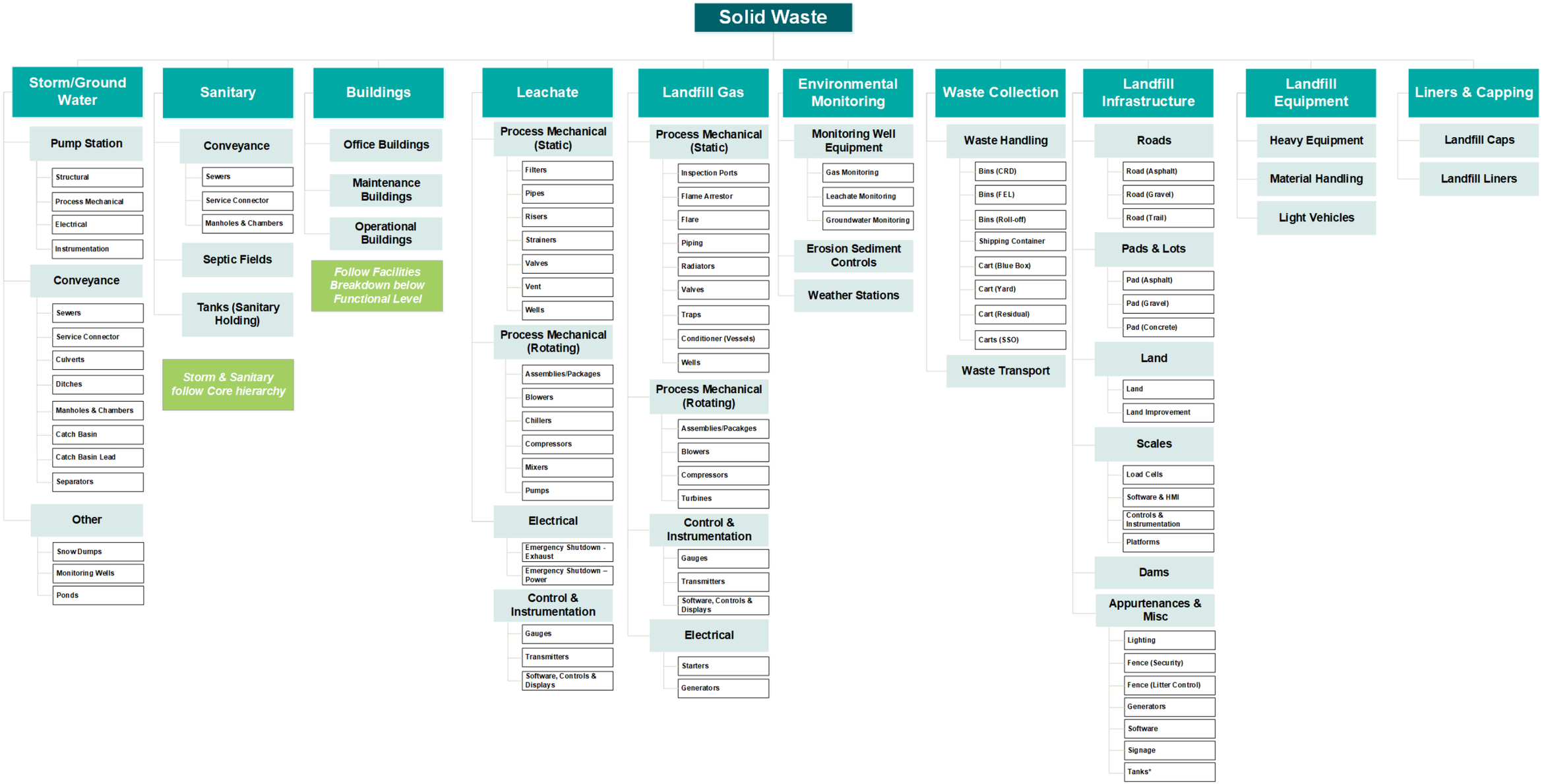


Figure 2-1: City of Sault Ste. Marie Solid Waste Asset Hierarchy

2.2 Current State of the Assets

2.2.1 Asset Inventory

Table 2-1 provides a summary of the Solid Waste asset inventory for each asset category within the responsibility of the City's Solid Waste department.

Table 2-1: Solid Waste Asset Inventory Summary

Asset Group	Asset Category	Count (Entries in Inventory)	Quantity (Sum of Assets in Inventory)	Unit of Measure
Solid Waste	**Buildings**	6	5,302	Sq. ft
	Environmental Monitoring	24	67	Ea.
	Landfill Equipment	18	21	Ea.
	Landfill Gas	29	1,317	Ea.
	Landfill Infrastructure	16	24,145	km, m^2, Ea.
	Leachate	27	677	Ea.
	Liners & Capping	1	16	Ha
	Sanitary	1	370	Ea.
	Storm/Ground Water	2	371	Ea.
	Waste Collection	21	745	Ea.

2.2.2 Current Asset Replacement Value

The asset replacement value is the estimated cost that would be incurred to replace an existing asset with a new one of similar functionality, at current market prices or construction costs. This value represents the monetary amount required to reproduce or procure an asset, equivalent to the one being assessed. Examining the distribution of asset replacement values allows the City to comprehend which asset categories hold the highest value for both the City and the public.

Table 2-2 presents the unit replacement cost and the total replacement value for solid waste asset categories within the City excluding Land which has been excluded on the basis that its replacement is beyond the planning horizon of the AMP, to align contents with other AMPs produced for the City and as it is assumed that landfill expansion will be approved in 2025/26.

It should be noted that the total replacement values have been marked up by 45%, out of which 20% accounts for engineering and project management cost and 25% for contingency cost. This is the upper range for mark up and is used due to the immaturity of the asset inventory. As the inventory is used and further refined the City may decide to reduce the mark up applied to replacement values.

Table 2-2: Current Replacement Value

Asset Group	Asset Category	Unit Cost Range ($/Unit)	Total Replacement Value (2025)
Solid Waste	**Buildings**	$81 - $55,107	$1,871,000
	Environmental Monitoring	$14,934	$1,309,000
	Landfill Equipment	$67,500 - $632,579	$15,659,000
	Landfill Gas	$13,700 - $81,818	$4,565,000
	Landfill Infrastructure	$117 - $532,124	$7,116,000
	Leachate	$1,750 - $55,258	$3,238,000
	Liners & Capping	$635,777	$17,669,000
	Sanitary	$380	$225,000
	Storm/Ground Water	$215	$225,000
	Waste Collection	$11,868 - $283,134	$4,619,000
TOTAL			**$56,496,000**

The asset sub-categories with the largest replacement costs not including land are summarized in **Table 2-3**. It is noted that the landfill caps are unlikely to be replaced under the current operating model and will likely by only maintained and repaired.

Table 2-3: Current Replacement Value Sorted From High to Low by Asset Category

Asset Category	Asset Sub-Category	Total Replacement Value
Liners & Capping	Landfill Caps	$17,669,000
Landfill Equipment	Heavy Equipment	$9,358,000
Landfill Equipment	Material Handling	$5,868,000
Waste Collection	Waste Transport	$4,082,000
Landfill Infrastructure	Roads	$3,577,000
Leachate	Process Mechanical (static - LEA)	$3,196,000
Landfill Gas	Process Mechanical (static - LFG)	$3,180,000
Landfill Infrastructure	Pads & Lots	$1,618,000
Landfill Infrastructure	Appurtenances & Misc	$1,487,000
Environmental Monitoring	Monitoring Well Equipment	$1,309,000

2.2.2.1 Excluded Costs

It is worth noting that were it included, the most significant portion of the total replacement cost would be for landfill estimated land costs due to the consumable nature of land in solid waste use. There are several strategies available to extend the useful life of available land which the City is currently pursuing. Therefore, land values are currently excluded from this revision of the AMP as their replacement is beyond the planning horizon and ongoing maintenance and renewal costs are captured elsewhere in this plan. For information, the previous methodology used to calculate land value is provided below.

Several approaches that can be taken towards the valuation of the land costs. Options considered include the current market value based upon similar land sales (used as a basis in this AMP), the Municipal Property Assessment Corporation (MPAC) value, and the capacity use cost:

1. Use of the current market range for industrial land (found to be between $1.2 and $3.5 per square foot in January 2024 based upon available market data for similar land). Due to limitations on land and the relatively strong negotiation position of any seller the 75th percentile value of this range can be used. This is the preferred option but does have the drawback of lack of consideration for full replacement of landfill assets as a result of relocation.
2. MPAC value. This value is dated January 1, 2016 and is done on a cost approach basis. This value is unreliable as the majority of land improvements cannot be seen by the MPAC and the land value is outdated. The current land value is $1.35 million for the main landfill area (not including additional land) which equates to approximately $0.09 per square foot which is significantly below the current market range for industrial land. This option also has a lack of consideration for full replacement of landfill assets as a result of relocation.
3. Capacity usage cost. By determining the cost per cubic meter of landfill capacity and forecasting the volume used annually a pro-rata cost for replacement land per year can be arrived at. The drawback to this value is that while it can assist in apportioning expenditure to land replacement value it does not give a forecast expenditure point for acquisition which is a key component of the financial forecast.

The capacity use cost would provide an accurate cost for the total replacement of land and the requisite upgrades but currently there is insufficient information to determine and end date for the useable life of the land as mining operations are planned to prolong life. If the City reaches a point where further life extension of the current site is no longer feasible, the capacity use cost may serve as an approximate estimate of the land acquisition and site upgrade costs required to develop a new, suitable site.

Replacement land costs were estimated in the previous AMP revision to be approximately $70 million based upon method number 1.

2.2.3 Age and Remaining Service Life

The asset age is based on the install year of the assets or the assumed year if not available and the remaining service life (RSL) is estimated by considering both the age and the expected service life (ESL) in years. In practice, different assets will deteriorate at varying rates, and their deterioration may not necessarily follow a linear pattern over time. However, it is crucial to consider the level of effort required to predict failure in relation to the asset value. For highly valuable assets, more sophisticated deterioration modeling may be justified. Conversely, for low-value assets, the cost of deterioration modeling might surpass the replacement cost of the asset. Moreover, the actual service life can vary significantly from the ESL. ESL is defined as the period over which an asset is available for use and able to provide the required LoS at an acceptable risk and serviceability (i.e., without unforeseen costs of disruption for maintenance and repair). In some instances, a variation in expected vs. actual service life is evident due to the following factors:

- **Operating Conditions and Demands:** Cell usage is determined by how much waste is produced by the City and its residents. With increased focus on recycling (through the source separated organics plant) and reuse the cell usage could be reduced. Thus, the actual operating “age” of the asset is reduced. It should also be noted that estimates of the volume of industrial and commercial wastes deposited at the SSM landfill are heavily impacted by the regulation, tipping fees and Canadian to US dollar exchange rate. Due to these, significant producers of waste are able to dispose for a lower cost in the United States.
- **Environment:** Some assets are exposed to very aggressive environmental conditions (e.g., corrosive chemicals), while other assets are in relatively benign conditions; thus, the deterioration of assets is affected differently. The City’s experience of the typically more aggressive services within the landfill (such as leachate) are still at the upper end of estimated serviceable life compared to other landfills within Canada. As the waste disposed of becomes more refined the corrosive nature of the landfill is expected to change although the extent and rate cannot be forecast.
- **Maintenance:** Assets are maintained through renewal or replacement of components, which prolongs the service life of the asset. Critical assets are maintained (some through service contracts) but many are yet to experience failure and require replacement.

- **Technological Obsolescence:** Some assets can theoretically be maintained indefinitely, although considerations such as cost to maintain the asset, its energy efficiency, and the cost to upgrade to an updated technology that would result in cost savings are likely to render this approach uneconomical. The majority of solid waste assets are solid infrastructure that does not become technologically obsolete. Those assets at risk are software systems and instrumentation (such as the weigh scales). Some areas of technology may arise and become legislatively necessary such as landfill gas emissions control (either through recapture or flaring) or odour control.

Table 2-4 and **Figure 2-2** show the weighted average asset age and RSL as a proportion of average ESL for the asset subcategories. It is recommended to collect accurate installation date information for all assets and include it in the next iteration of the AMP. There are several classes that are approaching or at the end of their ESL, however the ESL used in this AMP are reduced values of those used in the core asset AMPs due to increased rate of wear. These values may be increased based upon the experience of the City for all solid waste assets and therefore may present an improved asset condition.

Table 2-4: Solid Waste Average Age, ESL, and Remaining Service Life

Asset Group	Asset Sub-Category	Weighted Average Age	Weighted Average ESL	Remaining Service Life
Solid Waste	Buildings	34	50	16
	Environmental Monitoring	24	16	0
	Landfill Equipment	8	17	9
	Landfill Gas	15	24	9
	Landfill Infrastructure	50	36	0
	Leachate	23	57	34
	Liners & Capping	55	100	45
	Sanitary	55	80	25
	Storm/Ground Water	55	40	0
	Waste Collection	11	10	0

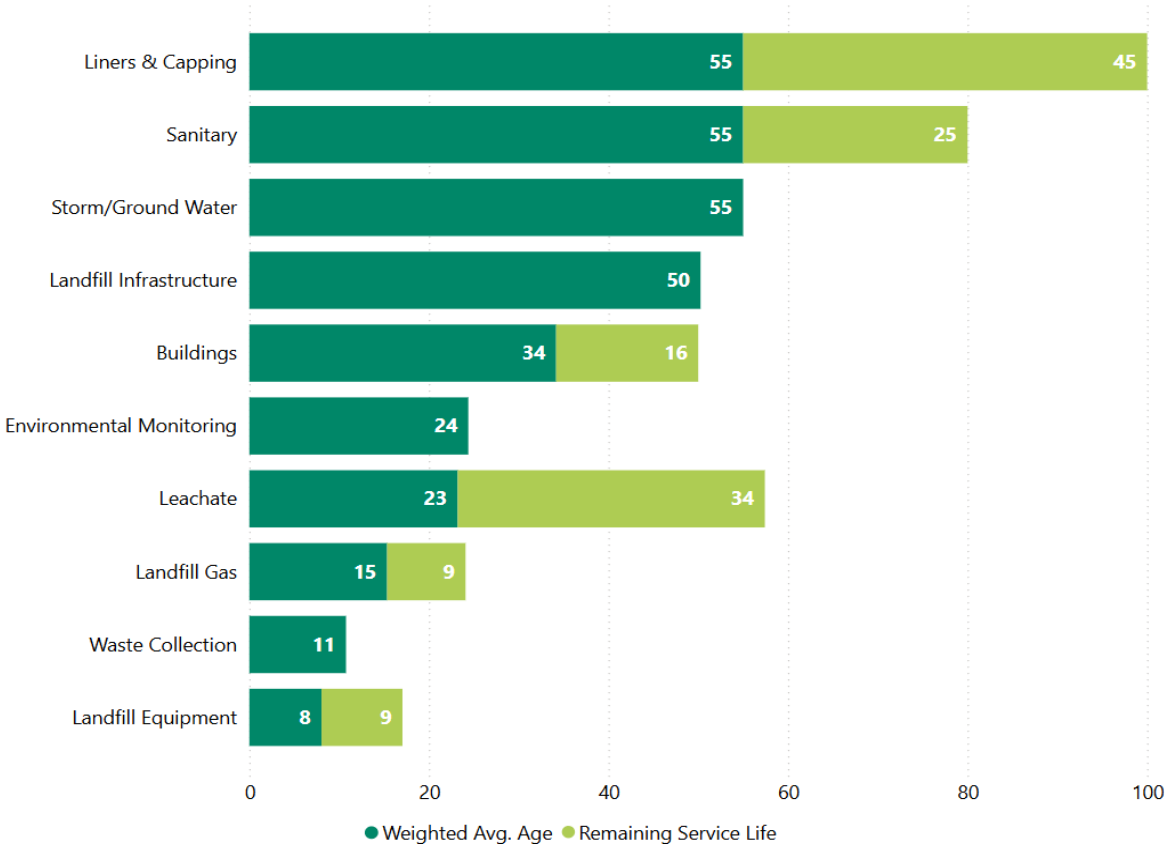


Figure 2-2: Solid Waste Asset Weighted Average Age and Remaining Service Life

Figure 2-3 and **Figure 2-4** illustrate the acquisition profile of assets within the responsibility of the solid waste department. For the purposes of detailed analysis, the solid waste fleet vehicles are reported separately because of the asset class specific capital funding that has been dedicated to it for the next five years. Significant investment is evident in 1970-1979 when the City took over responsibility for the landfill, however it should be noted that 1970 was used as a default date for assets with an unknown installation date. Other periods of large investment are 2010-2019 which saw investment in the landfill gas systems and the solid waste fleet. Based on the City's vehicle management strategy it is expected that there will be a rolling investment in vehicles approximately every 10-15 years which due to the number of assets within solid waste will present as a large spike at set frequencies.

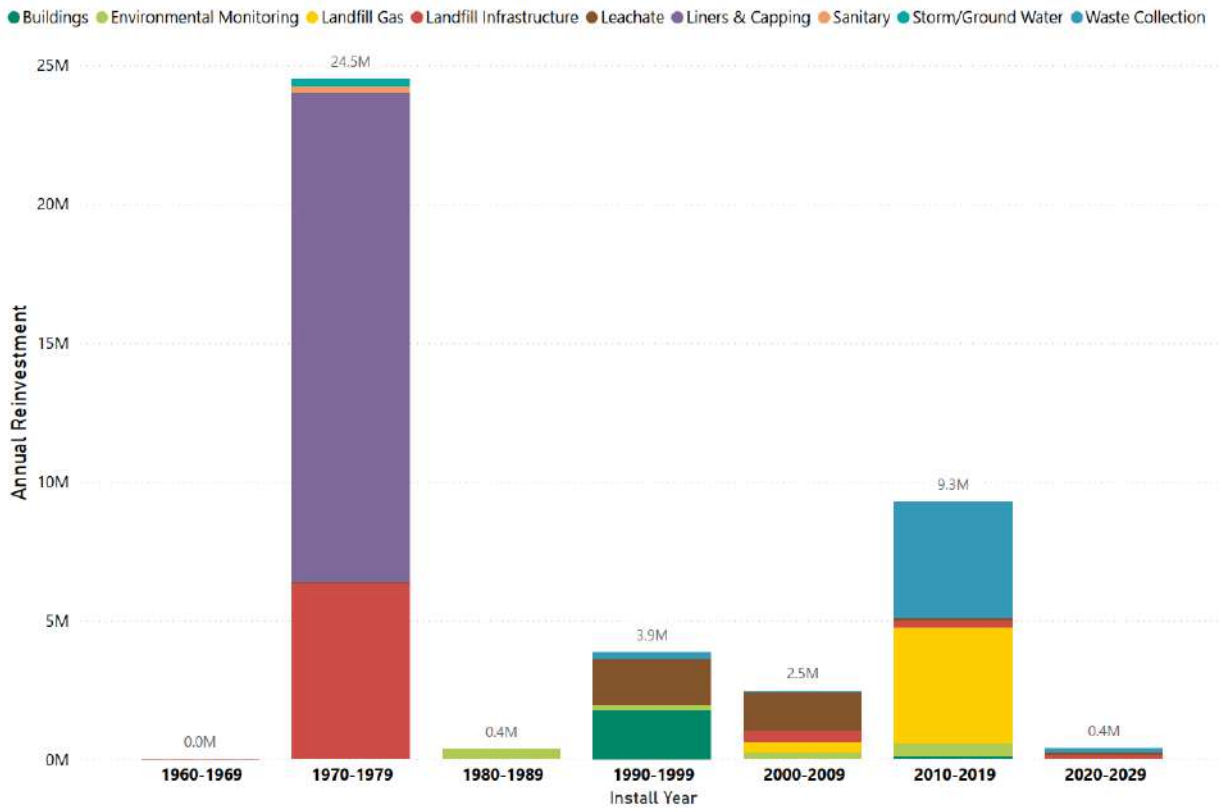


Figure 2-3: Asset Acquisition Profile – Solid Waste

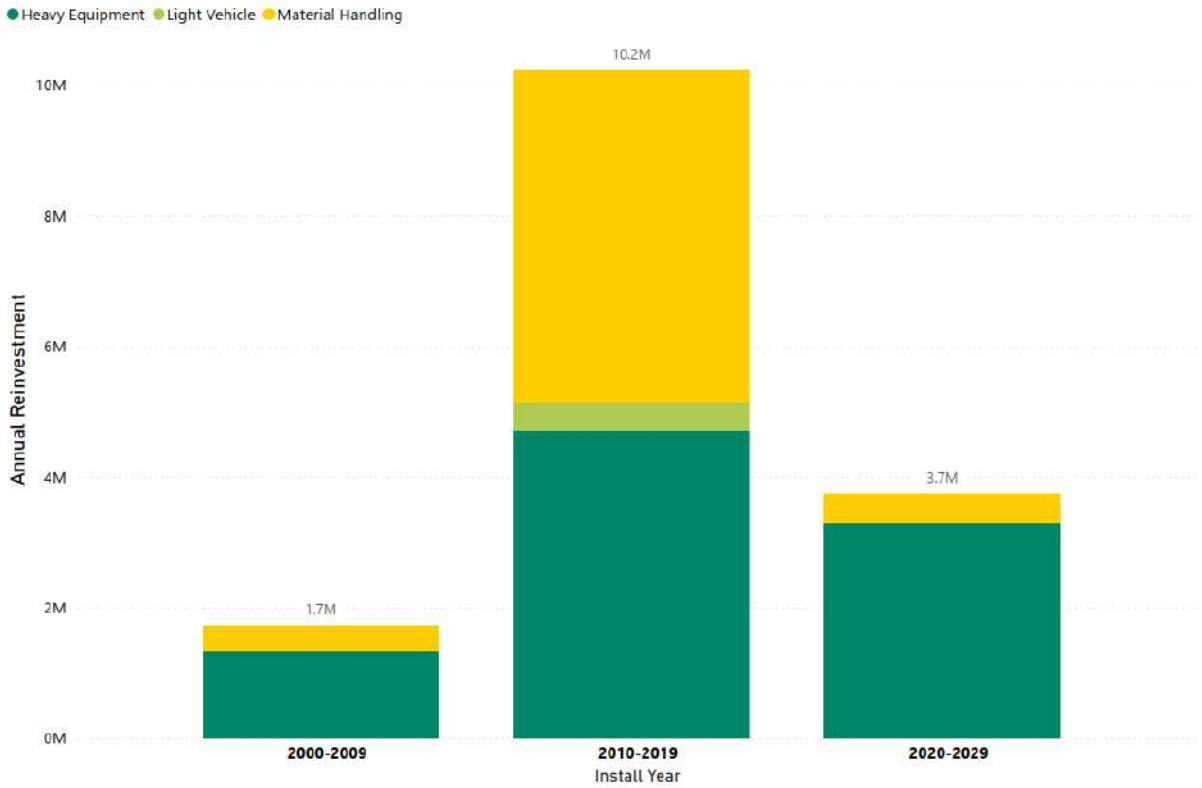


Figure 2-4: Asset Acquisition Profile – Solid Waste Fleet

2.2.4 Asset Condition

All assets are expected to deteriorate over their lifetime, and their assigned condition reflects the physical state of the asset. The 2025 conditions used herein are all estimates based on the following methodology.

There are no regular field condition assessments for any solid waste assets that produce reliable condition gradings for AM purposes. To fill the gap with an interim data set to enable any financial forecasting to take place, the two-parameter Weibull distribution function was used to assess the current condition and to project the future condition of the City's solid waste assets. The Weibull distribution has been used extensively in reliability studies and lifetime prediction models in industries ranging from automotive to the oil & gas and provides a suitable distribution for this type of analysis.

The underlying premise of the Weibull-shaped deterioration is that while some assets fail prematurely due to severe conditions or improper installation, other assets are very long-lived and function well beyond their theoretical ESL. To perform a high order network-level analysis, it was assumed that assets would fail (and require replacement) within a deterioration envelope / curve approximated by a Weibull probability distribution. The two-parameter Weibull cumulative distribution has two parameters for scale and shape, as set out in Equation [1]:

$$f(x;\alpha,\beta) = e^{-\left(\frac{x}{\beta}\right)^{\alpha}} \quad [1]$$

Where: x = Age
α = Shape parameter (or slope)
β = Scale parameter

A set of Weibull cumulative distribution functions were leveraged to simulate a set of deterioration curves for assets with different ESLs as shown in **Figure 2-5**.

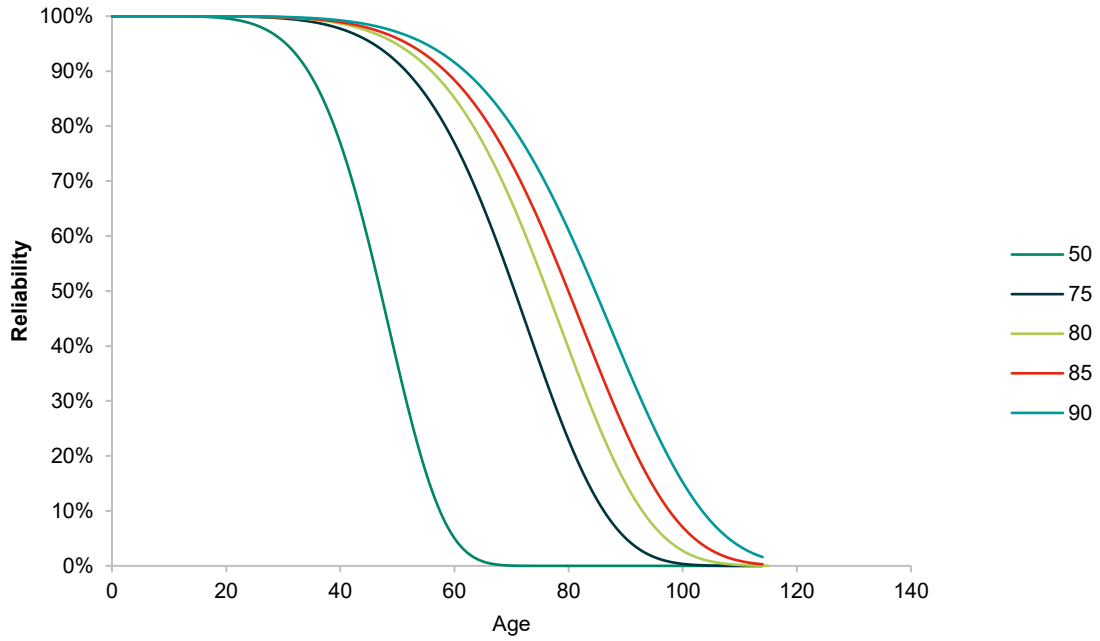


Figure 2-5: Asset Deterioration Curve Samples

Table 2-5 summarizes the condition grade of the City's solid waste infrastructure with associated replacement values. 72% of the assets are in the very good condition, with total replacement value of approximately $40.7 million. It should be noted that this figure is heavily influenced by landfill equipment, and liners and capping. 21% of the infrastructure is in the very poor condition with total replacement value of $11.6 million. Roads, parking lots and appurtenances account for 12% of this value and could be addressed by condition assessment to refine the actual condition. Good condition accounts for 6% of the existing infrastructure, having a replacement value of around $3.6 million. Fair and poor condition assets make up 1% respectively.

Table 2-5: Solid Waste Condition Summary

Rank	Condition Rating	Replacement Value	% of Replacement Value
1	Very Good	$40,711,000	72%
2	Good	$3,644,000	6%
3	Fair	$582,000	1%
4	Poor	$ 0	0%
5	Very Poor	$11,558,000	21%
Total		**$56,495,000.00**	**100%**

Additionally, **Figure 2-6** and **Table 2-6** further illustrates the condition of the assets based on different asset sub-categories and their corresponding replacement values. Considering the age-based calculations, landfill infrastructure and landfill equipment is expected to dominate the capital investment due to value of assets in very poor conditions, although as stated previously a condition assessment of these assets will refine the capital investment requirements with greater reliability.

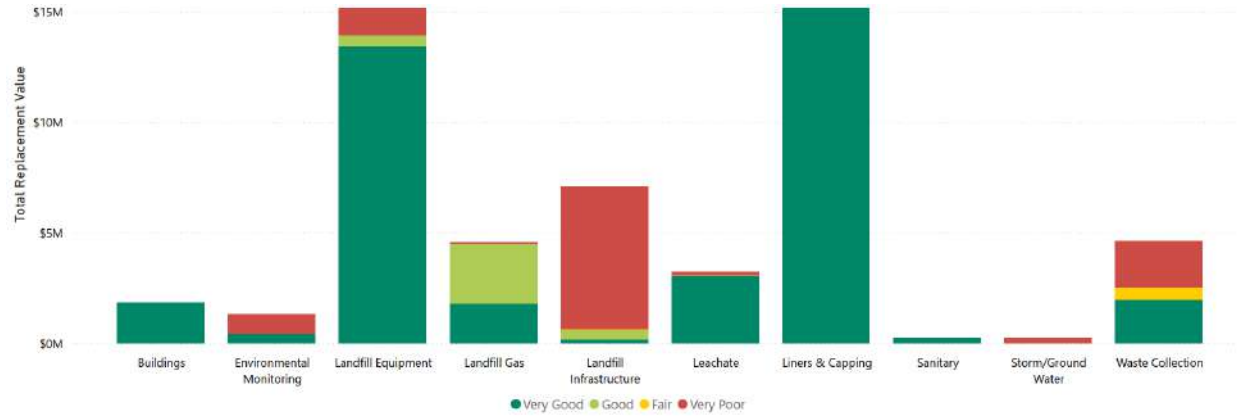


Figure 2-6: Solid Waste Condition Summary for Asset Categories

Table 2-6: Distribution of Condition for Solid Waste Asset Categories

Asset Category	Very Good	Good	Fair	Poor	Very Poor
Buildings	3%	0%	0%	0%	0%
Environmental Monitoring	1%	0%	0%	0%	1%
Landfill Equipment	24%	1%	0%	0%	3%
Landfill Gas	3%	5%	0%	0%	0%
Landfill Infrastructure	0%	1%	0%	0%	12%
Leachate	5%	0%	0%	0%	0%
Liners & Capping	31%	0%	0%	0%	0%
Sanitary	0%	0%	0%	0%	0%
Storm/Ground Water	0%	0%	0%	0%	0%
Waste Collection	3%	0%	1%	0%	4%
TOTAL*	**72%**	**6%**	**1%**	**0%**	**20%**

**Due to rounding the sum of the total percentages is less than 100%*

The top items by estimated replacement value in Very Poor condition are as follows:

1. Access Road (unknown installation data and condition), estimated replacement cost $2.2 million. It is probable that this has been maintained in fair condition, but no assessment was available.
2. Compost Pad (unknown installation data and condition), estimated replacement cost $1.4 million. Similar to the access road it is probable that this has been maintained in a better condition than the Weibull assessment has forecast.
3. Internal Access Road (unknown installation data and condition), estimated replacement cost $1.0 million.
4. Security Fencing (unknown installation date and condition), estimated replacement cost $1.0 million
5. Maintenance Garage (unknown installation date and condition), estimated replacement cost $0.84 million.

2.3 Asset Data Gap Analysis

This section summarizes the current state of the City's asset data by assessing the quality of the asset inventory. Specifically, this section identifies existing data gaps, determines the overall confidence in the current asset data, and introduces good practices of data management.

2.3.1 Data Gap Observations

The City's solid waste assets were not previously stored in a single inventory prior to the first revision of the AMP. The multiple spreadsheets and GIS databases that did exist only housed a partial listing of the City's assets. This project has used the 3rd party reports provided to AECOM such as the annual monitoring report, the environmental assessment and the annual site development report, as well as consulting the authors of those reports to build the first solid waste asset inventory. Additionally, it has addressed and filled gaps in key data where available, such as expected service life and replacement costs based upon the City's own experience. This has been supplemented by additional data sources such as RS Means and experience from other solid waste operations.

Table 2-7 provides a summary of data completeness levels in the compiled solid waste inventory across key data attributes. It is recommended that the City continue to work on filling any remaining gaps, ensuring a comprehensive and up-to-date database.

Table 2-7: Observations on Asset Data Completeness

Asset Group	Inventory Completeness (%)						
	Asset ID	Name / Location	Install Date	Inspection Date	Condition	Expected Service Life	Replacement Cost
Solid Waste	30%*	100%	88%	0%*	8%*	100%	100%

* This % reflects the data supplied by the City. These gaps have been supplemented with estimates previously outlined.

Note that installation date value does not include any asset with a date of installation equal to January 1, 1970 as this value is used as a placeholder based upon the original construction to baseline any asset installations not available.

Improvement activities that support continuous improvement of the asset inventory are:

- Asset ID: Add asset ID to new assets identified in the asset inventory and not previously recognized in the list of capital assets.
- Installation year: It is recommended to collect accurate installation date information for all assets and include it in the next iteration of the AMP. Assets with an unknown installation date account for replacement value in excess of $22 million (39%).
- Installation date: Review all assets with a 1970-01-01 installation date and refine as far as practicable based upon available information.
- Condition Assessment: Consider a routine condition assessment program or address assessment on a cost risk basis for items which are of significant cost and of unknown condition.

2.3.2 Data Confidence

The quality of asset data is critical to effective AM, accurate financial forecasts, and informed decision-making. For this reason, it is important to know what the reliability of the information is for the State of Infrastructure analysis of the solid waste assets. **Table 2-8** provides a description for the data confidence grades used to classify the reliability of the asset data used in this data gap analysis. Through consultation with City staff during a State of Infrastructure Workshop, the asset attribute data for the in-scope solid waste assets were assigned the grades outlined in **Table 2-9**.

Table 2-8: Data Confidence Grading Scale

Confidence Grades	Description
A - Highly reliable	Data is based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate ± 2%
B - Reliable	Data is based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10%
C - Uncertain	Data is based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy is estimated ± 25%
D - Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy ± 40%
E - Unknown	None or very little data held.

Table 2-9: High-Level Asset Data Confidence Grades

Asset Category	Data Confidence Average Grade					
	Asset ID	Location	Install Date	Condition	Expected Service Life	Replacement Cost
Solid Waste	N/A	A	C	N/A	B	B

- Location data has been reviewed and confirmed by the City. The majority of asset entries are located within the fenced boundary of the City's main landfill site. By total% a significant volume is at unique locations not recorded as they are individual bins provided to City residents, as a result these location is not entered or considered.
- Installation dates as mentioned previously have been assumed to be 1970-01-01 where not available. The accuracy of the data to the year of installation where available is high but over 20% are assumed resulting in a lower confidence grade.
- Condition assessment data is graded E as all is extrapolated from the installation data (which itself has a confidence grade of C).
- ESL is deemed to be reliable as it is founded on available data accumulated for such a purpose (professional construction cost estimating software) and is supplemented with the City's own experience for specific assets that are not on available databases.
- Replacement cost is also graded reliable as it is derived from a combination of professional construction cost estimating software and supplemented with the City's own purchasing data. To include a tolerance for the imperfect data the upper range for mark up is used due to the immaturity of the asset inventory. As the inventory is used and further refined the City may decide to reduce the mark up applied to replacement values.

2.3.3 Data Management Practice

The asset data lifecycle is a sequence of stages that data goes through from its initial creation (i.e., data capture and entry) to its eventual archival and/or deletion at the end of its useful life[1]. A clear definition and understanding of the organization's process for acquiring, storing, utilizing, assessing, improving, archiving, and deleting data (see **Figure 2-7**) will ensure good data management practices and help to sustain levels of data quality required to support AM activities.

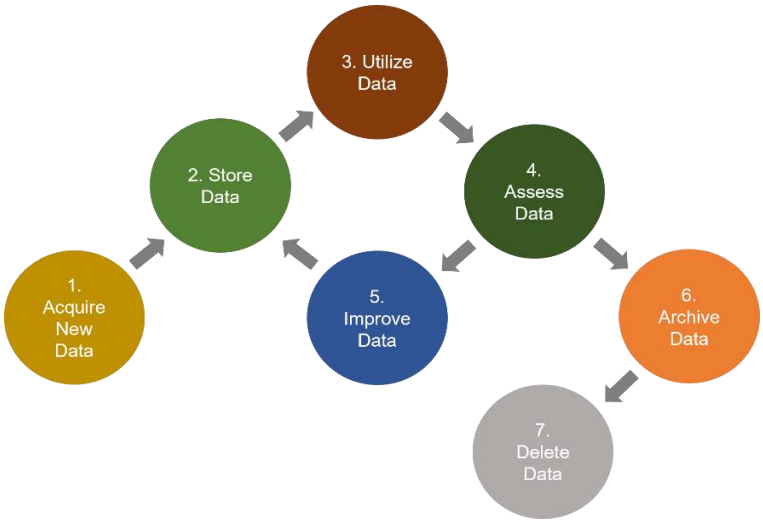


Figure 2-7: Asset Information Lifecycle

The seven key stages of the asset data lifecycle are described in more detail below:

1. **Acquiring New Data**: The majority of new asset data arises from asset creation, refurbishment and overhaul activities. New data may also come by way of inheritance or transfers from other business units, organizations, or third parties. As such, it is important to have clearly defined processes in place not only to add or update asset data, but to migrate and merge data from other sources.
    - **Relevance to Solid Waste:** New assets for solid waste should be consistently added to the inventory and a minimum required data set defined to maintain inventory accuracy and reliability.
2. **Storing Data**: The way asset data is stored is an important consideration for overall data quality. Having a planned approach to data storage will inevitably reduce the likelihood of duplication and inconsistencies across datasets within the organization. Depending on the needs of the organization, this stage may involve procuring a new software to adequately house the data, along with a data backup and recovery plan to ensure that the necessary data protection and privacy standards are met.
    - **Relevance to Solid Waste:** Assets are typically stored in either the CMMS or the GIS. For solid waste assets, due to the relative lack of linear infrastructure and the fact that the majority of assets are within the fence line, and those that aren't are located at private residences the GIS is not required but should be considered for use to align with other asset classes.
3. **Utilizing / Analysing Data**: This aspect of the asset information lifecycle is where users encounter the data to support data-driven activities within the organization. Data can be viewed, processed, edited, and published to allow users to access the data outside the organization. Critical data that has been modified should be fully traceable to maintain the integrity of the data. As such, it is important to communicate to the users why asset data is so important, and how it is used to inform decisions within the organization.
    - **Relevance to Solid Waste:** Currently no analysis of the use of solid waste assets is carried out. Use of the core asset AM plans (such as sanitary and water) and mature inventoried non-core (such as fleet) should be considered to drive a better understanding of solid waste asset performance. This includes improved understanding of estimated serviceable life and true replacement cost value from the City's experience.

[1] TechTarget Network, Definition: Data Life Cycle, 2020.

4. **Assessing Data**: Assessing the data quality helps to determine the level of confidence in the information and ensures that decision-makers are making informed decisions based on the quality of data available to them. Moreover, it is important to fully understand the availability and quality of the asset data before issuing information publicly. Some of the results of data degradation, due to improper or lack of assessment, may include:
   - Poor asset performance due to lack of information and understanding of asset behaviour.
   - Non-compliance with statutory regulations or safety requirements.
   - Safety incidents due to risks not being identified or reported.
   - Asset failure due to gaps in maintenance planning.
5. **Improving Data**: Improving data quality involves establishing clear targets which are intended to be communicated widely across the organization. It is imperative that the organization understands the costs, benefits, and risks associated with any data improvements since the cost of the improvement may outweigh the overall benefit. It is also important to note that *more* data does not necessarily mean *better* data. It is very possible to collect data that does not add value to the organization. As such, it is critical that the organization aligns its data improvement targets with its AM objectives and considers the data-driven decisions staff need to make at the operational and strategic level, to ensure that the *right* data is being improved upon.
6. **Archiving Data**: Archiving data is the process of storing data that is no longer active or required but is able to be retrieved in case it is needed again. Data that is archived is stored in a location where no usage or maintenance occurs. It is recommended that a data archive strategy exists within an organization in order to lay out the data archival requirements, which considers the following:
   - What data should be archived and why?
   - Are there any legal obligations for retaining data records?
   - How long should data records be retained?
   - What is the risk associated with not being able to retrieve data records?
   - Who should be able to access archived data records?
   - What is the expected timeframe to retrieve archived data records?

   Clearly communicating these requirements across the organization is key to ensuring staff are educated on why records are being archived, how they can access archived data records, and for how long archived data records can still be accessed.
7. **Deleting Data**: The deletion of data is the final component of the asset information lifecycle. Typically, within organizations there is a resistance to permanently delete data, otherwise known as data “squirrelling”, due to the overall capacity of storing data increasing and the cost decreasing. However, within the organization’s data archive strategy, a retention period should be specified to indicate when data should be deleted, along with any processes to follow, such as obtaining prior missing period.
   - **Relevance to Solid Waste:** The retention period is driven by best practice for solid waste as the life of the asset is in far in excess of defined regulation or profession bylaw (such as Engineering document retention).

2.3.3.1 Current Data Management State

The City is following the mandate in records retention procedures for municipalities as per Freedom of Information and Protection of Privacy Act (FIPPA) and the Municipal Freedom of Information and Protection of Privacy Act (MFIPPA).

2.3.3.2 Future Data Management State

The City will develop and implement a software strategy that helps streamline data management following this AMP. Eventually, the City plans to have a clear and efficient data management process and comprehensive and robust asset inventory to support their AM decision making. The implementation plan for data improvement is presented in **Section 6**.

3 Level of Service

3.1 Purpose

Level of Service (LoS) supports every aspect of the overall AM system. The objective of establishing clearly defined service levels is to help the City meet stakeholder values, achieve its strategic goals, make informed decisions, and implement effective asset lifecycle activities.

Documenting LoS is a proven practice that will enable the City to:

- Link corporate strategic objectives to customer expectations and technical operations.
- Balance customer needs and expectations while evaluating the effectiveness of operations and whether the right LoS is being provided at the right cost.
- Transition from an “Asset Stewardship” approach that focuses on making decisions based on maintaining assets in an acceptable condition to a “Serviceability” approach that is geared towards making decisions based on balancing the costs, risks, and goals for the LoS being provided by the City’s assets.
- Communicate the physical nature of infrastructure that the City owns and is financially responsible for while promoting the use of LoS to enable effective consultation with stakeholders regarding alternative funding options according to desired LoS outcomes.
- Make recommendations on strategies that the City can take now to minimize future renewal costs while ensuring that adequate LoS can be delivered without burdening future generations.
- Assess internal (e.g., program changes) and external (e.g., climate change) factors that have the potential to impact the City’s ability to deliver services and how these factors may impact the LoS being provided.
- Implement a corporate continuous improvement program to further optimize AM across all service areas.

The O. Reg. 588/17 requires that all AMPs include the current and proposed LoS, determined in accordance with the qualitative descriptions and technical metrics provided (see **Section 1.3**).

3.2 Objectives

Defining LoS objectives is important for drawing a line of sight between the City’s corporate objectives and the tangible asset performance outcomes. To do so, the LoS objectives must take into consideration stakeholder interests to develop asset performance measures that aim to meet the needs and expectations of the community. By doing this, the City will ensure that their assets are striving towards optimal performance, not only operationally, but economically, socially, and sustainably as well. Every stakeholder has certain interests in the service being provided and in general. The City’s corporate objective is to lift up the community and build pride, and attract people (visitors, employers and employees).

The City’s Comprehensive Background Report[2] (2021) for the New Official Plan outlined the overarching themes that reflect the City’s value, as shown in **Table 3-1**. Each overarching theme is also assigned a corporate service objective.

The development of level of service targets should be aligned with these corporate objectives which will be addressed in the next iteration of the AMP.

[2] City of Sault Ste Marie. 2021. Comprehensive Background Report.

Table 3-1: The City's Overarching Themes and LoS Objectives

Overarching Themes	LoS Objective
Healthy Community	Supports healthy living, active transportation, access to passive and active recreation, social interaction and the creation of spaces that are comfortable, safe and accessible for all ages and abilities (the "8 to 80 Cities" concept).
Environmental Sustainability	Supports energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions and climate change adaptation.
Integrated Mobility	Supports accessibility and choice of a diversity of transportation modes.
Sense of Place	Fosters a welcoming place for all that establishes connection and provides a memorable experience to visitors.
Sustainable Growth	Stimulates reinvigoration of neighbourhoods to provide a complete range of housing, services, employment and recreation.
Economic Resiliency	Supports the growth and diversification of the city's economy.
Social Equity	Contributes to creating a welcoming and inclusive community, focusing on the removal of systemic barriers so that everyone has access to an acceptable standard of living and can fully participate in all aspects of community life.
Cultural Vitality	Celebrates the Sault's history, diverse communities and natural and cultural heritage, with the Downtown as the Sault's core destination for arts and culture.

3.3 Stakeholder Identification

A stakeholder is any person or organization that can affect, be affected by, or perceive themselves to be affected by a decision or an activity. Stakeholder analysis is the process of understanding stakeholder needs, expectations and perceptions relative to the stakeholder's level-of-interest and level-of-influence over the organization. The organization typically engages with their stakeholders to:

- Establish which activities or services matter most.
- Understand their risk appetite and risk threshold.
- Understand their willingness to pay for services.

Stakeholders can take many forms and may be internal (i.e., staff, Council) or external (i.e., the public, regulatory agencies, suppliers, neighbouring municipalities, etc.) to the organization. The following groups were identified as key stakeholders for solid waste service at the LoS workshops. This is not intended to be an exhaustive list; however, the following groups provide a good starting point for the City to move forward to the next stage.

- Residential Customers. For example, single family homes for waste collection and landfill usage. Multifamily homes are not considered as a stakeholder for waste collection as City bylaws require their waste collection to be contracted to an external agency.
- Industrial, Commercial & institutional (ICI) Customers. The most considerable potential customer from an ICI perspective currently does not utilize City facilities. Currently, exporting the waste to the USA is a more cost-effective solution. Should the exchange rate swing considerably or there is external regulatory change limiting waste transport across the border then ICI usage of the landfill may increase. This increase is accounted for as the worst-case scenario in the City's business plan.
- Regulatory Agencies.
- Neighbouring Municipalities.
- Developers.
- First Nations
- Environmental Groups
- Internal City Departments

3.3.1 Legislated and Regulatory Requirements

Solid waste assets are critical to the City's ability to provide essential services to the community, and for protecting the health and safety of the public. As such, key legislative requirements exist for the City's infrastructure assets, which ensure that minimum requirements are met and standards are in place that promote a high quality of life (i.e., clean drinking water and safe roads, etc.). A sample of key Federal and Provincial legislated requirements are outlined below in **Table 3-2**. Monitoring and development programs relevant to solid waste assets are also listed.

Table 3-2: Legislated and Regulatory Requirements

Federal	Provincial
• Canadian Environmental Protection Act (CEPA) • Canadian Environmental Assessment Act (CEAA) • Canadian Food Inspection Agency (CFIA) • Migratory Birds Convention Act and Regulation • Fisheries Act • Fertilizers Act • Environmental Contaminants Act • Transportation of Dangerous Goods Act • Federal Weight and Measures Act • Canadian Food inspection Agency for composting	• Environmental Protection Act (EPA) − Ontario Regulation 347 – General – Waste Management − Ontario Regulation 232 – Landfilling Sites − Ontario Regulation 267 – Compost − Ontario Regulation 103 – Industrial, Commercial and Institutional Source Separation Programs • Waste Diversions Transition Act (WDTA) • Pesticides Act • Ontario Drainage Act − Ontario Water Authority Ontario ▪ Water Resources Act ▪ Ontario Regulation 903 – Wells ▪ Regarding monitoring of wells • Resource Recovery and Circular Economy Act − Food and Organic Waste Policy Statement

3.3.1.1 Regulatory Change Impacts

The Food and Organic Waste Policy Statement (2018)[3] was issued to provide policy direction in reaching Ontario's interests of a circular economy. The policy statement aims to support the province's goals of zero waste and zero greenhouse gas emissions from the waste sector. In support of these goals, the policy statement has established waste reduction and recovery targets for municipalities and relevant sectors within Ontario. The policy statement targets and timelines relevant to the City are summarized below in **Table 3-3.** The impact of this change has led the City to plan and initiate the design and construction of a Source Separated Organics (SSO) facility (also referred to as the Biosolids Management Facility), the cost of which is split across City departments.

Table 3-3: Food and Organic Waste Policy Statement Targets

Person or entity	Targets and Timelines
Municipalities subject to policy 4.1	70% waste reduction and resource recovery of food and organic waste generated by single-family dwellings in urban settlement areas by 2023
Multi-unit residential buildings subject to policy 4.10	50% waste reduction and resource recovery of food and organic waste generated at the building by 2025
Industrial and commercial facilities subject to policy 4.14	70% waste reduction and resource recovery of food and organic waste generated in the facility by 2025
Industrial and commercial facilities subject to policy 4.15	50% waste reduction and resource recovery of food and organic waste generated in the facility by 2025
Educational institutions and hospitals subject to policy 4.18	70% waste reduction and resource recovery of food and organic waste generated in the facility by 2025

[3] Food and Organic Waste Policy Statement. (2018). Pursuant to section 11 of the Resource Recovery and Circular Economy Act (2016). Government of Ontario. https://www.ontario.ca/page/food-and-organic-waste-policy-statement. Retrieved on March 15, 2024.

Additional benefits of the new facility are summarized as follows:

- Biosolids processing will increase projected landfill longevity and reduce the impact of the shortage of earthen cover materials for use at the landfill.
- Mitigation of off-site environmental impacts, especially odour, water contamination, dust, noise and vermin.
- The design has sufficient redundancy and capacity to allow for routine maintenance of all equipment, equipment breakdowns and operational anomalies.

3.4 O. Reg. 588/17 Levels of Service Metrics

Currently, O. Reg 588/17 only identifies levels of service metrics for core assets. A number of key LoS performance measures for solid waste assets have been identified in consultation with City staff through workshops, are detailed in **Section 3.5**.

3.5 Current and Proposed Levels of Service

Establishing LoS targets is an important part of continual improvement and performance management. Without targets, it is difficult to ascertain whether goals are being met, or the extent of the gap if they are not. Incorporating targets into the City's LoS Framework helps to ensure that targets are reasonable, aligned with customer expectations, and evaluated on an objective basis by considering cost-benefit trade-offs.

One of the key challenges in setting targets in a municipal environment is that they can often become biased and/or politically motivated. Therefore, it is important to review LoS targets with internal and external stakeholders, especially the customers who will be impacted the most by changes in service delivery. An important aspect of evaluating LoS targets is determining how willing the user is to pay for the service. Regulatory requirements are an exception; however, they only provide the minimum service standard. Cost is still an important parameter to consider when assessing the merits of service improvements. To deal with the financial realities, it is necessary to:

- Calculate how much the service costs based on current LoS.
- Determine the lifecycle activities and cost associated with varying the LoS.
- Assess the customers' willingness to pay.

It is important that any targets set be realistic and achievable. O. Reg. 588/17 requires AMPs to include proposed levels of service by July 1, 2025. A summary of the City's solid waste service level metrics is presented in **Table 3-5**. Each metric was indicated with its current trend and proposed trend for the next 10 years, represented by legends, taking into account the nature of the measure, data availability, and whether the trend impacts positively or negatively on the proposed LoS. The LoS trend legends are described in **Table 3-4**.

Table 3-4: LoS Trend Legend

Symbol	Name	Description
	Positively Increasing	KPI is improving steadily over time, showing progress toward goals.
	Positively Stable	KPI is at a strong, desirable level and consistently maintained.
	Positively Decreasing	KPI is improving as lower values indicate better performance.
	Negatively Increasing	KPI is worsening over time, signaling a need for corrective action.
	Negatively Stable	KPI remains poor with no improvement or further decline.
	Negatively Decreasing	KPI is declining in a way that reflects worsening performance.

Table 3-5: Solid Waste Current and Proposed Levels of Service

LoS #	Service Area	LoS Measure	Unit of Measure	LoS Category	Current Performance	Performance Trend		Lifecycle Activities to Meet Proposed LoS	Budget Impact to Meet Proposed LOS	Risk of Not Meeting Proposed LoS
						Current	Proposed			
1	Solid Waste	Total volume of curbside residential waste per capita to landfill.	kg/person/year	Customer	• Static although due to population growth total volume is increasing. Approximately 450 kg/person/year. • (From Datacall Reporting)	→	↓	• SSO • Curbside diversion	High	• Regulatory risk, negative environmental impacts, decreasing landfill capacity
2	Solid Waste	% Amount of waste diverted from landfill (all products).	%	Technical	• 30%	→	↑	• SSO, methods of diversion like a new biosolids facility • Recycling	High	• Regulatory risk, odour, not meeting climate action plan
3	Solid Waste	GHG emissions from landfill and solid waste assets.	tCO2e	Technical	• TBD	→	↓	• Expand landfill gas system • Reduce usage of FF • Establish SSO/Biosolids plant	High	• Low risk. National Pollutant Release Inventory (NPRI) thresholds
4	Solid Waste	Remaining capacity of Landfill	Years	Customer	• +25 years if expansion is approved	↓	→	• Receive EA and technical approval, develop cells	High	• Not enough landfill capacity leading to decrease in service, environmental risk.
5	Solid Waste	% of Assets in Fair or Better Condition by replacement value	%	Technical	• 75.9% (Fleet 89%)	→	↑	• Fund and proactively replace	High	• Reduction in availability

Performance Trend Legend:

↑ Positively Increasing	→ Positively Stable	↓ Positively Decreasing	↑ Negatively Increasing	→ Negatively Stable	↓ Negatively Decreasing

3.6 2025-2034 10-Year Levels of Service Forecast

Considering the City's characteristics, growth projections, and strategic objectives, the proposed performance trend for each LoS metric for the next 10 years is projected and outlined in **Table 3-6**. This table indicates whether each measure is expected to trend upward, downward, or remain stable, considering the nature of the measure, data availability, and whether the projected trend impacts positively or negatively on the proposed LoS.

Table 3-6: 2025-2034 10-Year Solid Waste Levels of Service Forecast

LoS #	Service Area	LoS Measure	Unit of Measure	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Proposed Trend	Basis for Forecast
1	Solid Waste	Total volume of curbside residential waste per capita to landfill.	kg/person/year	Approximately 450 kg/person/year and lower										→	SSO plant reduces landfill
2	Solid Waste	% Amount of waste diverted from landfill (all products).	%	30% upwards										↑	Ongoing recycling improvement.
3	Solid Waste	GHG emissions from landfill and solid waste assets.	tCO2e	TBD										↓	SSO plant reduces GHG generating landfill material.
4	Solid Waste	Remaining capacity of Landfill	Years	TBD										→/↓	Once expansion is approved a stable to slow reduction in remaining capacity is based upon ongoing use.
5	Solid Waste	% Amount of waste diverted from landfill (all products).	%	75.9%	78.2%	80.9%	81.3%	73.3%	78.0%	81.3%	82.3%	80.2%	80.6%	↑	Lifecycle Modeling (Based on City's Forecasted Budget Scenario, see **Figure 5-6**)

Performance Trend Legend:

↑ Positively Increasing	→ Positively Maintain	↓ Positively Decreasing	↑ Negatively Increasing	→ Negatively Maintain	↓ Negatively Decreasing

3.7 Future Demand Drivers

Demand management is a critical component of managing the desired LoS in a sustainable manner, now and into the future. Understanding demand drivers enables the City to proactively develop effective, long-term strategies that are suitable for the City's unique political, environmental, social and technological landscape.

A summary of factors identified from the LoS workshop that would impact Solid Waste service levels include, but are not limited to, the following:

- **Growth**. Projected growth anticipated to come predominantly from multi-family house holds which are a lower contributor to landfill capacity due to bylaw impacts previously stated and commercial design making by ICI stakeholders. General population growth is expanded upon below.
- **Inflation and Cost of Living**. Reduced disposable income due to interest rate rises and inflation for the life of this plan will negatively impact waste production as stakeholders become less likely to replace and more likely to repair, repurpose or reuse items that would typically go to landfill.
- **Technology**. Increasing use of electronics containing printed circuit boards will increase the volume of waste that cannot be recycled.
- **Electrification**. Predicted to have minimal impact on waste generation but will impact the waste collection fleet and the fueling costs. Regulations published by Federal Government in 2023 laid out plans to phase out passenger vehicles powered only by gasoline or diesel in 2035. As these vehicles are replace the City should be mindful of the increased maintenance and purchase costs of Hybrid Electric Vehicles (HEV) and Plug-In Electric Vehicles (PEV).
- **Funding level**. The future levy determined by the City for use will have an impact on total usage and fly-tipping around the city.
- **Climate Change**. Increase rainfall levels may require additional leachate control should levels occur beyond that which can be processed by existing equipment.
- **Per- and Polyfluorinated Substances (PFAS) contamination.** Limited impact to solid waste due to low occurrences on City land (except Fire service training pad near the airport).
- **Regulatory Changes**. Future changes to the source separated organics and other recycling regulation will impact the demand for solid waste service and the type of services required.

On November 2, 2021, the City's Planning Division released the Comprehensive Background Report for updating the Official Plan[4]. The City's Official Plan guides local decision-making on land use, development, and public infrastructure over the next 20 years. The City's population is expected to reach 80,000 by 2031, and 83,300 people by 2036. Employment is projected to grow by approximately 6,000 jobs, from 31,000 jobs in 2016 to 36,900 jobs in 2036.

When additional assets to accommodate this population and employment growth are introduced to the City's portfolio, additional human resources, training and funding are required to maintain and operate, and renew or replace those assets. O. Reg. 588/17 requires municipalities by July 1, 2025, to estimate capital expenditures and significant operating costs to achieve the proposed LoS and accommodate projected increases in demand caused by population and employment growth. This includes the estimated capital expenditures and significant operating costs related to new construction and / or to upgrade existing municipal infrastructure assets. This has been addressed in **Section 5.3**.

[4] City of Sault Ste. Marie. 1996. Official Plan

4 Asset Management Strategies

4.1 Asset Lifecycle Management Introduction

Asset lifecycle management focuses on the specific activities that should be undertaken during all phases of the asset lifecycle. Considering entire asset lifecycles can ensure that the City makes sound decisions that consider present and future service delivery needs.

The overarching goal of lifecycle management is to maximize the long-term benefits and services that our assets deliver while minimizing the associated costs and risks in the long run. Every asset has a lifecycle cost, which is the total cost of all the activities undertaken throughout its service life. Part of the purpose of the asset management planning process is to fully understand and predict the long-range financial requirements for the City's infrastructure to facilitate planning and resource management in the most cost-effective manner possible. **Figure 4-1** illustrates how costs typically accumulate over an asset's life. It is worth noting that the accumulation of the ongoing operations and maintenance, renewal & replacement and disposal costs is many multiples of the initial acquisition costs. As such, it is important to fully understand the entire lifecycle costs across an asset's entire life before proceeding with asset acquisition.

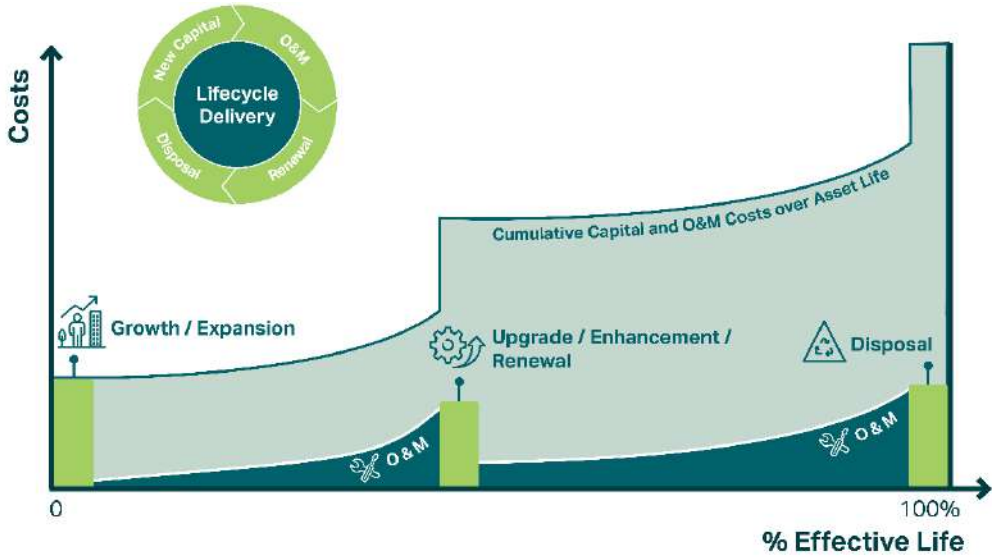


Figure 4-1: Lifecycle Cost Accumulation Over Asset Life

Asset lifecycle management strategies are typically organized into the following categories.

1. **Asset Acquisition / Procurement / Construction**: Acquisition includes expansion activities and upgrading activities to extend services to previously unserved areas or expand services to meet growth demands and to meet functional requirements. When acquiring new assets, the City should evaluate credible alternative design solutions that consider how the asset is to be managed at each of its lifecycle stages. Asset management and full life cycle considerations for the acquisition of new assets include, but are not limited to the following:



   - The asset's operability and maintainability.
   - Availability and management of spares.
   - Staff skill and availability to manage the asset.
   - The manner of the asset's eventual disposal.

The following asset acquisition activities have been identified relating to solid waste.

i. The City is actively pursuing landfill expansion as a strategy to accommodate future demand. An answer on the submitted environmental assessment and overall expansion plan is due within 12 months.

ii. The City is also constructing a Biosolids and Source Separated Organics (SSO) plant that will be jointly funded by the waste and solid waste departments with the aim of reducing waste processing volumes such as leaf and yard waste.

2. **Asset Operations and Maintenance (O&M)**: As new infrastructure is commissioned, the City accepts the responsibility of operating and maintaining the infrastructure according to O&M standards to ensure that the infrastructure is safe and reliable. Operations staff provide the day-to-day support required to operate infrastructure. In few cases, operation costs are minor, but for most there are significant increases. For example, underground pipes require almost no operational support while a facility such as a pump station requires full-time staff to operate the facility safely and efficiently. Maintenance expenses include periodic preventive maintenance to ensure that the infrastructure can provide reliable service throughout the life of the asset and corrective maintenance that is required to repair defective assets as and when needed. Inadequate funding for O&M will have an adverse impact on the lifespan of assets. The amount of O&M resources required in any period is a function of the current inventory of infrastructure and total O&M needs required for each asset. As the inventory of infrastructure grows, total O&M requirements will also grow.



The following asset O&M activities have been identified relating to solid waste.

i. The City has accounted for O&M for it's exsting assets and has accounted for addiitonal funding once construciton of the SSO plant is complete along side additional birgding funidng while it becomes fully operational.

3. **Renewal and Replacement:** The third portion of full life cycle costing relates to the renewal and replacement of infrastructure that have deteriorated to the point where it no longer provides the required service. Renewal cost is sometimes incurred during the life of an asset where an investment is made to improve the condition and / or functionality of the asset e.g., re-lining of a pipe. Replacement activities that are expected to occur once an asset has reached the end of its useful life and rehabilitation is no longer an option.



The following asset renewal and replacement activities have been identified relating to solid waste.

i. The City is proactivly renewing plant and equipment as the condition necessitates.

4. **Decommissioning and Disposal:** There will inevitably come a point in time when an asset must be removed from service and, depending on the type of asset, there may be significant costs associated with its decommissioning and disposal. Factors that may influence the decision to remove an asset from service include changes to legislation that cause the asset to be in non-compliance, the inability of the asset to cope with increased service levels, technology advances that render the asset obsolete, the cost of retaining the asset is greater than the benefit gained, or the current risk associated with the asset's failure is not tolerable.



Normally, major costs that may be incurred during disposal and decommissioning derive from the environmental impact of the disposal and, if required, the rehabilitation and decontamination of land. In some cases, there will be residual liabilities and risks to consider if a decision is made to partially abandon the asset as opposed to fully disposing of its components (e.g., leaving a non-functioning pipe in the ground, or an inactive building standing). However, some cost savings may be achieved through the residual value of the asset or by exploring alternative uses for the asset. In all cases, it is important to consider disposal and decommissioning as the strategy employed has the potential to attract significant stakeholder attention. For that reason, the costs and risks associated with disposal and decommissioning should be equally considered in the City's capital investment decision-making process.

The following asset decommissioning and disposal activities have been identified relating to solid waste.

i. The City is proactivly planning for site closure and has up to date studies for closure and post closure obligations.

4.2 Asset Acquisition Strategies

The City has completed a Waste Management Environmental Assessment report and submitted it to the Ministry of the Environment Conservation, and Parks for review and approval. According to the report, the current landfill is projected to reach maximum capacity in 2027. As a solution, an expansion has been proposed to provide an additional disposal capacity of approximately 1.78 million tonnes of waste over a planning period of 25 years[5]. The comprehensive report is available on the City's website, and **Table 4-1** summarizes key activities associated with the proposed expansion.

Table 4-1: Acquisition Activities for Solid Waste Assets

Asset Group	Asset	Activities Undertaken by the City	Guiding Documents
Solid Waste	Storm/Gound Water	• Planning to build two separate pump stations at the landfill in conjunction with landfill expansion. – Leachate collection system for abandoned landfill site will require two pump stations installed as flow increases. – One main station to be built within the next 5 years. Additional smaller pump station for leachate collection as part of the expansion, dependent on waste disposal rates over time. The final need will be assessed post-installation of the new station. • Planning to add stormwater management ponds as part of landfill expansion. – One will begin construction within the next 5 years, while the other two are proposed as part of the overall site and will be constructed based on need.	• Official Plan • Corporate Strategic Plan • Energy Conservation & Demand Management Plan • Community GHG Reduction Plan • Strategic Asset Management Policy • Development & Operating Report • Monitoring Report • Environmental Assessment • Solid Waste Business Plan • Post Closure Plan
	Buildings	• Planning to demolish the existing buildings and initiate the construction of new facilities over the next 15 to 20 years.	
	Landfill Gas	• Acknowledging that more landfill gas wells are needed as part of landfill expansion.	
	Landfill Infrastructure	• Planning to hard surface a section of the road to manage dust emissions and may utilize asphalt millings from other reconstruction projects.	
	Landfill Equipment	• Ongoing update and revision of the business plan to reflect biosolids handling.	

4.3 Asset Operations and Maintenance Strategies

Effective O&M of assets is crucial for sustainable performance and longevity. Managing O&M costs involves developing comprehensive strategies that optimize resource utilization while ensuring asset reliability. Proactive maintenance schedules and condition monitoring can help identify potential issues before they escalate, reducing unplanned downtime and minimizing repair costs. Implementing energy-efficient technologies and best practices in solid waste AM also contribute to cost-effectiveness over the asset's lifecycle. **Table 4-2** summarizes the O&M activities associated with the City's solid waste assets.

[5] Solid Waste Management EA Final Report. (2024). City of Sault Ste. Marie. Solid Waste Management EA Final Report - City of Sault Ste. Marie (saultstemarie.ca). Retrieved on February 22nd, 2024.

Table 4-2: O&M Activities for Solid Waste Assets

Asset Group	Asset Category	Activities Undertaken by the City
Solid Waste	Storm/Ground Water	• Ongoing maintenance program for groundwater and purge wells, managed by an external contractor. • An alert system to notify if purge wells are offline, requiring field staff to check and identify issues.
	Buildings	• Maintenance completed internally through public works facilities team. – A building maintenance expert for the upkeep of air conditioning systems, heaters, plumbing, etc. – Annual check on air conditioning units, which may involve topping up refrigerant or necessitate an upgrade due to availability.
	Leachate	• Public works checks (frequency not specified). • Regular pump checks: – Contractors will remove, clean, and re-install pumps. – Cleaning is conducted on a regular basis. – Overhaul is based on run-hours and condition. • Periodic forcemain flushing.
	Environmental Monitoring	• Utilizing computer equipment to measure methane gas readings for environmental report. • Sampling and testing at monitoring wells, documented in annual reports. • Monitoring equipment within buildings, calibrated once a year as part of ventilation system inspections.
	Landfill Equipment	• Biosolids trailer washing is completed once a week on Fridays as a preventative measure.

4.4 Renewal and Replacement Strategies

Renewal often involves upgrading or refurbishing existing assets to extend their lifespan, while replacement entails acquiring new assets. The costs associated with these activities include not only the direct expenses of acquisition but also indirect costs such as downtime during the transition, training for new technologies, and potential disposal or recycling costs. **Table 4-3** summarizes the renewal and replacement activities associated with the City's solid waste assets.

Table 4-3: Renewal and Replacement Activities for Solid Waste Assets

Asset Group	Asset Category	Activities Undertaken by the City
Solid Waste	Storm/Gound Water	• Pump Station renewal. • Pump overhaul and replacement.
	Buildings	The buildings will be reconstructed as part of landfill expansion.
	Leachate	• Pump replacement. • Handling system replacement.
	Landfill Gas	• Prefab well head and kanaflex replacement. • Well replacement due to collapse. • Occasional hose replacement if damaged. • Welding material to extend the well to continue filling the landfill. • Valve stem extension.
	Landfill Infrastructure	• Pads repair based on condition.

4.5 Decommissioning and Disposal Strategies

Effective asset decommissioning and disposal are integral components of strategic asset management. As the City's solid waste assets approach the end of their lifecycle or become obsolete, a systematic methodology to their removal and decommissioning is essential. This process involves careful planning, environmental considerations, and adherence to the City's regulatory requirements.

In the realm of solid waste AM, the disposal of landfill sites necessitates additional considerations due to potential environmental impacts. The Province of Ontario has established regulatory requirements in O.Reg 232/98 under the Environmental Protection Act to address these concerns[6].

Site closure activities entail the progressive closure of portions of the fill area as they reach final approved contours. For smaller sites like natural attenuation sites, completion of the final soil cover and limited post-closure monitoring may suffice. In contrast, larger, highly engineered sites would likely require the completion of various constructed works and significant ongoing monitoring and maintenance. Regardless of the site's size, the overarching goal for all closure activities is to ensure the outcomes are aesthetically pleasing and can provide long-term protection to the environment.

Post-closure care is also mandatory, with the duration depending on factors such as the environmental setting, the level of engineering, the required service lives of any engineered works, and the type of waste and remaining contaminant concentrations. This post-closure period may extend from many decades to several hundred years.

Table 4-4 summarizes the decommissioning and disposal activities associated with the City's solid waste assets.

Table 4-4: Decommissioning and Disposal Activities for Solid Waste Assets

Asset	Asset Category	Activities Undertaken by the City
Solid Waste	Buildings	• The demolition is planned as part of the Waste Management Environmental Assessment report. – Asbestos may present challenges during the process. – Demolition and rebuild is required during Cell #3 mining operations.
	Roads	• Road demolition and reconstruction will also be required during expansion and mining operations.
	Waste Collection	• Recycle or landfill carts. • Sell the old vehicles for residual value or scrapping. There is a market for old but functional municipal vehicles in smaller townships and villages that cannot afford or do not require brand new vehicles.

4.6 Risk Associated with Lifecyle Activities

In the context of AM, risk is defined as the consequence or impact of uncertainties on AM objectives. These uncertainties span a spectrum of events, including financial market fluctuations, unexpected asset failures, changes in regulatory environments, and other factors capable of influencing the performance or condition of assets. Risk management, developed to handle uncertainties in a systematic and timely manner, is a practical framework that ensures thoughtful decision-making and protects the achievement of goals. The risk management process generally follows a series of steps, as outlined in **Table 4-5**.

[6] Landfill standards: A guideline on the regulatory and approval requirements for new or expanding landfilling sites. (2012). Government of Ontario. Landfill standards: A guideline on the regulatory and approval requirements for new or expanding landfilling sites | ontario.ca. Retrieved on February 22nd, 2024.

Table 4-5: Key Steps in the Risk Management Process

Step	Description
1. Establish the context	• Define the scope of the risk management process and the objectives that the City seeks to achieve through effective risk management. • Consider the City's internal and external factors and understand stakeholder expectations.
2. Risk identification	• Identify potential risks that could impact the City's AM objectives.
3. Risk analysis	• Utilize qualitative or quantitative analysis methods to assess risks.
4. Risk evaluation	• Evaluate the likelihood and impact of identified risks. • Prioritize risks based on their criticality.
5. Risk treatment	• Develop strategies to reduce the likelihood and impact of identified risks. • Implement preventive measures to address potential issues proactively. • Establish contingency plans for managing risks that cannot be eliminated.
6. Monitor and review	• Regularly update risk assessments to reflect evolving circumstances. • Develop KPIs and monitoring tools to track the effectiveness of risk treatment strategies. • Learn from the City's past experiences and continuously improve risk management strategies.

Over the course of an asset's service life, the accelerating rate of deterioration with age poses inherent risks, inevitably leading to a corresponding increase in maintenance costs. **Figure 4-2** illustrates a general asset deterioration curve. This trend becomes particularly pronounced in the final phase of the asset's service life, where the cost of maintenance experiences a rapid escalation, highlighting the financial risks associated with prolonged neglect. This phenomenon underscores the critical importance of preventive maintenance in the early stages of an asset's service life. By addressing risks proactively during these initial periods, the potential financial burden tied to accelerated deterioration in later stages can be effectively mitigated.

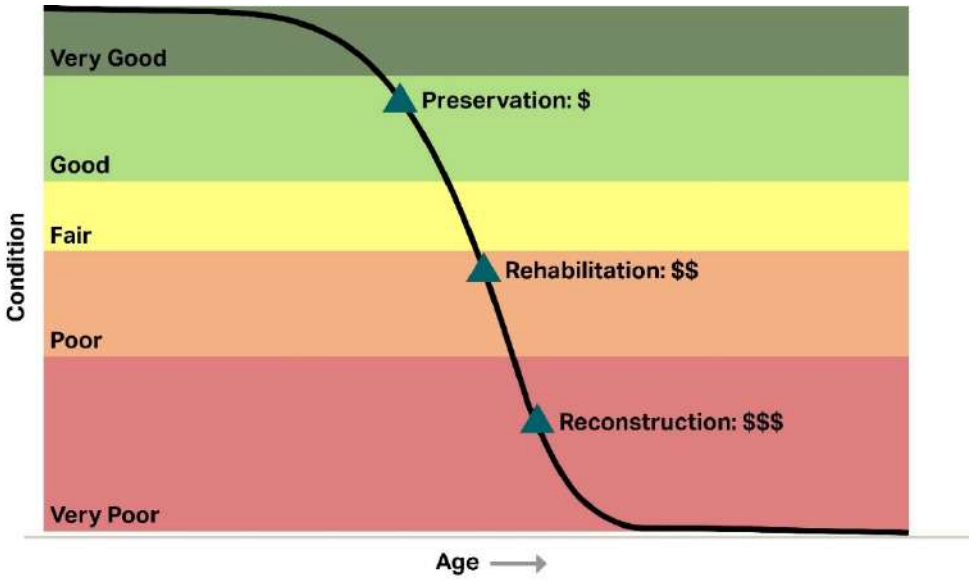


Figure 4-2: Asset Deterioration Curve and Rehabilitation Costs

Beyond the general guidance, the City's approach to risk management should be tailored to their overarching goals, financial resources, and willingness to tolerate uncertainties. To help shape the City's risk management process, AECOM recommends considering the following:

1. **Limited Specialist Vendors**: Specialist vendors for specific equipment maintenance are typically reliant on ongoing contracts and due to their size and specialist nature are more sensitive to losses of custom. Key vendors which are identified as of high importance to the City should be engaged proactively to build an improved relationship. Vendors which are identified as of high importance, and where the City is of significant

importance to them, should be engaged proactively for a strategic relationship that can encourage improved efficiencies and reliability.

2. **Increasing Maintenance Costs**: By implementing consistent and proactive maintenance schedules for landfill assets, the City can identify and address potential issues before they escalate. This preventive approach reduces the likelihood of major breakdowns or emergency repairs, ultimately minimizing the overall O&M expenses. Additionally, regular maintenance extends the lifespan of assets, enhances their efficiency, and ensures that they comply with safety standards, contributing to a more sustainable and cost-effective management of municipal resources.
3. **Specialized Parts and Limited Vendor Pool**: The supply chain for specialty equipment, like waste collection trucks, often rely on a limited pool of specialized vendors, while few of them are located within Ontario. In many instances, the required parts need to be shipped from overseas. This dependency can result in vulnerability to disruptions, such as production delays, supply shortages, or unexpected events affecting the vendor's operations. Consequently, it may lead to longer lead times and potential delays in maintenance. Addressing these challenges requires a strategic approach to enhance local capabilities, streamline vendor dependencies, and optimize the supply chain, ensuring the efficient operation and maintenance of crucial fire service assets within the City.
4. **Stringent Safety Standards and Changes in Regulations**: Specialty equipment is subject to rigorous safety standards and regulations; however, regulatory frameworks are dynamic and prone to change due to technological advancements, lessons learned from incidents, and evolving societal expectations. Therefore, staying ahead of these changes is crucial for the City to proactively identify and mitigate potential risks associated with non-compliance.

5 Funding Need Analysis

The following section outlines the funding needs for Solid Waste for the next 10-year period.

5.1 Capital and Operating Budget

5.1.1 Capital Budget - Historical Expenditure and Future Forecast

Historical capital expenditures for solid waste assets have typically included large asset acquisition with some asset renewal or replacement. Notable recent expenditures from the last five-years have been land acquisition for landfill expansion, Environmental Assessment (EA) and Options Report for expansion, and the Biosolids/SSO facility design. Table 5-1 present the five year capital reinvestment budget forecast.

Table 5-1: Capital Reinvestment Budget Forecast

Asset Class	Asset Group	Asset Type	2025-2029 5-Year Average Reinvestment Budget
Solid Waste	All except below	Buildings, Environmental Monitoring, Landfill Gas, Landfill Infrastructure, Leachate, Liners & Capping, Sanitary, Storm/Ground Water, Waste Collection. New Biosolids/SSO.	$1,383,000
	Landfill equipment	Heavy vehicles, light vehicles.	$486,000
		Total	**$1,869,000**

Note: Fleet vehicles are separated for the purposes of this AMP due to separate capital budget availability

5.1.2 Operating Budget - Historical Expenditure and Future Forecast

The City's historical operating expenditures for solid waste assets (Table 5-2) have centered on routine and corrective maintenance. These values have been determined using the selected business plan requirements.

Table 5-2: Operating Budget Forecast

Asset Class	Asset Category	Asset Type	2025-2029 5-Year Average O&M Budget
Solid Waste	All	Buildings, Environmental Monitoring, Landfill Gas, Landfill Infrastructure, Leachate, Liners & Capping, Sanitary, Storm/Ground Water, Waste Collection. New Biosolids/SSO. Heavy vehicles, light vehicles.	$1,705,000
		Total	**$1,705,000**

5.2 Capital Reinvestment Funding Needs Analysis

This section outlines the capital funding scenarios analyse approach, assumptions, and presents service level trends regarding asset condition under various budget scenarios.

5.2.1 Lifecycle Model Approach and Assumptions

The lifecycle analysis was implemented within an PowerBI Model. The analysis involves integrating key asset attribute information including asset inventory, age, expected service lives, replacement values, and condition to create a theoretical asset replacement cycle for each asset. The other relevant capital upgrade needs information (e.g., the City's current Biosolids/SSO facility) were also considered in the lifecycle model. No condition assessment results of were available to incorporate into the analysis. A financial dashboard was developed to present the lifecycle modeling results.

The annual reinvestment needs for the solid waste assets were determined based on their age and ESL in years (i.e., replacing assets that have exceeded their ESL, in inflated dollar values, incorporating the following assumptions on inflations:

- The base year used is 2025. Any historic asset replacement values have been inflated using the experienced inflation rate from Non-Residential Building Construction Price Index (NRBCPI).
- Inflation rate: the inflation rates adopted for the financial model are presented in **Table 5-3**. The inflation for 2025 and later is determined based on the City's input.

Table 5-3: Inflation Rate[7]

Year	Inflation Rate
2022	7%
2023	7.1%
2024	6%
2025	2%
2026	2%
2027	2%
2028	2%
2029	2%
2030 - 2034	2%

Table 5-4 presents the proposed reinvestment targets for solid waste infrastructure from 2025 to 2034. It outlines the intervention measures and target percentages for each asset type, along with the resulting average annual reinvestment rates over the 10-year period.

[7] Past inflation data obtained from NRBCPI using the non-residential; yearly result taken from an average of quarterly results. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810027601

Table 5-4: Solid Waste Reinvestment Assumptions

Asset Category	Asset Sub-Category	Measure	Target	Resulting 10-Yr. Annual Avg. Reinvestment Rate (2025- 2034)
Buildings	All	Planned for replacement during landfill expansion and cell works. Assumed timeline of 2040.	100%	**3.0%**
Environmental Monitoring	All	Percentage of monitoring equipment exceeding their expected service life, that are replaced in 2025 and thereafter.	100%	
Landfill Equipment	All	Percentage of assets exceeding their expected service life, that are replaced in 2025 and thereafter.	100%	
Landfill Gas	All	Percentage of assets exceeding their expected service life, that are replaced in 2025 and thereafter.	100%	
Landfill Infrastructure	Appurtenances & Misc	Fences are assigned a repair cost annually.	1% of replacement value	
		All other assets based upon a percentage of assets exceeding their expected service life, that are replaced in 2025 and thereafter.	100%	
	Pads & Lots	Concrete and asphalt pads and lots are assigned with a repair cost annually.	1% of replacement value	
	Roads	Access roads are assigned a repair cost annually based upon the roads AMP.	0.4% of replacement value	
		The perimeter road is assigned a repair cost annually based upon the current maintenance expenditure.	1% of replacement value	
	Scales	Percentage of assets exceeding their expected service life, that are replaced in 2025 and thereafter.	100%	
Leachate	All	Percentage of assets exceeding their expected service life, that are replaced in 2025 and thereafter.	100%	
Liners & Capping	Landfill Caps	Landfill caps are assigned a repair cost annually based upon the forecast amount during post closure (removing the well maintenance cost from the annual forecast).	0.35% of replacement value	
Sanitary	All	Percentage of assets exceeding their expected service life, that are replaced in 2025 and thereafter.	100%	
Storm/Ground Water	All	Percentage of assets exceeding their expected service life, that are replaced in 2025 and thereafter.	100%	
Waste Collection	All	Percentage of assets exceeding their expected service life, that are replaced in 2025 and thereafter.	100%	

In the future, when condition assessment programs are implemented, conditions will be used to update the renewal and replacement forecast to better inform asset reinvestment needs.

5.2.2 Solid Waste Assets Budget Scenarios & 10-Year Service Level Forecast

This section presents the budget scenario analysis and the 10-year service level forecast for solid waste assets.

5.2.2.1 Budget Scenarios Setting for Solid Waste Assets (excluding Landfill Equipment

Table 5-5 budget scenarios setting for all assets. Scenario 1 (S1) is a “Do Nothing” approach with zero expenditure; S2 assumes an ideal, unconstrained budget enabling asset replacement at end-of-life; and S3 reflects the City’s defined budget at $1.2 million annually (note this is an annual budget taken over 10 years as provided by the City).

Table 5-5: Solid Waste Assets Budget Scenarios (excluding landfill equipment)

Scenario		Description	Budgets
S1	Do Nothing	Spend Nothing	$0 million
S2	Unconstrained Budget	Replace assets at end of life	Unlimited
S3	City's Planned Budget	City's Current Planned Budget	$1.2 million annual budget

5.2.2.2 Solid Waste Assets Funding Need

The average annual reinvestment estimates for the City's solid waste assets (excluding landfill equipment) is $1.2 million over the next 10 years in inflated dollar values. This is equivalent to a total of approximately $12 million over the next 10-year period, as presented in **Figure 5-3**. The City should note that there are several waste collection trucks in backlog for reinvestment as they have exceeded their ESLs. This theoretical expenditure spike is presented in the year 2025 in **Figure 5-3.**

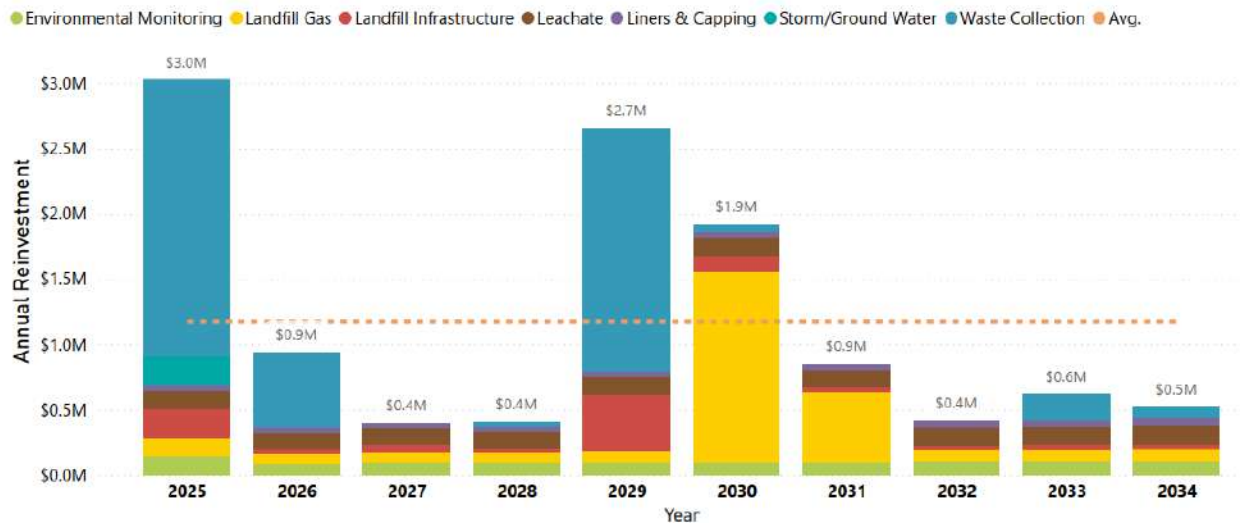


Figure 5-1: 10-Year Funding Need for Solid Waste Assets – Unlimited Budget Scenario

The detailed 10-year reinvestment needs all Solid Waste assets excluding landfill equipment in **Table 5-6** in inflated dollar values.

Table 5-6: Solid Waste Assets 10-Year Total and Annual Average Capital Reinvestment Need

Asset Type	Annual Average Need	10-Year Total
Buildings	$0	$0 (if replaced in 2040)
Environmental Monitoring	$104,000	$1,040,000
Landfill Gas	$271,000	$2,710,000
Landfill Infrastructure	$105,000	$1,050,000
Leachate	$132,000	$1,320,000
Liners & Capping	$48,000	$480,000
Sanitary	$0	$0
Storm/Ground Water	$23,000	$230,000
Waste Collection	$491,000	$4,910,000
Total	**$1,174,000.00**	**$11,740,000.00**

5.2.2.3 Solid Waste Assets 10-Year Service Level Trend Forecast

Figure 5-2 presents the projected condition of solid waste assets (excluding landfill equipment) under three funding scenarios over a 10-year period. Currently, 76% of assets are in fair or better condition. Under the "Do Nothing" scenario, the service level declines steadily to 59% by 2034. With an unlimited budget of approximately $1.17 million annually, the asset condition improves to 81%. Under the City's current budget, the service level achieves the same end goal with the only difference being backlog being address quicker with an unlimited budget.

These projections indicate that the City's current funding is sufficient to sustain current service levels for solid waste assets over the long term. Additional investment or complementary strategies may be needed to support assets with no required funding in this forecast and to optimize expenditures of assets which may be disposed of during landfill expansion.

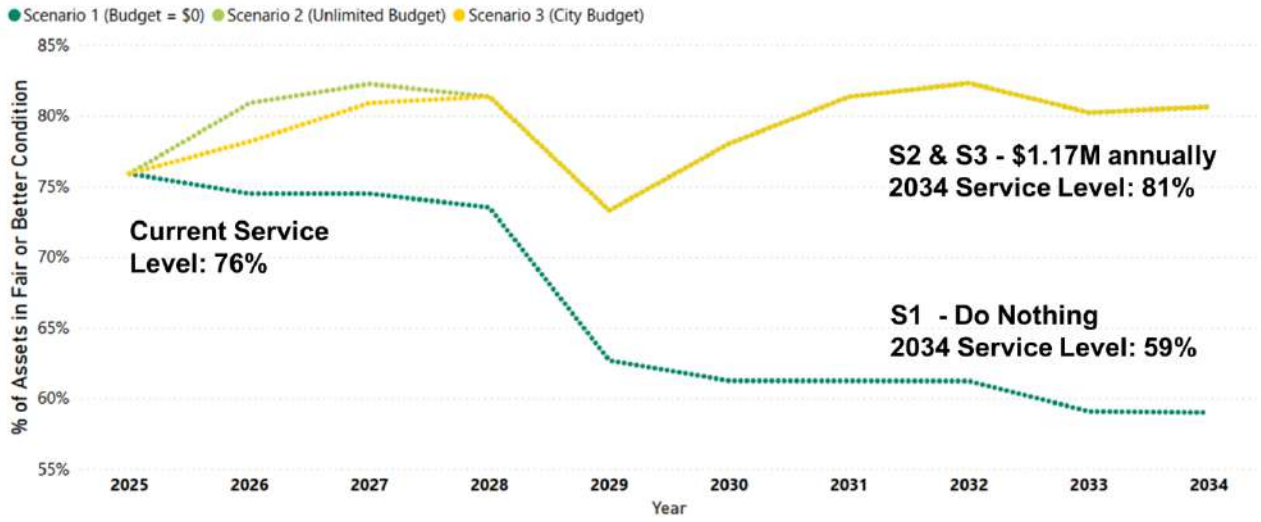


Figure 5-2: Solid Waste Assets Levels of Service Trend in the Next 10-Year for All Budget Scenarios

Figure 5-3 illustrates the projected condition distribution of solid waste assets from 2025 to 2034, assuming the City maintains its current annual investment of $1.2 million. Currently, 67% of assets are in very good condition, however there are 24% rated as poor or very poor. Under continued funding at this level, the condition of the asset base is expected to increase steadily. By 2034, only 19% of assets are projected to be in poor and very poor condition, while the share of assets in fair or better condition increases from 76% to 81%.

This indicates that the current funding requirement of the business plan that has been committed to by the City is sufficient to maintain current levels of service. It should be noted however that this conclusion is limited by the estimates made in condition and installation date for all assets within scope and ongoing refinement of the asset inventory will have significant bearing on the actual requirements.

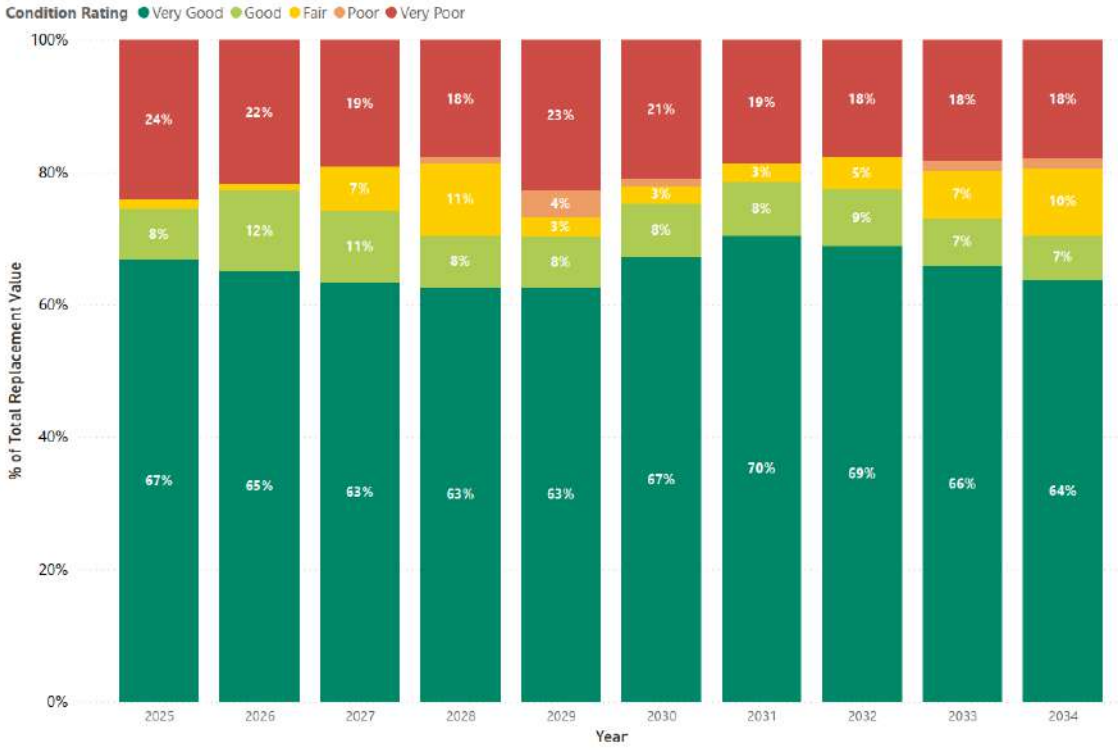


Figure 5-3: Solid Waste Assets Condition Projection under Scenario 3 - City's Planned Budget

5.2.3 Solid Waste Landfill Equipment Budget Scenarios & 10-Year Service Level Forecast

This section presents the budget scenario results and the 10-year service level forecast for landfill equipment (heavy equipment, light vehicles and material handling. These assets are separated from the forecast above due to their separate capital line requested in the current budget to allow direct comparison.

5.2.3.1 Budget Scenarios Setting for Landfill Equipment Assets

Table 5-8 shows budget scenario setting for landfill equipment. S1 is a "Do Nothing" approach with zero expenditure; S2 assumes an ideal, unconstrained budget enabling asset replacement at end-of-life or rehab where applicable; and S3 reflects the City's defined budget at $0.7 million annually (note this is in comparison to the $0.486 million figure previously identified in **Table 5-1**). It should be noted that this expenditure is currently planned to be over 5 years with no additional capital currently in plan post 2029.

Table 5-7: Landfill Equipment Assets Budget Scenarios

Scenario		Description	Budgets
S1	Do Nothing	Spend Nothing	$0 million
S2	Unconstrained Budget	Replace assets at end of life or rehab where applicable	Unlimited
S3	City's Planned Budget	City's Current Planned Budget	$0.7 million annual budget

5.2.3.2 Landfill Equipment Funding Need

The average annual reinvestment estimates for the City's solid waste facility is $0.6 million over the next 10 years in inflated dollar values. This is equivalent to a total of approximately $5.7 million over the next 10-year period, as

presented in **Figure 5-4**. The reinvestment needs vary significantly from year to year. A funding need spike is observed in 2025 and 2032, where total reinvestment needs are primarily driven by heavy equipment replacement.

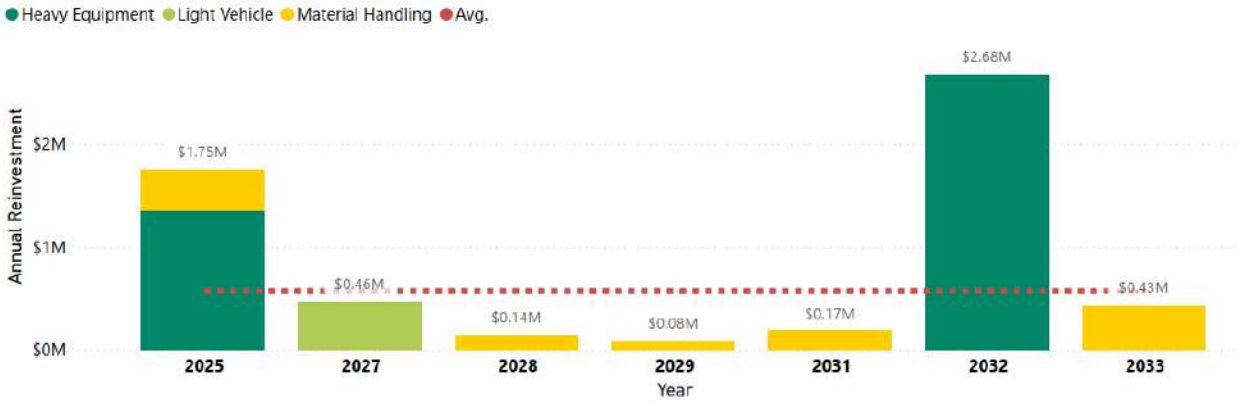


Figure 5-4: 10-Year Funding Need for Landfill Equipment Assets – Unlimited Budget Scenario

The detailed 10-year reinvestment needs for landfill equipment is presented in **Table 5-8** in inflated dollar values.

Table 5-8: Solid Waste Landfill Equipment Assets10-Year Total and Annual Average Capital Reinvestment Need

Asset Type	Annual Average Need	10-Year Total
Heavy Equipment	$403,000	$4,030,000
Light Vehicle	$46,000	$460,000
Material Handling	$122,000	$1,220,000
Total	**$571,000**	**$5,710,000**

The current period that the budget is planned over is condensed over five years and therefore some assets may be replaced ahead of their ESL based upon their condition using a Weibull analysis.

5.2.3.3 Landfill Equipment 10-Year Service Level Trend Forecast

This analysis models the service level in terms of condition of solid waste facility assets over a 10-year horizon under three funding scenarios shown in **Figure 5-5**. Currently, approximately 89% of the City's landfill equipment assets are in fair or better condition. In a "do nothing" scenario, the condition of the asset base declines significantly, with only 61% of assets projected to remain in fair or better condition by 2034. In a scenario assuming unlimited funding results in a stabilized condition level of approximately 93% by 2034. Notably, the City's current budget scenario yields identical results, due to the current plan matching forecasts made by the current business plan.

This finding indicates that the City's current level of capital investment in landfill equipment assets is adequate for maintaining asset condition over the next decade.

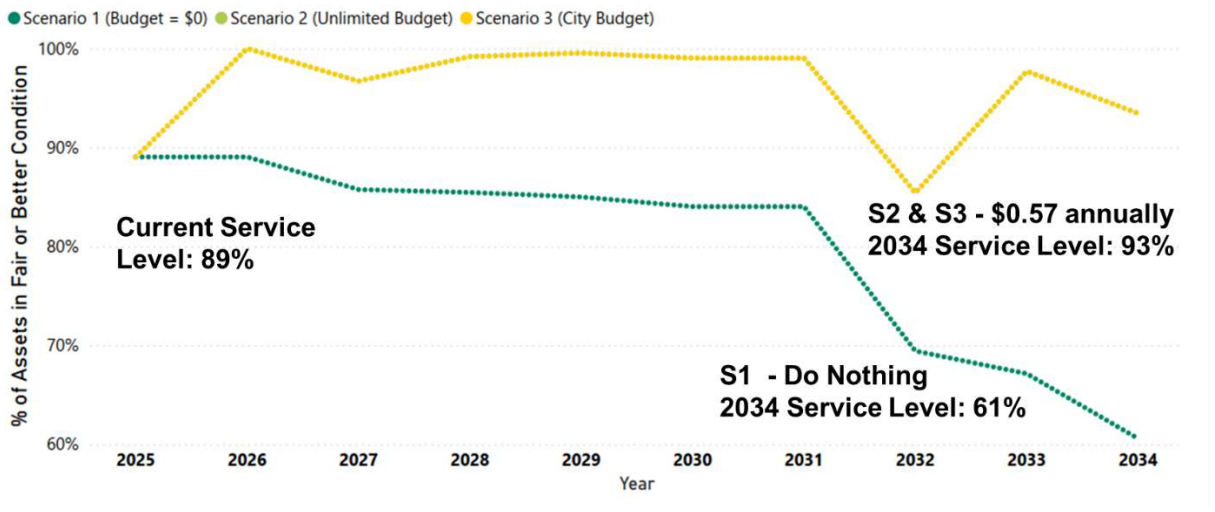


Figure 5-5: Landfill Equipment Levels of Service Trend in the Next 10-Year for All Budget Scenarios

Figure 5-6 shows the detailed condition distribution profile under the City's planned budget scenario for landfill equipment assets. Notably, the percentage of assets in poor and very poor condition remains low until 2032, reflecting the impact of single, high value aging assets. From 2029 onward, the condition profile becomes less dominated by very good assets indicating the start of an optimized approach to replacement and expenditure.

This indicates that the City's current level of investment is sufficient to maintain overall system performance, provided that assets are renewed in a timely and strategic manner.

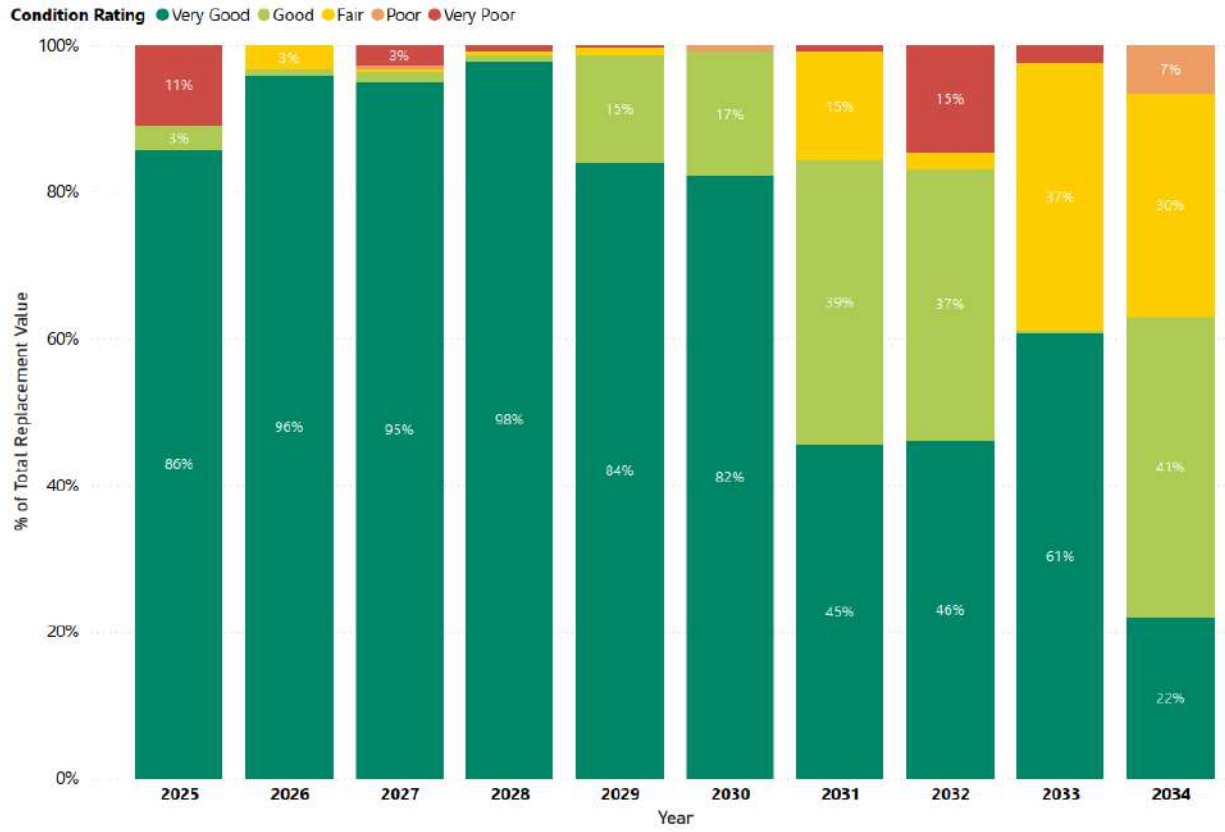


Figure 5-6: Solid Waste Assets Condition Projection Under Scenario 3 - City's Planned Budget

5.3 Growth Related Capital and O&M Funding Need

The growth-related capital funding for solid waste services include a need to acquire the Biosolids Management Facility, landfill pump station upgrades, and Cell 1 construction.

Biosolids / SSO: Capital costs are estimated at $43.8 million over 2025–2029. Base O&M costs are estimated at $1.5 million (in 2023-dollar values)—allocated 80% to wastewater and 20% to solid waste—and will be adjusted for inflation. Due to a learning curve, the first two years of operation (2027–2028) will incur costs at 150% of the base rate. Consequently, an additional annual O&M budget of approximately $0.32 million (in 2025 dollars) is needed for solid waste services, rising to about $0.4 million during the first 10 years of operation years with an additional $0.16 million (2025 dollars) in 2027 and 2028 to account for additional early operating costs. This translates to a total of $4 million in O&M funding needs over the next 10 years for the Biosolids Management Facility. The O&M costs are accounted for in the business plan within Waste Collection and Disposal costs. The overall increase is approximately $0.25 million lower than without the SSO plan as sewage sludge disposal management costs are no longer incurred.

Landfill Pump Station: Capital costs are estimated to be $1.8 million. No additional O&M costs are currently identified at this time although minor impact to the AMP will be incurred due to a reset of asset condition.

Cell 1 Mining: Capital costs are estimated to be $10.5 million. No additional O&M costs are currently identified at this time although minor impact to the AMP will be incurred due to a reset of asset condition and potential changes to ESL of installed equipment based upon available technology.

5.4 Full Funding Profile

Figure 5-7 shows a full picture of the City's solid waste funding need forecast over the next 10 years, which provides the City the funding requirements in order to perform effective financial planning activities. The total annual reinvestment cost from **Figure 5-1** has been split between capital expenditure (split into committed projects, rehabilitation, replacement, and disposal) and O&M costs (waste collection and disposal costs, diversion material collection and processing costs, and general costs). The allocation for asset disposal costs is based on 1% of the replacement and rehab costs.

The City's solid waste full funding requirement varies between approximately $6.4 million and $19.3 over the next 10 years. It should be noted that there is currently a significant drop off in identified capital spend in 2032 as current plans accounted for are the five year City plan and the large capital requirements identified in the business plan (that cease in 2031). Post 2031 the only capital costs identified by the City are annual engineering costs. See **Section 5.3** for the current estimated funding need for growth.

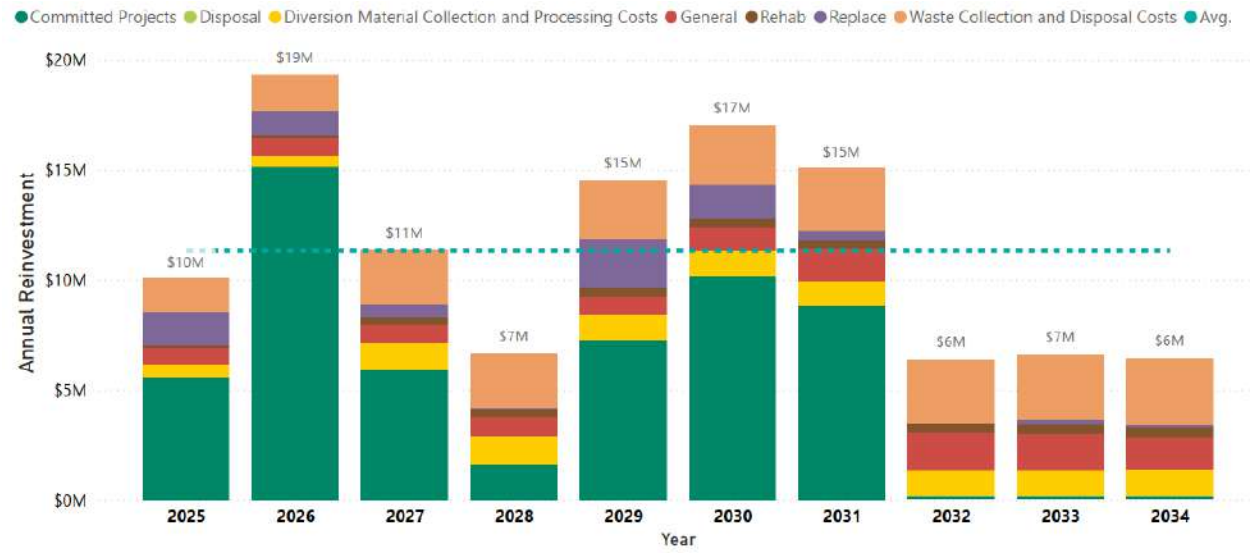


Figure 5-7: Full Funding Profile (City's Planned Capital Reinvestment Budget Scenario Included)

5.5 Funding Gaps & Risk

The City intends to continue to invest in the growth and renewal of the solid waste assets over the next 10 years. Table 5-9 compares the City planned capital reinvestment budget against the capital reinvestment funding needs. The shortfall between the City planned capital reinvestment budget against the capital reinvestment funding needs is referred to as the "funding gap".

Table 5-9: Funding Gap – Capital Reinvestment Funding Needs vs. Budget Forecast

Asset Class	10-Year Need Total ($Million)	10-Year City Budget Total ($Million)	10-Year Gap Total ($Million)
All (excluding below)	$11.7	$11.2	Very Close to Adequate ($0.5 million
Landfill Equipment	$5.7	$6.6	Adequate

The growth-related capital funding need is outlined in Section 5.3, which is currently accounted for in the solid waste business plan.

As described in Section 3.5, risks are identified for each service level performance measure.

Table 5-10 provides a high-level overview of the key risks associated with funding gaps, as well as the potential consequences and impacts of not meeting the proposed service levels.

Table 5-10: Risk of Delayed Intervention for Solid Waste Assets

Key Risk	Asset	Potential Consequences/Impacts
Insufficient funding to keep up with population and demand increases	All solid waste assets (especially landfill infrastructure)	- Inability to consume waste generated by growth. Waste will have to be transferred to private landfill at expense to the City.
	Waste Handling	- Insufficient resources to collect waste from residential growth.
Insufficient funding for asset renewals (not currently a risk but recorded as an output of discussions with the City)	All solid waste assets	- Declining asset condition over time - Greater reliance on reactive maintenance - Reactive interventions are costlier than proactive actions - Increased frequency of service interruptions and asset failures - Compromised regulatory compliance - Reduced system resiliency and redundancy (particularly waste collection and landfill operations).
Higher vulnerability of assets to emergencies/ extreme weather events	All solid waste assets	- Damage to infrastructure from more frequent and severe weather due to climate change - This impact of severe weather (increased rainfall and rapid snow melt) can combine with normal landfill operation to increase leachate production.
Insufficient funding for operations and maintenance	All solid waste assets	- Increasing annual maintenance costs as infrastructure ages. This will be most felt in landfill equipment where routine maintenance allows equipment to meet ESLs. - Emergency responses divert resources from routine maintenance and equipment downtime can create operational backlog and potentially increase complaints if routine cover cannot be positioned. - More time spent responding to odour complaints.

5.6 Funding Sources & Alternative Strategies

The Funding Gap represents the shortfall between optimal and forecasted funding levels, currently there is a gap between the revenue produced by solid waste and the expenditure required to maintain services. Internal funding such as the general levy rate is more stable as it is under the City's direct control but is dependant on the forecast annual percentage increase of taxes. Fee mechanisms are also in use to supplement revenue, several are in use and for usage fees charged to the end user are based upon a 20% increase every 5 years. Other revenue sources such as the sale of scrap metal are also available, but the revenue generate is subject to market forces. Information supplied by the City as well as previous work carried out by AECOM has identified the following internal revenue sources.

- Bag fee. Currently $2 and increases by 20% every 5 years.
- Gate fee. Currently $14.40 and increases by 20% every 5 years.
- Scrap metal. Currently $364 per tonne and increased by inflation for planning purposes.
- General levy. Calculated as the last available year (2024) increased by 8.044%
- The sewage sludge tipping fee is applicable for 2025 and 2026 until the Biosolids plant comes online.

Note that Hazardous Special Waste (MHSW) and Waste Electrical and Electronic Equipment (WEEE) are captured under government grants as these fees are beyond the control of the City.

External funding, such as provincial or federal grants, is considered at risk as these external sources are subject to change based on policy shifts or economic conditions. Overreliance on such funding creates vulnerability, as any reduction can compromise planned infrastructure investments or service continuity. The current 5-year average grant received is approximately $0.67 million which equates to approximately 10% of the total revenue. The following government grants have previously been received by the City, their 5-year average is included below.

- Ontario grant - curbside recycling. 5-year average $0.6 million, received every year.
- Ontario grant - hazardous waste (MHSW). 5-year average $52,000, received every year.
- Ontario grant – Tires (OTS). 5-year average $159, received in 2020 only.
- Ontario grant – Electronic (WEEE). 5-year average $12,000, received every year.
- Canada grant - Canada works. 5-year average $1,400, received in 2022/23 only.

To manage any potential gap the City has explored several financial based approaches which are currently in use or may be used in the future.

- Planning – Solid waste relies upon a clear business and implementation (B&I) plan as a guide for budget request and to support plans for use of additional fees, levies and use of reserves. This has also supported cases over the course of time as new capital requirements have come to forefront and request have gone before council.
- Internal leasing - Currently vehicles are rented from Public Works (PW) and rental credits applied internally. This improves the bargaining power of the City as vehicles are contracted centrally.
- Policy - Funding from higher government that may be available to support expenditure on the SSO/Biosolids plant.
- Fee Setting – The intention of the fee setting is to attempt to maintain a surplus through fees. The City can consider a larger increase in fees or the same percentage split but enacted annually.

Recognizing the constrains of internal funding and limitations and uncertainties associated with external funding, it becomes increasingly important to explore complementary approaches that do not depend solely on financial sources. In this context, alternative or non-financial strategies play a critical role in enhancing the City's ability to manage service levels and asset performance within existing fiscal constraints. **Table 5-11** highlights the City's non-financial strategies to address increase revenue, decrease expenditure and maintain a minimal funding gap. These strategies are designed to support long-term financial sustainability through alternative delivery methods, changes in practices or policies, and system optimization, without relying solely on increased funding.

Table 5-11: Non-Financial Strategies to Address Funding Gaps for Solid Waste Services

Category	Strategy	Description / Actions
Community Engagement	Social media and advertisements	Communicate benefits of reduced waste generation and improved diversion.
	University links	A combination of targeting education at a generation that will be producing waste for the longest period but who have the most to gain and promoting waste management as a potential career.
Operational & Engineering Solutions	Operational efficiencies	There are limited operational efficiencies available due to the current organizations size.
	Resource sharing	The new Biosolids/SSO could use resource sharing. Staff may be dual trained and some equipment will be shared.
	Optimize temporary staff	9-15 seasonal workers are currently required by the landfill. Due to seasonal swings in demand these roles could potentially be joint sourced with other temporary staff within the City to reduce hiring costs and reduce churn.
	Proactive condition assessment	Assess the condition of assets on a set frequency to improve accuracy and reliability of the AMP.
Partnership and collaboration	Waste collection	While having a financial impact, the benefits of the current contract are several. The current hybrid approach (split services between the City and private contractor) ensures operational resilience, keeps contractors cost competitive, and allows flexibility to upscale easily with several options. The intention is to keep the collection program as is.
	Wastewater department	SW have partnered with the wastewater department for the design, construction and operation of the SSO.
	Electricity generation	Previous work had been undertaken to attempt power generation from landfill gas. Dependant on landfill contents and gas production this option may reduce as biological and SSO waste is diverted to the new plant

6 Implementation Plan and Continuous Improvement

Continuous improvement is an important component of any AM program and is achieved through the implementation of recommended improvement initiatives which support sustainable service delivery. While the City's solid waste assets are in a relatively good condition at the moment, there are future challenges that must be contended with considering projection presented previously. It is important to address these challenges thoroughly and promptly to leave a positive legacy for future generations

AECOM has identified a set of activities that represents the next stage of AM planning and implementation within the City, as shown in **Table 6-1**.

Table 6-1: Recommended AM Improvement Initiatives

Index	Improvement Initiative	Description
1.	Refine the asset hierarchy and inventory.	• Continue to refine the asset inventory and close existing data gaps, so as to have a more accurate representation of the current state of the solid waste assets; and, ultimately, to make more informed and defensible decisions. • A site validation exercise should be undertaken to confirm the site inventory. The site inventory for this AMP was created using desktop sources available to AECOM and are should therefore be validated.
2.	Develop a formalized solid waste assets condition assessment process and use consistent condition grading schemes for these assets.	• The grading system should include a description directly tied to each condition grade, along with details about the asset's performance and the necessary level of corrective and preventive maintenance required for assets falling within a certain condition rating category. This process will enable the City to keep track of and better forecast asset renewal needs. • Perform condition assessments on the most critical assets first. This ensures that assets are assessed using the same methodology and prioritized based on their criticality. It facilitates a more defensible business case when addressing issues of asset degradation with senior management and the Council. • A specific approach for usage of landfill capacity should be used when treating the land as an asset. In all other AMPs the land value is not treated as a capital asset that requires replacing as typically land can be re-used or replaced for a similar cost to that achieved in sale. Landfills and cemeteries by their nature treat land as a consumable asset, and therefore the condition and remaining ESL should be tied directly to the forecast remaining capacity and life expectancy.
3.	Refine the Levels of Service Framework.	• The AMP represents the City's LoS in alignment with the requirements of O. Reg. 588/17 July 1, 2025 deadline. The City will continue its efforts to: – Regularly record LoS performance measures to monitor changes over time and identify emerging trends. – Review and update performance measures as needed to ensure they remain relevant and effective. – Periodically assess proposed LoS to confirm alignment with shifting community expectations, regulatory changes, City priorities, available resources, and observed performance trends—supporting adaptive and responsive service delivery. – Continuously enhance demand management by routinely evaluating future demand drivers that influence service delivery and asset use, integrating these insights into long-term capital planning to ensure LoS remains responsive to changing needs.
4.	Incorporate risk assessment for future iterations of the AM plan, and use the risk assessment results to drive future condition assessments and financial needs forecasting	• Conduct a comprehensive criticality and risk assessment of assets to inform work prioritization. • Review risk attribute values periodically to ensure alignment with business objectives and risk appetite. • Overlay the risk model with the current state of the assets (i.e., condition) and the financial forecast. Using this approach, the City could focus its monitoring, maintenance, and renewal and replacement budget and activities on high-risk assets. Medium-risk infrastructure could be addressed through the mitigation of failure via regular monitoring, while low-risk assets could be accepted with caution.

Index	Improvement Initiative	Description
5.	Funding Need	• The financial model is based on several assumptions previously outlined. It is recommended the City address each area to improve accuracy of the funding need projection. • The funding needs and gap are reported as $0.5 million over 10 years in **Sections 5.4** and **5.5.** Enhanced forecasting on the future demand is critical to financial planning. An understanding of the future growth of the City in relation to single family homes and multi family homes is required to accurately forecast the demand on waste collection services.
6.	Business plan update	At the next business plan update: • Include a full allowance for all assets within the equipment and infrastructure budgets. The outstanding costs not included within the current business plan are discussed within **Section 5.2**. • Account for forecasted growth within the City and consider the true impact of that particular growth (single family homes vs multi-family) on the demand for solid waste services. • Use a true reflection of inflation, interest and financing rates.
7.	Refine and Regularly Update the Solid Waste Lifecycle Funding Model.	• The current solid waste funding model is built on available data, assumptions, and generalized asset information, providing a high-level estimate of future funding needs. As such, it is essential to refine the model periodically by incorporating updated data—such as asset condition assessments, project cost information, and implementation schedules—to improve its accuracy. Project timing and costs should also be reviewed and adjusted as projects near execution to ensure realistic planning and budgeting.
8.	Continue to monitor growth needs and demand realities into the financial forecast and update the solid waste AM Plan as appropriate	• The volume of produced waste is expected to grow in line with an increase in the City's population. AECOM recommends that the City: • Includes growth-related capital needs as part of the capital budgeting. • Coordinates AM planning and development planning processes to ensure that the infrastructure systems that are built to serve new growth can be sustained over the long term. • Ensure that the solid asset inventory is always kept current as new assets are added and existing assets are refurbished or retired. • Update LoS values for waste capacity and production to allow future life calculation of landfill and requirement of assets.
9.	Continue to find ways to improve AM initiatives across the City by maintaining a high level of AM awareness through training, communication, and knowledge sharing.	• Conduct an AM Software Assessment to identify future system requirements, which may involve enhancing existing software, adding new features, or replacing the current system. • Develop a Knowledge Retention Strategy and Internal Communications Plan to document staff AM knowledge and experience for reporting and succession planning purposes. Communicate AM improvement initiatives and enhance AM awareness internally through internal communication.
10.	Establish a structured approach to public and Council engagement to ensure the AMP aligns with community expectations, supports informed decision-making, and enhances transparency, the City is committed to establishing a structured approach to public and Council engagement.	• Hold presentations and conducted media events to share key project updates. • Develop Councillor Tool Kits to equip elected officials with clear and consistent messaging, including project overviews and frequently asked questions, to help them confidently respond to inquiries from residents. • A dedicated project webpage. This webpage would serve as a central hub for infrastructure planning updates, answering frequently asked questions, downloadable resources, project timelines, contact information, and an interactive feature to encourage two-way communication. • A targeted social media strategy is recommended to further broaden outreach—leveraging platforms such as Facebook and Instagram, including the use of sponsored posts to promote project milestones and public input opportunities.

APPENDIX A

Solid Waste Asset Inventory

A



About AECOM

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WASTEWATER ASSET MANAGEMENT PLAN

FINAL | 60735219 | June 2025



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List of Abbreviations

Abbreviation	Description
AM	Asset Management
AMP	Asset Management Plan
ARC	Arc Chambers
CCTV	Closed Circuit Television
CIBI	Canadian Infrastructure Benchmarking Initiative
CMMS	Computerized Maintenance Management System
Conveyance-FM	Conveyance – Force Mains
Conveyance-GRAV	Conveyance – Gravity Mains
Conveyance-MH & CHAM	Conveyance – Manholes and Chambers
Conveyance-SC	Conveyance – Service Connections
ESL	Expected Service Life
FIPPA	Freedom of Information and Protection of Privacy Act
FLSH	Flushing
GIS	Geographic Information System
I&I	Inflow & infiltration
LoS	Level of Service
MFIPPA	Municipal Freedom of Information and Protection of Privacy Act
O&M	Operations and Maintenance
O. Reg.	Ontario Regulation
PUC	Public Utilities Commission
RSL	Remaining Service Life
SCADA	Supervisory Control and Data Acquisition
WWTP-EE	Wastewater Treatment Plant East End
WWTP-WE	Wastewater Treatment Plant West End

1 Introduction

AECOM Canada ULC (AECOM) was retained by The City of Sault Ste. Marie (the "City") to update the asset management plan developed in 2022 to comply with the third phase (Phase III) of the Ontario Regulation 588/17 (O. Reg. 588/17) requirements in respect to its core municipal infrastructure assets. The scope of work is outlined in AECOM's proposal dated September 20, 2024, and subsequent project correspondence.

1.1 Background

Sault Ste. Marie is a City located on the St. Mary's River, North of the United States of America, bordering on two of the Great Lakes with an estimated population of 73,368 (2016). The City provides a wide range of public services to their constituents with the expectation from the public that these services are expected to function efficiently at a certain level. The provision of these services requires the management of the physical assets to meet desired service levels, manage risks, and to provide long term financial sustainability. These assets include, but are not limited to roads, bridges, sidewalks, wastewater assets, stormwater management assets, landfill, fleets, buildings, and parks.

In accordance with the terms of reference for this assignment, it is understood that the City is proceeding with an asset management plan to comply with the third phase of the regulatory requirements in respect to its core municipal infrastructure assets, in accordance with O. Reg. 588/17, by July 1, 2025. The core assets to be included in the scope, as defined by the regulation, include the City's wastewater assets, stormwater management assets, roads, and bridges and culverts.

1.2 Scope and Objectives

In 2015, the City's first Asset Management Plan (AMP) was published. In 2019, by the City Council approval, the Strategic Asset Management (AM) Policy for the City came into effect. In 2022, the City published its core asset AMPs. Following that, the City developed the AMPs for its non core assets in 2024.

Organizations that implement good AM practices will benefit from improved business and financial performance, effective investment decisions, and better risk management. Stakeholders can expect lower total asset life cycle costs, higher asset performance, and confidence in sustained future performance.

The AMPs capture the City's infrastructure assets and deliver a financial and technical roadmap for the management of the City's assets. The intent of this plan is to provide the means for the City to maximize value from its assets, at the lowest overall expense while, at the same time, enhance service levels for its residents.

The objective of Phase III is to update all the core and non-core AMPs to comply with the July 1st, 2025, deadline set by O. Reg. 588/17. Phase III will update the AMP by incorporating the latest asset information, with a focus on:

- Updating the current AMPs to integrate proposed Levels of Service (LoS).
- Defining the lifecycle activities and associated costs required to achieve those LoS.
- Identify the available funding and any funding shortfalls.
- Document the risk(s) of failing to meet the proposed LoS for all asset classes over a 10-year period.

This AMP is an update of the 2022 AMP for the City's Wastewater management system, as shown in **Table 1-1**. Other core and non-core AMPs are presented under separate reports.

Table 1-1: In-Scope Wastewater Assets

Asset Category	Sub-Assets
Wastewater Treatment Plants	East End Wastewater Treatment Plant (WWTP-EE) and West End Wastewater Treatment Plant (WWTP-WE) including Structural, Process Mechanical, Building Mechanical, Electrical, and Instrumentation & Control Assets.
Pump Stations	Structural, Process Mechanical, Building Mechanical, Electrical, and Instrumentation & Control Assets.
Wastewater Conveyance System	Wastewater gravity mains, force mains, manholes, chambers, and service connections.

The following elements are included within the scope of this AMP:

- Asset hierarchy, a summary of the asset inventory, including the replacement cost of the assets, the average age of the assets, the condition of the assets, and data gaps analysis (**Sections 2**).
- The City's level of service objectives, stakeholder identification, current levels of service (LoS) determined in accordance with the qualitative descriptions and technical metrics outlined in O. Reg 588/17, proposed service levels, LoS forecast, and future demand drivers (**Section 3**).
- Asset lifecycle management strategies, lifecycle activities and funding needs to achieve proposed LoS, risk of not meeting proposed LoS, available funding and funding gap, and alternative (non-financial) strategies to manage funding shortfall (**Section 4** and **Section 5**)

1.3 Asset Management Provincial Requirements

The O. Reg. 588/17 came into effect in 2018 and stipulates specific AM requirements to be in place within Ontario municipalities by certain key dates (**Table 1-2**). The development of this AMP is one of the steps to guide the City towards meeting the July 1st, 2025 deadline.

Table 1-2: O. Reg. 588/17: AM Planning for Municipal Infrastructure

Deadline Date	Regulatory Requirement
July 1st, 2019	All municipalities are required to prepare their first Strategic AM Policy.
July 1st, 2022	All municipalities are required to have an AM Plan for its entire core municipal infrastructure (i.e., water, wastewater, stormwater, roads, and bridges & culverts).
July 1st, 2024	All municipalities are required to have an AM Plan for infrastructure assets not included under their core assets.
July 1st, 2025	All AM Plans must include information about the LoS that the municipality proposes to provide, the lifecycle activities and associated costs needed to achieve those LoS, available funding, any funding shortfalls, and the risk of failing to meet the proposed LoS.

2 State of Infrastructure

The City's wastewater conveyance system is a combination of linear sewer mains and force mains that is connected to the City's 25 sanitary pumping stations. Wastewater generated by the City flows through over 664 kilometers of service connections, gravity, and force mains before it eventually reaches the City's two wastewater treatment plants, namely the East End Wastewater Treatment Plant (WWTP-EE) and West End Wastewater Treatment Plant (WWTP-WE).

WWTP-EE is located at 2221 Queen Street East. The plant was constructed in two stages in 1959 and 1972, respectively, providing primary treatment only. In 1987, a sludge dewatering facility was added, and the plant was upgraded in 2006 to a biological nutrient removal (BNR) plant with ultraviolet (UV) disinfection. The design flow for this treatment plant is 36,000 m^3/day.

Originally constructed in approximately 1984 and located at 55 Allens Side Road, WWTP-WE provides conventional activated sludge treatment for a design capacity of 20 MLD. A detailed facility condition assessment was completed for WWTP-WE in 2014. The City is currently completing a phase one upgrade with subsequent upgrades to follow in the future phases.

The wastewater conveyance system, including small pump stations, is managed by City Staff, while the ongoing operations of the City's large wastewater infrastructure, including wastewater treatment plants and the large pump stations, are contracted out to the Public Utilities Commission (PUC).

2.1 Asset Hierarchy

To fulfill the requirements of O. Reg 588/17 and to pave the way for robust long range asset management planning, the City requires a logically segmented asset break down structure (hierarchy) under the scope of this AMP. To do so, the core wastewater conveyance system must become sufficiently granular to recognize which individual assets are due for renewal. However, it is important to balance the fine trade-off between adequate granularity to provide essential information with too much granularity that the data collection and management effort eclipses the usefulness of the data itself.

The City has a wide range of wastewater assets organized hierarchically, as presented in **Figure 2-1**. This breakdown of the infrastructure is derived from the way that assets are presented within the data sources, which indicates program area's responsibilities and parent-child relationships within each asset type.

Figure 2-1 shows the two plants WWTP-EE and WWTP-WE, and each of which includes sub-categories: structural, process mechanical, building mechanical, electrical, and instrumentation & control.

Pump Stations are also segmented to 25 sub-sections, named PS 1 to PS 25, including further sub-categories. Moreover, conveyance system encompasses three main asset categories, which are sewers, service connections, and manholes & chambers.

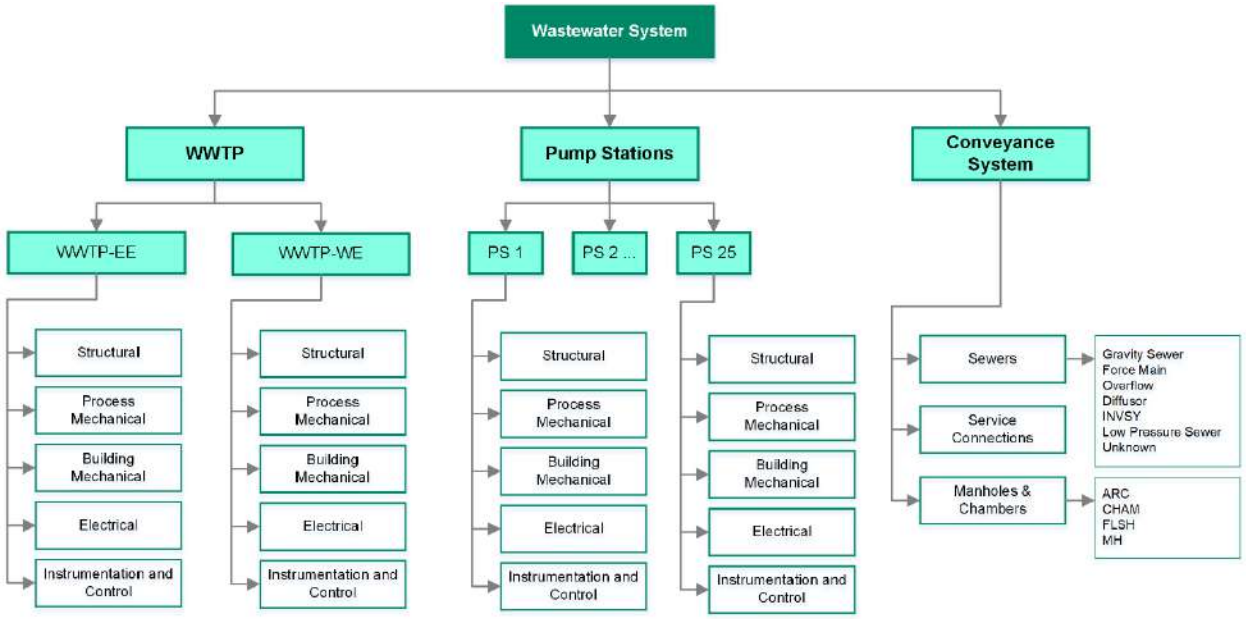


Figure 2-1: City of Sault Ste. Marie Wastewater Asset Hierarchy

2.2 Current State of the Assets

2.2.1 Asset Inventory

Table 2-1 provides a summary of the wastewater inventory for each asset category within City's wastewater conveyance system.

Table 2-1: Wastewater Asset Inventory Summary

Asset Group	Asset Category	Asset Sub-Category	Sub-Category Quantity	Unit	Count of Inventory Records
Wastewater System	Wastewater Treatment Plants	WWTP-EE	1	Ea.	379
		WWTP-WE	1	Ea.	648
	Pump Stations	Pump Stations	25	Ea.	497
	Conveyance	Force Mains	14	km	192
		Gravity Mains	380	km	5,682
		Manholes and Chambers	5,057	Ea.	5,057
		Service Connections	270	km	26,295
Total					**38,750**

2.2.2 Current Asset Replacement Value

The City's wastewater system is valued at approximately $1.9 Billion. **Table 2-2** presents the current replacement value of each asset category. The gravity mains account for the highest replacement value, which is approximately $1.6 Billion, followed by service connections, contributing to over $512 Million. WWTP-EE and WWTP-WE are valued at approximately $155 Million and $114 Million, respectively. Pump stations constitute approximately $29 Million. It should be noted that 45% was considered as a markup rate, including removing existing infrastructure, engineering (Design and Contract administration), contingencies, and mobility.

Table 2-2: Wastewater Current Replacement Value

Asset Group	Asset Category	Asset Sub-Category	Unit Replacement Cost ($ / Unit)	Total Replacement Value (2025)
Wastewater System	Wastewater Treatment Plants	WWTP-EE	$1,000 - $250,000 / Ea.	$154,827,000
		WWTP-WE	$1,000 - $250,000 / Ea.	$114,321,000
	Pump Stations	Pump Stations	$1,000 - $ 250,000 / Ea.	$29,851,000
	Conveyance	Force Mains	$500 - $9,000 / m	$42,138,000
		Gravity Mains	$500 - $9,000 / m	$989,722,000
		Manholes and Chambers	$10,000 - $35,000 / Ea.	$92,159,000
		Service Connections	$500 - $2,300 / m	$512,119,000
			WWTP Sub Total	**$269,148,000**
			Pump Stations Sub Total	**$29,851,000**
			Conveyance Sub Total	**$1,636,138,000**
			Total	**$1,897,521,000**

2.2.3 Age and Remaining Service Life

In practice, various assets will deteriorate at different rates and not necessarily linearly over time. However, it is pivotal to keep in mind the level of effort required to predict failure compared with the asset value. More sophisticated deterioration modelling may be warranted for very high value assets, whilst the cost of deterioration modeling for low-value assets may very well exceed the replacement cost of the asset. The actual service life can vary significantly from the estimated service life (ESL). The latter is defined as the period over which an asset is available for use and able to provide the required LoS at an acceptable risk and serviceability (i.e., without unforeseen costs of disruption for maintenance and repair). In some instances, a variation in expected vs. actual service life is evident due to the following factors:

- **Operating conditions and demands:** Some assets are operated intermittently or even infrequently or are being operated at a lower demand than their designed capacity. Thus, the actual operating “age” of the asset is reduced.
- **Environment:** Some assets are exposed to very aggressive environmental conditions (e.g., corrosive chemicals), while other assets are in relatively benign conditions; thus, the deterioration of assets is affected differently.
- **Maintenance:** Assets are maintained through refurbishment or replacement of components, which prolongs the service life of the asset.
- **Technological Obsolescence:** Some assets can theoretically be maintained indefinitely, although considerations such as cost to maintain the asset, its energy efficiency, and the cost to upgrade to an updated technology that would result in cost savings are likely to render this approach uneconomical.

Initially, the average age was calculated based on the purchased and installation year of each individual asset. Then, based on the age of the asset and the ESL (collected from a State of Infrastructure Workshop with the City, and additional information provided by the City), the remining service life (RSL) was calculated. It should be noted that in the case that age was higher compared to ESL, RSL was considered as zero.

Table 2-3 and **Figure 2-2** present the weighted average age, weighted average ESL, and remaining service life for various asset sub-categories within the City’s wastewater system. The average age of the assets ranges from 24 to 54 years with average ESLs that vary from 57 to 80 years. It should be noted that service connections, gravity mains, and manholes & chambers are the oldest in comparison with other assets. The minimum weighted average is WWTP-WE,

24 years, which is the average of all components. The minimum RSL is related to force mains, 26 years, compared to WWTP-WE that has an average RSL of 38 years.

Each WWTP comprises various components with different ESLs, depending on their function, material, usage, and operational conditions. To estimate the overall ESL at the plant level, we applied a weighted average approach, which considers the relative significance of each component based on replacement value. As a result of this approach, the two WWTPs exhibit different overall ESLs. This variation is driven by differences in their asset compositions.

Table 2-3: Wastewater Average Age, ESL, and Remaining Service Life

Asset Group	Asset Sub-Category	Weighted Average Age	Weighted Average ESL	Remaining Service Life
Wastewater System	WWTP-EE	28	59	31
	WWTP-WE	24	62	38
	Pump Stations	27	57	30
	Conveyance-FM*	49	75	26
	Conveyance-GRAV*	49	78	29
	Conveyance-MH & CHAM*	47	80	33
	Conveyance-SC*	54	80	26

* FM = Force Main, GRAV = Gravity Main, MH & CHAM = Manhole and Chamber, SC = Service Connections

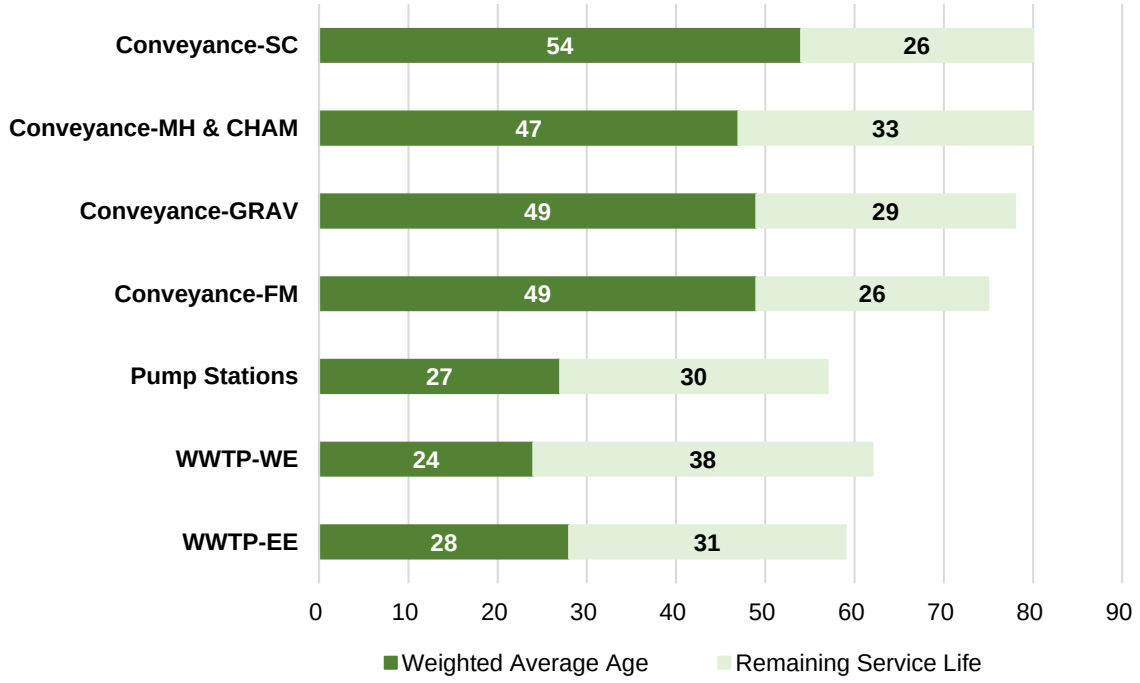


Figure 2-2: Wastewater System Weighted Average Age and Remaining Service Life

Figure 2-3 shows the installation profile of the City's wastewater system according to asset sub-categories. It should be noted that a significant proportion of gravity sewers and service connections was installed before 1965, contributing to the highest replacement values for these two categories. In addition, WWTP-WE components were installed from 1981 to 1985 as the first phase, and from 2016 to date as another phase. WWTP-EE, however, was initialized from 1986 to 1990 in the first step and developed from 2006 to 2010.

Figure 2-4, on the other hand, illustrates the linear assets profile based on 10-year periods to better understand how much gravity mains, force mains, and service connections are contributing to replacement values.

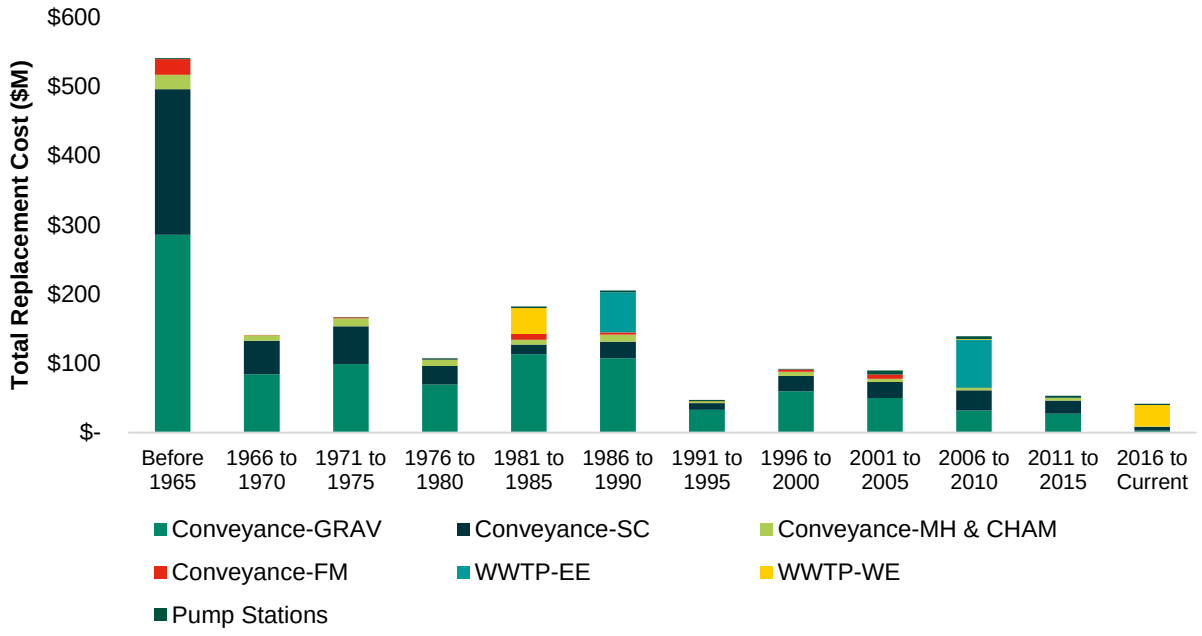


Figure 2-3: Wastewater Installation Profile

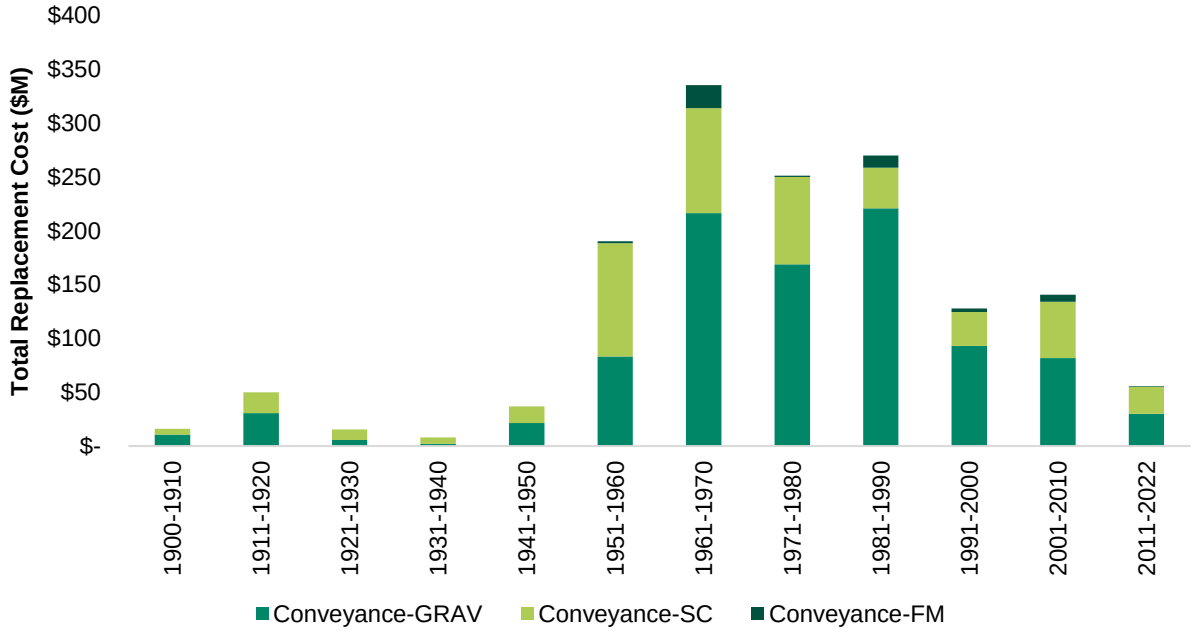


Figure 2-4: Installation Profile of Wastewater Mains and Service Connections

2.2.3.1 Type of Pipe Materials

Table 2-4 provides information about different pipes materials employed within each sub-category. For instance, there are 158 km of asbestos cement pipes, which is the highest contribution to gravity mains, followed by PVC and vitrified clay, with approximately 97 and 72 km, respectively. For service connections, however, almost 154 km of materials are unknown, which represents approximately 50% of all service connections. PVC and asbestos cement with about 65 and 48 km are other materials utilized for service connections. **Figure 2-5**, **Figure 2-6**, and **Figure 2-7** show the percentage of each material type by length for gravity mains, force mains, and service connections, respectively.

Table 2-4: Sewers and Service Connections by Materials Type

Type of Main	Material	Total Length (km)
Gravity Mains	Asbestos Cement	158
	Concrete	29
	Other	9.6
	PVC	97
	Unknown	24
	Vitrified Clay	72
Force Mains	Cast Iron	1.5
	Concrete	3.5
	Concrete Pressure Pipe	1.2
	Ductile Iron	2.4
	HDPE	2.1
	Polyethylene	4.2
	PVC	2.0
	Unknown	0.3
Service Connections	Asbestos Cement	49
	Other	2.3
	PVC	65
	Unknown	154

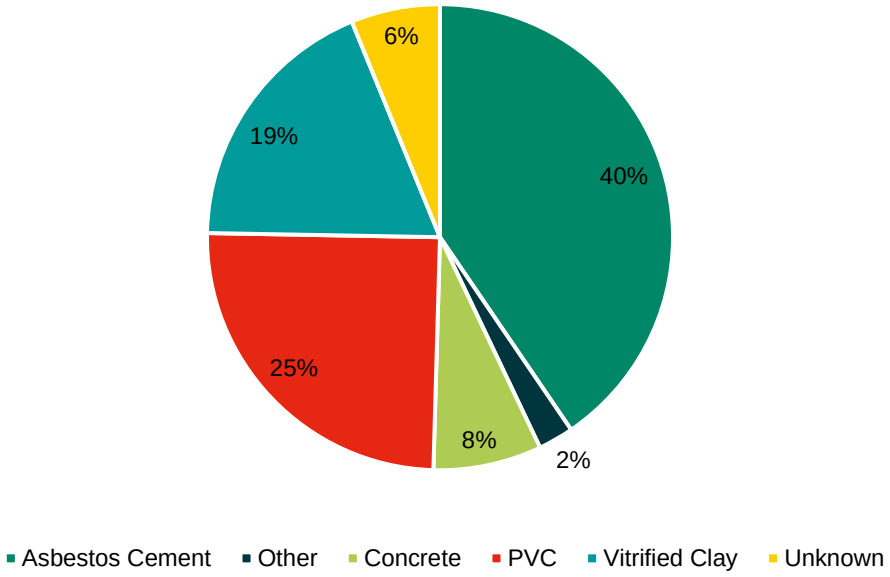


Figure 2-5: Gravity Mains Materials

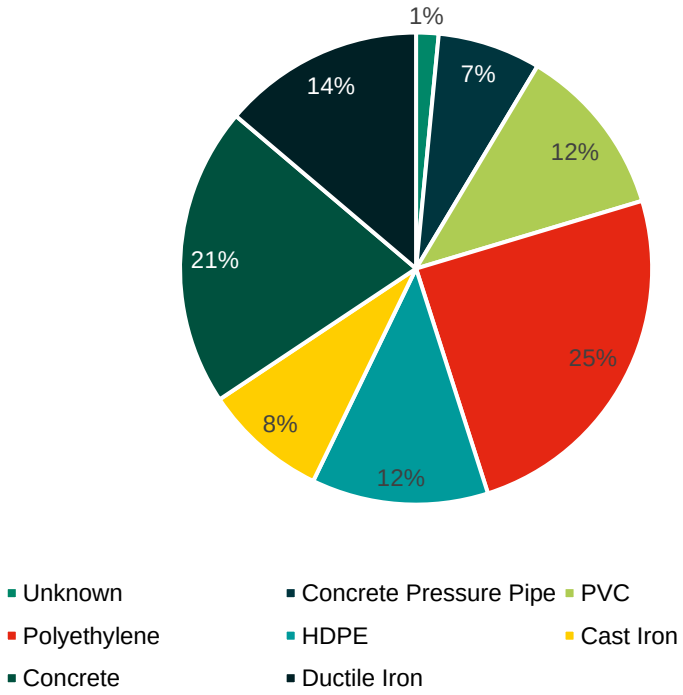


Figure 2-6: Force Mains Materials

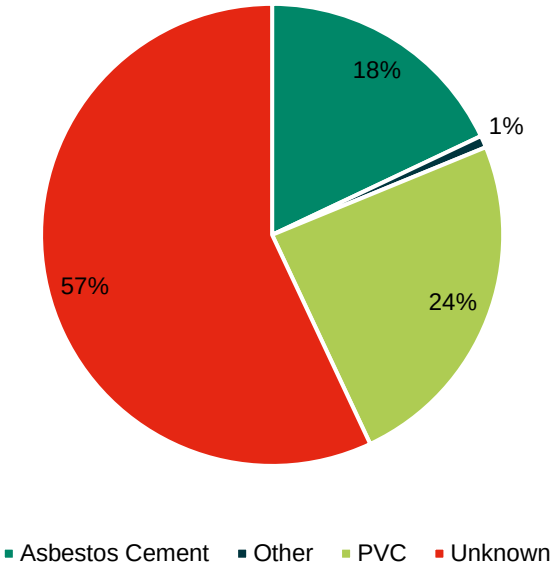


Figure 2-7: Service Connection Materials

2.2.4 Asset Condition

All assets are expected to deteriorate over their lifetime, and their assigned condition reflects the physical state of the asset. The City conducted wastewater facility condition assessment for the WWTP-WE in 2012, and for all WWTPs and PSs in 2022. The 2022 condition assessment results were used to update this AMP.

The condition assessments for forcemains located in River Road and Queen Street (2014) were incorporated in this AMP as they provided in-depth condition assessment analysis and also remaining service life of the forcemains. It is worth mentioning that CCTV inspections are more accurate than age-based calculations, and that the City has conducted CCTV inspections of its gravity sewer assets in the past. However, no CCTV data was available in digital format and was therefore not considered in this assessment. It should be noted that no on-site condition assessments were carried out for this project. Hence, age-based approach has been applied to assess the condition of wastewater assets that has no consumable condition data. Accordingly, a two-parameter Weibull distribution function was used to assess the current condition of the wastewater assets. The Weibull distribution has been used extensively in reliability studies and lifetime prediction models in industries ranging from automotive to the oil & gas and provides a suitable distribution for this type of analysis.

The underlying premise of the Weibull-shaped deterioration is that while some assets fail prematurely due to severe conditions or improper installation, other assets are very long-lived and function well beyond their theoretical ESL. To perform a high order network-level analysis, it was assumed that assets would fail (and require replacement) within a deterioration envelope / curve approximated by a Weibull probability distribution. The two-parameter Weibull cumulative distribution has two parameters for scale and shape, as set out in Equation [1]:

$$f(x;\alpha,\beta) = e^{-\left(\frac{x}{\beta}\right)^{\alpha}} \quad [1]$$

Where: x = Age
α = Shape parameter (or slope)
β = Scale parameter

A set of Weibull cumulative distribution functions were leveraged to simulate a set of deterioration curves for assets with different ESLs as shown in **Figure 2-8**.

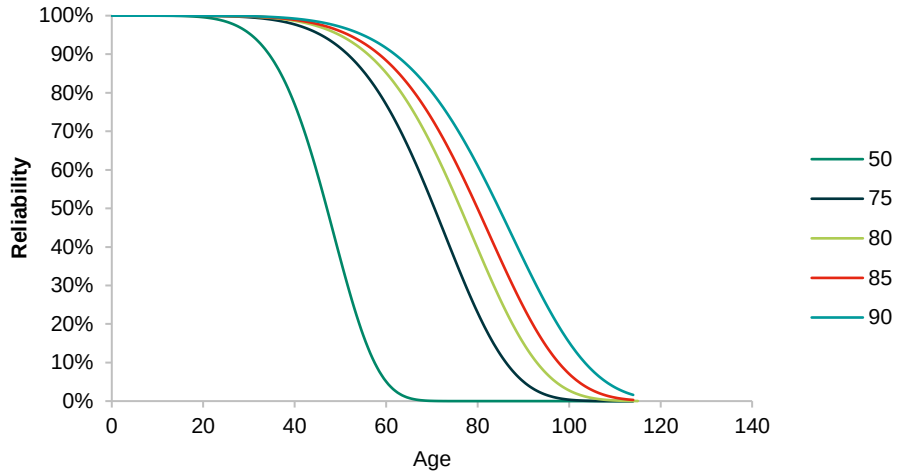


Figure 2-8: Asset Deterioration Curve Samples

Table 2-5 summarizes the condition grade of the City's wastewater infrastructure with associated replacement values. 57% of the assets are in the very good condition, with total replacement value of approximately $1.1 Billion, and only 9.1% of the infrastructure is in the very poor condition with total replacement value of $172 Million. Good condition accounts for 22.3% of the existing infrastructure, having a replacement value of around $423 Million. Fair and poor condition assets make up 9.2% and 2.8%, respectively.

Table 2-5: Wastewater Condition Summary

Rank	Condition Rating	Replacement Value	% of Replacement Value
1	Very Good	$1,075,894,974	56.7%
2	Good	$423,147,406	22.3%
3	Fair	$174,572,024	9.2%
4	Poor	$53,130,616	2.8%
5	Very Poor	$172,674,502	9.1%
Total		**$1,897,522,000**	**100%**

Additionally, **Figure 2-9** and **Table 2-6** granulate the condition of the assets based on different asset sub-categories and their corresponding replacement values. Considering the age-based calculations, sewer mains and service connections are expected to predominate the capital investment due to value of assets in very poor conditions.

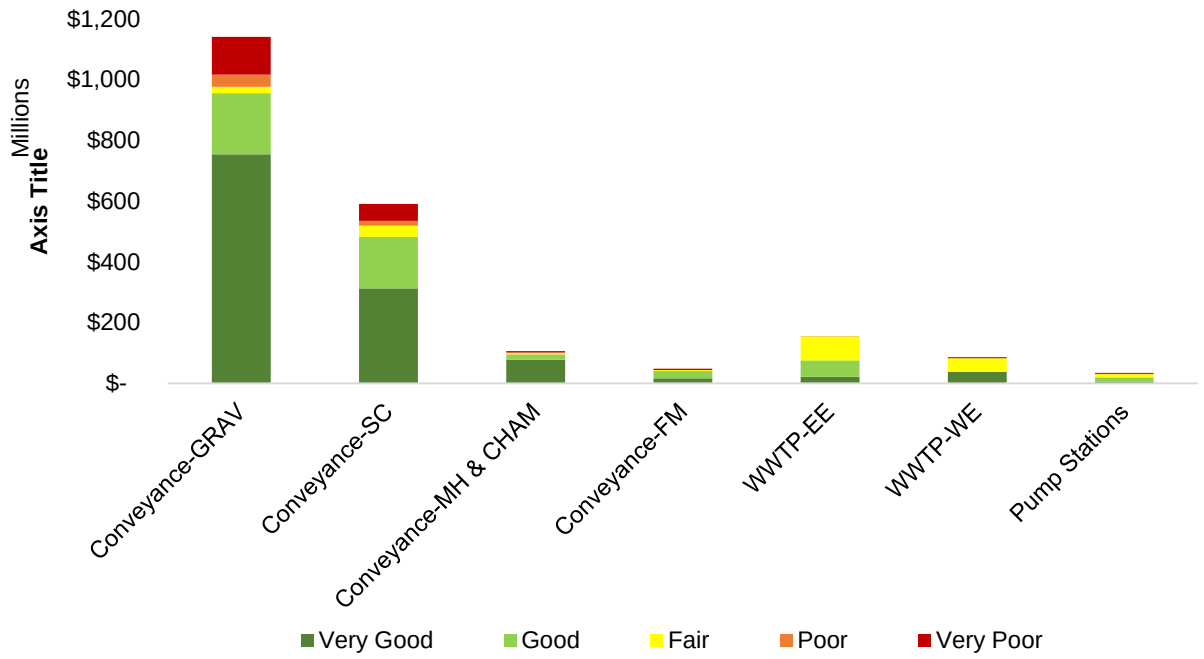


Figure 2-9: Wastewater Condition Summary for Asset Categories

* FM = Force Main, GRAV = Gravity Main, MH & CHAM = Manhole and Chamber, SC = Service Connections

Table 2-6: Distribution of Condition for Wastewater Asset Categories

Condition Rating	Gravity Mains	Service Connections	Manholes and Chambers	Force Mains	WWTP-EE	WWTP-WE	Pump Stations	Total Condition Summary
Very Good	65%	52%	72%	33%	14%	44%	14%	**55%**
Good	18%	18%	16%	49%	35%	1%	43%	**19%**
Fair	2%	6%	5%	6%	51%	51%	29%	**10%**
Poor	3%	3%	1%	0%	1%	0%	5%	**3%**
Very Poor	12%	20%	6%	11%	0%	4%	9%	**13%**
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

2.2.4.1 Gravity Sewers

Table 2-7 and **Figure 2-10** compare gravity sewers' conditions in terms of their diameters categorized into four groups: <450mm, 450 to 1,500 mm, >= 1,500 mm, and Unknown. As shown, pipes with size of less than 450 mm contribute to the highest replacement values, accounting for the highest proportion of poor (approximately $33.5 Million) and very poor condition (approximately $97.6 Million).

Table 2-7: Gravity Sewers Condition by Diameter

Condition Rating	< 450Ø	450Ø - 1,500Ø	≥ 1,500Ø	Unknown
Very Good	$437,531,000	$161,345,000	$50,428,000	$4,760,000
Good	$123,944,000	$50,150,000	$-	$421,000
Fair	$14,523,000	$3,987,000	$-	$11,000
Poor	$33,558,000	$546,000	$-	$-
Very Poor	$97,552,000	$10,423,000	$-	$551,000
Total	**$707,106,000**	**$226,449,000**	**$50,428,000**	**$5,741,000**

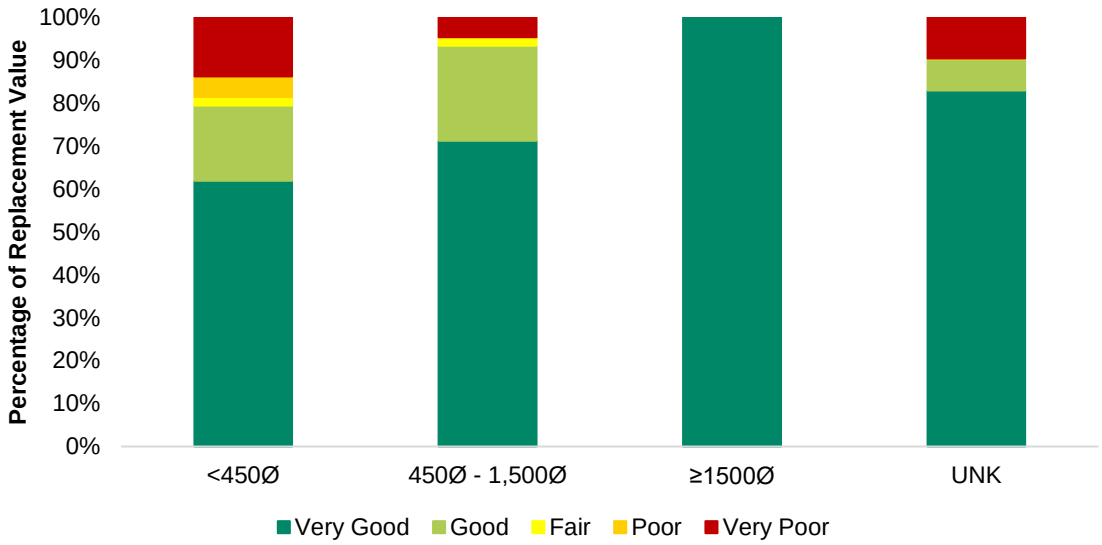


Figure 2-10: Gravity Sewers Condition Distribution by Diameter

2.2.4.2 Force Mains

Table 2-8 compares force mains in terms of their conditions, based upon their diameter: <450 mm, 450 to 1,500mm, and Unknown. As seen, force mains with sizes smaller than 450 mm contribute to almost $14 Million, among which approximately 54% pertains to very good condition (Figure 2-11). Moreover, size 450mm to 1,500 mm also makes up the highest replacement values, $27 Million. Around 76% of this range of diameters are in a good condition (Table 2-8 and Figure 2-11) - see note under Table 2-8. Unknown pipes, although with a negligible contribution, are in a very good condition.

Table 2-8: Force Mains Condition by Diameter

Condition Rating	< 450Ø	450Ø - 1,500Ø *	Unknown
Very Good	$7,601,000	$6,578,000	$39,000
Good	$71,000	$21,078,000	$-
Fair	$2,091,000	$254,000	$-
Poor	$-	$-	$-
Very Poor	$4,431,000	$-	$-
Total	**$14,192,000**	**$27,909,000**	**$39,000**

** NOTE: The largest diameter for Force Mains is 1,400 mm, however, the range of numbers created to make the table consistent with the Gravity Sewers' table*

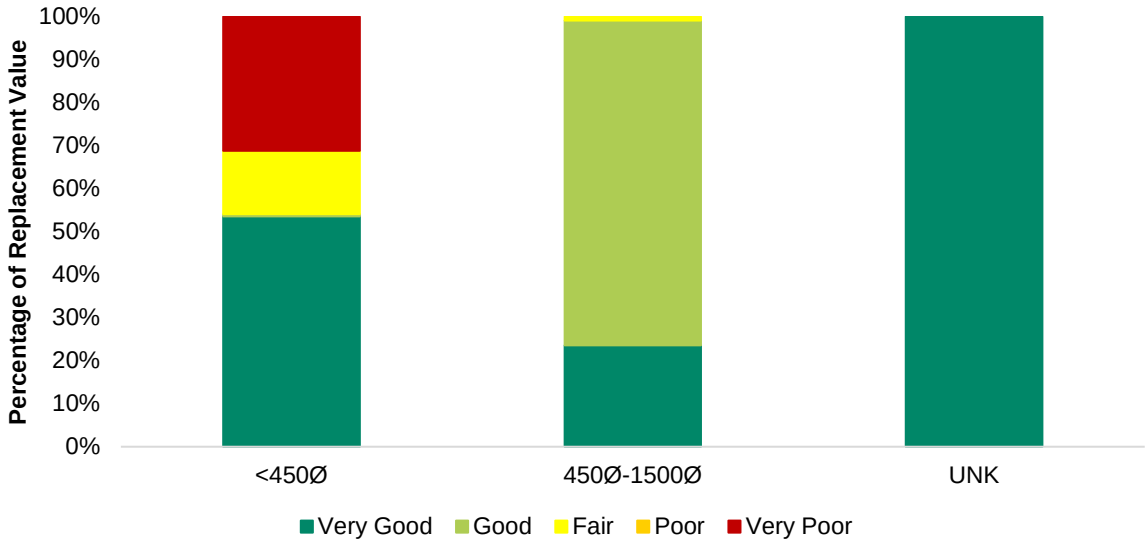


Figure 2-11: Force Mains Condition by Diameter

2.3 Asset Data Gap Analysis

2.3.1 Data Gap Observations

Table 2-9 provides a summary of observed data gaps in the compiled wastewater asset inventory across key data attributes that help to make informed decisions over the asset lifecycle for this AMP.

Table 2-9: Observations on Asset Data Completeness

Asset Group	Inventory Completeness (%)						
	Asset ID	Name / Location	Install Date	Inspection Date	Condition	Expected Service Life	Replacement Cost
Wastewater	99.5%	100%	90%	3%*	3%*	100%	100%

* This % reflect the condition assessment taken in 2022 for all WWTPs and PSs.
** The gap is filled during the development of this AM plan.

2.3.2 Data Confidence

The quality of asset data is critical to effective AM, accurate financial forecasts, and informed decision-making. For this reason, it is important to know what the reliability of the information is for the State of Infrastructure analysis of the wastewater assets. **Table 2-10** provides a description for the data confidence grades used to classify the reliability of the asset data used in this data gap analysis. Through consultation with City staff during a State of Infrastructure Workshop, the asset attribute data for the in-scope wastewater assets were assigned the grades outlined in **Table 2-11**.

Table 2-10: Data Confidence Grading Scale

Confidence Grades	Description
A - Highly reliable	Data is based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate ± 2%
B - Reliable	Data is based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10%
C - Uncertain	Data is based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy is estimated ± 25%
D - Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy ± 40%
E - Unknown	None or very little data held.

Table 2-11: High-Level Asset Data Confidence Grades

Asset Category	Data Confidence Average Grade		
	Inventory	Age	Condition
Wastewater	B	B	B

2.3.3 Data Management Practice

The asset data lifecycle is a sequence of stages that data goes through from its initial creation (i.e., data capture and entry) to its eventual archival and/or deletion at the end of its useful life[1]. A clear definition and understanding of the organization's process for acquiring, storing, utilizing, assessing, improving, archiving, and deleting data (see **Figure 2-12**) will ensure good data management practices and help to sustain levels of data quality required to support AM activities.



Figure 2-12: Asset Information Lifecycle

The seven key stages of the asset data lifecycle are described in more detail below:

1. **Acquiring New Data**: The majority of new asset data arises from asset creation, refurbishment and overhaul activities. New data may also come by way of inheritance or transfers from other business units, organizations, or third parties. As such, it is important to have clearly defined processes in place not only to add or update asset data, but to migrate and merge data from other sources.

[1] TechTarget Network, Definition: Data Life Cycle, 2020.

2. **Storing Data**: The way asset data is stored is an important consideration for overall data quality. Having a planned approach to data storage will inevitably reduce the likelihood of duplication and inconsistencies across datasets within the organization. Depending on the needs of the organization, this stage may involve procuring a new software to adequately house the data, along with a data backup and recovery plan to ensure that the necessary data protection and privacy standards are met.
3. **Utilizing / Analysing Data**: This aspect of the asset information lifecycle is where users encounter the data to support data-driven activities within the organization. Data can be viewed, processed, edited, and published to allow users to access the data outside the organization. Critical data that has been modified should be fully traceable to maintain the integrity of the data. As such, it is important to communicate to the users why asset data is so important, and how it is used to inform decisions within the organization.
4. **Assessing Data**: Assessing the data quality helps to determine the level of confidence in the information and ensures that decision-makers are making informed decisions based on the quality of data available to them. Moreover, it is important to fully understand the availability and quality of the asset data before issuing information publicly. Some of the results of data degradation, due to improper or lack of assessment, may include:
    - Poor asset performance due to lack of information and understanding of asset behaviour.
    - Non-compliance with statutory regulations or safety requirements.
    - Safety incidents due to risks not being identified or reported.
    - Asset failure due to gaps in maintenance planning.
5. **Improving Data**: Improving data quality involves establishing clear targets which are intended to be communicated widely across the organization. It is imperative that the organization understands the costs, benefits, and risks associated with any data improvements since the cost of the improvement may outweigh the overall benefit. It is also important to note that *more* data does not necessarily mean *better* data. It is very possible to collect data that does not add value to the organization. As such, it is critical that the organization aligns its data improvement targets with its AM objectives and considers the data-driven decisions staff need to make at the operational and strategic level, to ensure that the *right* data is being improved upon.
6. **Archiving Data**: Archiving data is the process of storing data that is no longer active or required but is able to be retrieved in case it is needed again. Data that is archived is stored in a location where no usage or maintenance occurs. It is recommended that a data archive strategy exists within an organization in order to lay out the data archival requirements, which considers the following:
    - What data should be archived and why?
    - Are there any legal obligations for retaining data records?
    - How long should data records be retained?
    - What is the risk associated with not being able to retrieve data records?
    - Who should be able to access archived data records?
    - What is the expected timeframe to retrieve archived data records?

    Clearly communicating these requirements across the organization is key to ensuring staff are educated on why records are being archived, how they can access archived data records, and for how long archived data records can still be accessed.
7. **Deleting Data**: The deletion of data is the final component of the asset information lifecycle. Typically, within organizations there is a resistance to permanently delete data, otherwise known as data “squirrelling”, due to the overall capacity of storing data increasing and the cost decreasing. However, within the organization’s data archive strategy, a retention period should be specified to indicate when data should be deleted, along with any processes to follow, such as obtaining prior missing period.

2.3.3.1 Current Data Management State

The City’s Public Works and Engineering Services Department staff are involved in wastewater data management. The City’s wastewater data is currently stored in GIS, Excel spreadsheets, reports, and as-built drawings. Currently,

the City updates assets in the GIS post-construction, and there may be a lag in obtaining as-builts and adding/updating data.

The City is following the mandate in records retention procedures for municipalities as per Freedom of Information and Protection of Privacy Act (FIPPA) and the Municipal Freedom of Information and Protection of Privacy Act (MFIPPA).

2.3.3.2 Future Data Management State

The City will develop and implement a software strategy that helps streamline data management following this AMP. Eventually, the City plans to have a clear and efficient data management process and comprehensive and robust asset inventory to support their AM decision making. The implementation plan for data improvement is presented in **Section 6**.

3 Level of Service

3.1 Purpose

Level of Service (LoS) supports every aspect of the overall AM system. The objective of establishing clearly defined service levels is to help the City meet stakeholder values, achieve its strategic goals, make informed decisions, and implement effective asset lifecycle activities.

Documenting LoS is a proven practice that will enable the City to:

- Link corporate strategic objectives to customer expectations and technical operations.
- Balance customer needs and expectations while evaluating the effectiveness of operations and whether the right LoS is being provided at the right cost.
- Transition from an “Asset Stewardship” approach that focuses on making decisions based on maintaining assets in an acceptable condition to a “Serviceability” approach that is geared towards making decisions based on balancing the costs, risks, and goals for the LoS being provided by the City’s assets.
- Communicate the physical nature of infrastructure that the City owns and is financially responsible for while promoting the use of LoS to enable effective consultation with stakeholders regarding alternative funding options according to desired LoS outcomes.
- Make recommendations on strategies that the City can take now to minimize future renewal costs while ensuring that adequate LoS can be delivered without burdening future generations.
- Assess internal (e.g., program changes) and external (e.g., climate change) factors that have the potential to impact the City’s ability to deliver services and how these factors may impact the LoS being provided.
- Implement a corporate continuous improvement program to further optimize AM across all service areas.

The O. Reg. 588/17 requires that all AMPs include the current and proposed LoS, determined in accordance with the qualitative descriptions and technical metrics provided (see **Section 1.3**).

3.2 Objectives

Defining LoS objectives is important for drawing a line of sight between the City’s corporate objectives and the tangible asset performance outcomes. To do so, the LoS objectives must take into consideration stakeholder interests to develop asset performance measures that aim to meet the needs and expectations of the community. By doing this, the City will ensure that their assets are striving towards optimal performance, not only operationally, but economically, socially, and sustainably as well. Every stakeholder has certain interests in the service being provided and in general. The City’s corporate objective is to lift up the community and build pride, and attract people (visitors, employers and employees).

The City’s Comprehensive Background Report[2] (2021) for the New Official Plan outlined the overarching themes that reflect the City’s value, as shown in **Table 3-1**. Each overarching theme is also assigned a corporate service objective.

The development of level of service targets should be aligned with these corporate objectives which will be addressed in the next iteration of the AMP.

[2] City of Sault Ste Marie. 2021. Comprehensive Background Report.

Table 3-1: The City's Overarching Themes and LoS Objectives

Overarching Themes	LoS Objective
Healthy Community	Supports healthy living, active transportation, access to passive and active recreation, social interaction and the creation of spaces that are comfortable, safe and accessible for all ages and abilities (the "8 to 80 Cities" concept).
Environmental Sustainability	Supports energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions and climate change adaptation.
Integrated Mobility	Supports accessibility and choice of a diversity of transportation modes.
Sense of Place	Fosters a welcoming place for all that establishes connection and provides a memorable experience to visitors.
Sustainable Growth	Stimulates reinvigoration of neighbourhoods to provide a complete range of housing, services, employment and recreation.
Economic Resiliency	Supports the growth and diversification of the city's economy.
Social Equity	Contributes to creating a welcoming and inclusive community, focusing on the removal of systemic barriers so that everyone has access to an acceptable standard of living and can fully participate in all aspects of community life.
Cultural Vitality	Celebrates the Sault's history, diverse communities and natural and cultural heritage, with the Downtown as the Sault's core destination for arts and culture.

3.3 Stakeholder Identification

A stakeholder is any person or organization that can affect, be affected by, or perceive themselves to be affected by a decision or an activity. Stakeholder analysis is the process of understanding stakeholder needs, expectations and perceptions relative to the stakeholder's level-of-interest and level-of-influence over the organization. The organization typically engages with their stakeholders to:

- Establish which activities or services matter most.
- Understand their risk appetite and risk threshold.
- Understand their willingness to pay for services.

Stakeholders can take many forms and may be internal (i.e., staff, Council) or external (i.e., the public, regulatory agencies, suppliers, neighbouring municipalities, etc.) to the organization. The following groups were identified as key stakeholders for wastewater service at the LoS workshops. This is not intended to be an exhaustive list; however, the following groups provide a good starting point for the City to move forward to the next stage.

- Council.
- Residents.
- Industrial, Commercial, Institutional (ICI).
- Regulatory Agencies (i.e., Ministry of the Environment, Conservation and Parks [MECP], Fisheries and Oceans Canada [DFO]).
- Government Agencies (i.e., Environment and Climate Change Canada [ECCC] and Michigan Department of Environment, Great Lakes, and Energy [EGLE]).
- Neighbouring Municipalities or Downstream Municipalities (i.e., First Nations including Garden River First Nation, Batchewana First Nation, and Echo Bay, and municipalities from the US including Chippewa County, Michigan, and the City of Sault Ste Marie, Michigan).
- Environmental groups (i.e., Bi-National Public Advisory Council [BPAC] [US & Canada joint committee], Clean North, International Joint Commission, and Stream keepers).
- Developers.
- Other City Departments (e.g., Planning Department).
- Contractors and suppliers (e.g., EDS).

3.4 O. Reg. 588/17 Levels of Service Metrics

O. Reg. 588/17 requires legislated community levels of service. Community levels of service use qualitative descriptions to describe the scope or quality of service delivered by an asset category. O. Reg. 588/17 also requires legislated technical levels of service. Technical levels of service use metrics to measure the scope or quality of service being delivered by an asset category.

Table 3-2 presents a summary of the City's wastewater service level for O. Reg. 588/17 Metrics. References are provided to show where O. Reg. 588/17 requirement has been attained.

Table 3-2: O. Reg. 588/17 Levels of Service Metrics (Wastewater Services)

O. Reg 588/17 LoS Performance Measure	Unit	Community or Technical LoS	Current LoS Performance (2021)
Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system.	Text / Map	Community	• Wastewater connectivity map (See **Figure 3-1**)
% of properties connected to the municipal wastewater system.	%	Technical	• 89% of the City's properties are connected to the municipal wastewater system.
Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes.	Text	Community	• The City is no longer serviced by combined sewers.
Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches.	Text	Community	• The City is no longer serviced by combined sewers.
# of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system.	#	Technical	• The City is no longer serviced by combined sewers.
Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes.	Text	Community	• Stormwater can get into the wastewater system through manhole covers, inflow and infiltration (I&I), as well as cross connections from residential properties.
Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to avoid events described in previous paragraph.	Text	Community	• The sanitary system is designed with overflows; the sanitary sewers must be built to City's design standards and bylaws.
Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system.	Text	Community	• Effluent can be defined as water pollution, such as the outflow from a sewage treatment facility. The effluent from the East End and West End treatment facilities in Sault Ste Marie have documented compliance limits, and objectives in the recent Environmental Compliance Approvals (ECA) for the East End Plant and West End Plant. • The effluent criteria include effluent flow rates, and parameters for Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), suspended solids, phosphorous,

O. Reg 588/17 LoS Performance Measure	Unit	Community or Technical LoS	Current LoS Performance (2021)
			ammonia, unionized *E. coli*, Ph, Residual Chlorine, and Phenol. • Refer to the Objective and Compliance Limits in ECA Report no. 5922-BZNHV3 and 3973-AFPTCN for West End and East End Wastewater Treatment Plan, respectively.
# of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system.	#	Technical	• Nine instances of public / private basement flooding due to main blockages. 233 instances of sanitary/stormwater issues (rodding requests) compared to 26,384 connected properties in 2021.
# of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system.	#	Technical	• Zero (violation of sewer use bylaw)

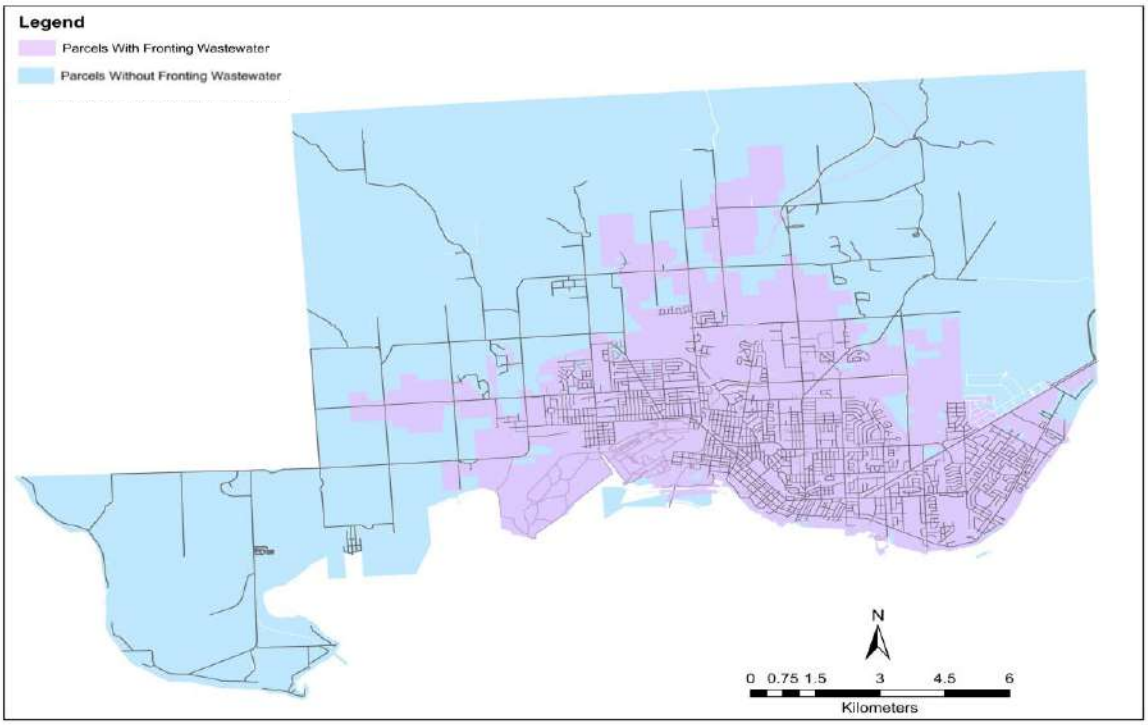


Figure 3-1: City of Sault Ste Marie Wastewater Service Connectivity Map

3.5 Proposed Levels of Service

Establishing LoS targets is an important part of continual improvement and performance management. Without targets, it is difficult to ascertain whether goals are being met, or the extent of the gap if they are not. Incorporating targets into the City's LoS Framework helps to ensure that targets are reasonable, aligned with customer expectations, and evaluated on an objective basis by considering cost-benefit trade-offs.

One of the key challenges in setting targets in a municipal environment is that they can often become biased and/or politically motivated. Therefore, it is important to review LoS targets with internal and external stakeholders, especially the customers who will be impacted the most by changes in service delivery. An important aspect of evaluating LoS targets is determining how willing the user is to pay for the service. Regulatory requirements are an

exception; however, they only provide the minimum service standard. Cost is still an important parameter to consider when assessing the merits of service improvements. To deal with the financial realities, it is necessary to:

- Calculate how much the service costs based on current LoS.
- Determine the lifecycle activities and cost associated with varying the LoS.
- Assess the customers' willingness to pay.

It is important that any targets set be realistic and achievable. O. Reg. 588/17 requires AMPs to include proposed levels of service by July 1, 2025.

A summary of the City's wastewater service level metrics is presented in **Table 3-4**. Each metric was indicated with its current trend and proposed trend for the next 10 years, represented by legends, taking into account the nature of the measure, data availability, and whether the trend impacts positively or negatively on the proposed LoS. The LoS trend legends are described in **Table 3-3**.

Table 3-3: LoS Trend Legend

Symbol	Name	Description
	Positively Increasing	KPI is improving steadily over time, showing progress toward goals.
	Positively Stable	KPI is at a strong, desirable level and consistently maintained.
	Positively Decreasing	KPI is improving as lower values indicate better performance.
	Negatively Increasing	KPI is worsening over time, signaling a need for corrective action.
	Negatively Stable	KPI remains poor with no improvement or further decline.
	Negatively Decreasing	KPI is declining in a way that reflects worsening performance.

Table 3-4: Wastewater Current and Proposed Levels of Service

LoS #	Service Area	LoS Measure	Unit of Measure	LoS Category	Current Performance	Performance Trend		Lifecycle Activities to Meet Proposed LoS	Budget Impact to Meet Proposed LOS	Risk of Not Meeting Proposed LoS
						Current	Proposed			
1	Wastewater	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system	Text / Map	Customer	Wastewater connectivity map (See **Figure 3-1**)	→	→	• NA	• N/A	• N/A
2	Wastewater	% of properties connected to the municipal wastewater system	%	Technical	89%	→	→	• Respond to development	• Varies	• Some areas remain on private systems, increasing risk of environmental contamination • Limited expansion due to coordination with roadwork
3	Wastewater	Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes	Text	Customer	The City is no longer serviced by combined sewers.	N/A	N/A	• N/A	• No Budget Impact	• N/A
4	Wastewater	Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches	Text	Customer						
5	Wastewater	# of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system	#	Technical						
6	Wastewater	Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes	Text	Customer	See **Table 3-2**	N/A	N/A	• Replacement of linear assets is tied to road work • Coordination with road work limits capital renewal frequency stretching renewal timelines	• Moderate to High	• Cross connections remain a challenge to address • Old pipes not replaced regularly contribute to I&I and backup risk
7	Wastewater	Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to avoid events described in previous paragraph	Text	Customer	See **Table 3-2**	N/A	N/A			• Aging infrastructure and deferred renewal compromise resilience • Master plan and collection model may help identify high-risk segments
8	Wastewater	Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system	Text	Customer	See **Table 3-2**	N/A	N/A	• The City's transition to UV disinfection improves effluent quality	• One-time capital investment	• However, annual variability and unclear sources of violations present compliance risks
9	Wastewater	# of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system	#	Technical	See **Table 3-2**	→	→	• Enforcement to prevent grease from entering the wastewater system. • City has a robust flushing and maintenance program	• Low to Moderate	• Main breaks result in reduced system capacity • Significant events like the 100-year storm can lead to backflows
10	Wastewater	# of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system	#	Technical	Zero	→	→	• The City's transition to UV disinfection improves effluent quality	• No immediate budget impact	• Violation frequency varies year to year; root causes are sometimes unclear
11	Wastewater	% of Linear Assets in Fair and Better Condition	%	Technical	86.0%	→	→	• Condition Assessment • Replace aged mains	• High	• Renewal rate is limited due to alignment with roadwork schedules • Delayed replacements can increase risk of failure and I&I issues
12	Wastewater	% of Vertical Assets in Fair and Better Condition	%	Technical	88.8%	↑	↑	• Inspect and replace	• Low to Moderate	• Generally lower risk, but aging or underperforming assets still require attention

Performance Trend Legend:

↑ Positively Increasing	→ Positively Stable	↓ Positively Decreasing	↑ Negatively Increasing	→ Negatively Stable	↓ Negatively Decreasing

3.6 2025-2034 10-Year Levels of Service Forecast

Considering the City's characteristics, growth projections, and strategic objectives, the proposed performance trend for each LoS metric for the next 10 years is projected and outlined in **Table 3-5**. This table indicates whether each measure is expected to trend upward, downward, or remain stable, taking into account the nature of the measure, data availability, and whether the projected trend impacts positively or negatively on the proposed level of service.

Table 3-5: 2025-2034 10-Year Levels of Service Forecast

LoS #	Service Area	LoS Measure	Unit of Measure	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Proposed Trend	Basis for Forecast
1	Wastewater	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system	Text / Map					Positively Stable						→	City subject matter expert opinion
2	Wastewater	% of properties connected to the municipal wastewater system	%					Positively Stable						→	City subject matter expert opinion
3	Wastewater	Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes	Text					N/A						N/A	N/A
4	Wastewater	Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches	Text					N/A						N/A	N/A
5	Wastewater	# of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system	#					N/A						N/A	N/A
6	Wastewater	Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes	Text					N/A						N/A	N/A
7	Wastewater	Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to avoid events described in previous paragraph	Text					N/A						N/A	N/A
8	Wastewater	Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system	Text					N/A						N/A	N/A
9	Wastewater	# of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system	#					Positive Stable						→	N/A
10	Wastewater	# of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system	#	0	0	0	0	0	0	0	0	0	0	→	City subject matter expert opinion
11	Wastewater	% of Linear Assets in Fair and Better Condition	%	86%	86%	85%	85%	84%	84%	83%	83%	82%	82%	→	Lifecycle Modeling (Based on City's Forecasted Budget Scenario, See **Figure 5-5**)
12	Wastewater	% of Vertical Assets in Fair and Better Condition	%	89%	92%	80%	83%	85%	96%	97%	98%	99%	75%	↑	Lifecycle Modeling (Based on City's Forecasted Budget Scenario, See **Figure 5-8**)

Performance Trend Legend:

↑ Positively Increasing	→ Positively Maintain	↓ Positively Decreasing	↑ Negatively Increasing	→ Negatively Maintain	↓ Negatively Decreasing

3.7 Future Demand Drivers

Demand management is a critical component of managing the desired LoS in a sustainable manner, now and into the future. Understanding demand drivers enables the City to proactively develop effective, long-term strategies that are suitable for the City's unique political, environmental, social and technological landscape.

Factors identified during the LoS workshop that would impact wastewater service levels now and into the future include, but are not limited to, the following:

- Aging infrastructure (i.e., clay tile sewers and old concrete sewers, etc.).
- Regulatory changes.
- Staff availability (i.e., technical skill availability, skill gaps from changing technology, etc.).
- Succession management & skills transfer (i.e., succession plan to have licensed wastewater operators to operate the facilities, etc.).
- Funding (i.e., having proper AM plans to optimize service delivery with minimum rates).
- Contractor availability (i.e., contractors' availability for big projects, etc.).
- Climate change (i.e., higher I&I from precipitation, higher water level at Great Lakes, etc.).
- Supply Chain (i.e., material and equipment availability for capital projects, etc.).
- Fluctuations on contract pricings.
- Population growth.

On November 2, 2021, the City's Planning Division released the Comprehensive Background Report for updating the Official Plan[3]. The City's Official Plan guides the local decision-making on land use, development and public infrastructure over the next 20 years. The City's population is expected to reach approximately 80,000 people by 2031, and 83,300 people by 2036. Employment is projected to grow by about 6,000 jobs, from approximately 31,000 jobs in 2016 to 36,900 jobs in 2036.

When additional assets to accommodate this population and employment growth are introduced to the City's portfolio, additional human resources, training and funding are required to maintain and operate, and renew or replace those assets. O. Reg. 588/17 requires municipalities by July 1, 2025, to estimate capital expenditures and significant operating costs to achieve the proposed LoS and accommodate projected increases in demand caused by population and employment growth. This includes the estimated capital expenditures and significant operating costs related to new construction and / or to upgrade existing municipal infrastructure assets. This has been addressed in **Section 5.4**.

[3] City of Sault Ste Marie. 1996. Official Plan

4 Asset Management Strategies

4.1 Asset Lifecycle Management Introduction

Asset lifecycle management focuses on the specific activities that should be undertaken during all phases of the asset lifecycle. Considering entire asset lifecycles can ensure that the City makes sound decisions that consider present and future service delivery needs.

The overarching goal of lifecycle management is to maximize the long-term benefits and services that our assets deliver while minimizing the associated costs and risks in the long run. Every asset has a lifecycle cost, which is the total cost of all the activities undertaken throughout its service life. Part of the purpose of the asset management planning process is to fully understand and predict the long-range financial requirements for the City's infrastructure to facilitate planning and resource management in the most cost-effective manner possible. **Figure 4-1** illustrates how costs typically accumulate over an asset's life. It is worth noting that the accumulation of the ongoing operations and maintenance, renewal & replacement and disposal costs is many multiples of the initial acquisition costs. As such, it is important to fully understand the entire lifecycle costs across an asset's entire life before proceeding with asset acquisition.

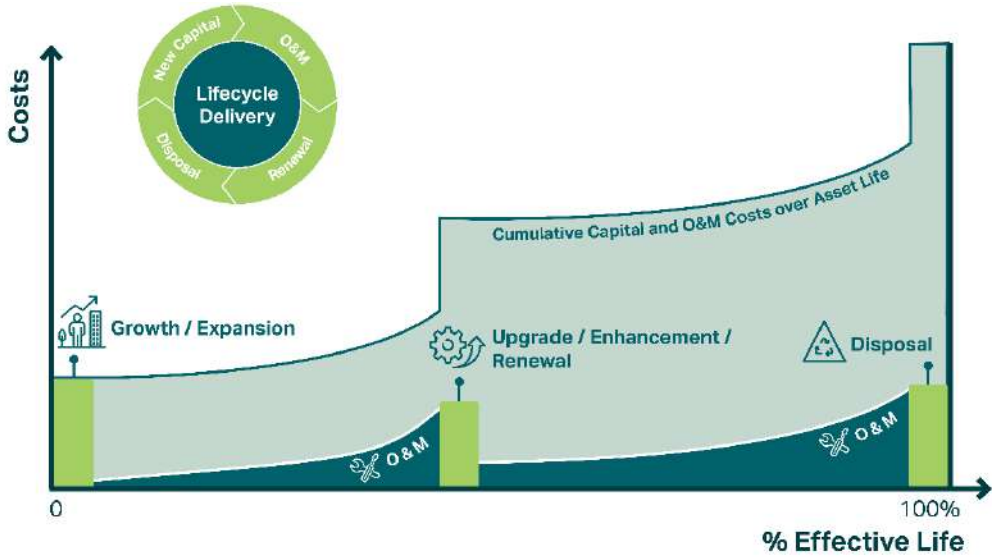


Figure 4-1: Lifecycle Cost Accumulation Over Asset Life

Asset lifecycle management strategies are typically organized into the following categories.

1. **Asset Acquisition / Procurement / Construction**: Acquisition includes expansion activities and upgrading activities to extend services to previously unserved areas or expand services to meet growth demands and to meet functional requirements. When acquiring new assets, the City should evaluate credible alternative design solutions that consider how the asset is to be managed at each of its lifecycle stages. Asset management and full life cycle considerations for the acquisition of new assets include, but are not limited to the following:



   - The asset's operability and maintainability.
   - Availability and management of spares.
   - Staff skill and availability to manage the asset.
   - The manner of the asset's eventual disposal.

2. **Asset Operations and Maintenance (O&M)**: As new infrastructure is commissioned, the City accepts the responsibility of operating and maintaining the infrastructure according to O&M standards to ensure that the infrastructure is safe and reliable. Operations staff provide the day-to-day support required to operate infrastructure. In few cases, operation costs are minor, but for most there are significant increases. For example, underground pipes require almost no operational support while a facility such as a pump station requires full-time staff to operate the facility safely and efficiently. Maintenance expenses include periodic preventive maintenance to ensure that the infrastructure can provide reliable service throughout the life of the asset and corrective maintenance that is required to repair defective assets as and when needed. Inadequate funding for O&M will have an adverse impact on the lifespan of assets. The amount of O&M resources required in any period is a function of the current inventory of infrastructure and total O&M needs required for each asset. As the inventory of infrastructure grows, total O&M requirements will also grow.



3. **Renewal and Replacement:** The third portion of full life cycle costing relates to the renewal and replacement of infrastructure that have deteriorated to the point where it no longer provides the required service. Renewal cost is sometimes incurred during the life of an asset where an investment is made to improve the condition and / or functionality of the asset e.g., re-lining of a pipe. Replacement activities that are expected to occur once an asset has reached the end of its useful life and rehabilitation is no longer an option.



4. **Decommissioning and Disposal:** There will inevitably come a point in time when an asset must be removed from service and, depending on the type of asset, there may be significant costs associated with its decommissioning and disposal. Factors that may influence the decision to remove an asset from service include changes to legislation that cause the asset to be in non-compliance, the inability of the asset to cope with increased service levels, technology advances that render the asset obsolete, the cost of retaining the asset is greater than the benefit gained, or the current risk associated with the asset's failure is not tolerable.



Normally, major costs that may be incurred during disposal and decommissioning derive from the environmental impact of the disposal and, if required, the rehabilitation and decontamination of land. In some cases, there will be residual liabilities and risks to consider if a decision is made to partially abandon the asset as opposed to fully disposing of its components (e.g., leaving a non-functioning pipe in the ground, or an inactive building standing). However, some cost savings may be achieved through the residual value of the asset or by exploring alternative uses for the asset. In all cases, it is important to consider disposal and decommissioning as the strategy employed has the potential to attract significant stakeholder attention. For that reason, the costs and risks associated with disposal and decommissioning should be equally considered in the City's capital investment decision-making process.

4.2 Wastewater Assets Management Strategies

The asset management strategies that are employed by the City to manage the wastewater system throughout their lifecycle is summarized in **Table 4-1**.

Table 4-1: Lifecycle Management Strategies for Wastewater Assets

Asset Group	Lifecycle Activity	Description of Activities Practiced by the City	Benefit or Risk Associated with the Activities
Wastewater	**Acquisition**	**All Wastewater Assets** • Assumption of subdivisions, commercial and industrial extensions, local improvements, etc. • Council approved specific initiatives. • Pipes that do not meet capacity requirements are upsized to increase capacity. • Undertake Environmental Compliance Approval (ECA). **Treatment Plants and Large Pump Stations** • Projects typically relate to process upgrades. The current upgrades on the East End WWTP are primarily focusing on improving the quality of wastewater treatment, while for the West End WWTP, the focus is on improving flow and replacing components.	• To extend services to previously unserved areas or expand services to accommodate asset enhancements. • Adequate planning and implementation of infrastructure projects help to manage existing and potential growth pressures and address other demand factors.
	Operations and Maintenance	**Sewers** • Flushing and cleaning. • Spot repairs. • Reactive CCTV Inspections of sewers. • Emergency blockage or failure responses. • Force mains valve exercising.	• Flushing and cleaning activities can remove debris to ensure desired capacity and help identify potential problems before they happen. • Spot repair will fix mains that have or may collapse and cause disruptions to service, backups and / or overflows. • Emergency blockage responses will remove partial or full blockages from mains that cause disruptions to service, backups and / or overflows and restore the main operational functions. • Valve exercising program ensure valves can be easily located and operated when and as needed.
		Manholes & Chambers • Routine inspections. • Performing maintenance as needed.	• Routine inspections for manholes & chambers to address the flow concerns or easement flooding issues.
		Service Connections • Clean-out installed. • Blockage removal. • Laterals unplug. • Relaying • Clay laterals replacement.	• Maintenance of service connections ensures assets are operating properly and reduce potential claims. • Replacement of clay and/or substandard laterals ensures that aged older pipe materials are replaced to reduce failures.

Asset Group	Lifecycle Activity	Description of Activities Practiced by the City	Benefit or Risk Associated with the Activities
		Small Pump Stations • Routine inspection once a week. • Maintain the electronic components that monitor station security, controls, and diagnostics. • Clean the grease, debris and foam build-up from wet well. • Wash down and remove debris in the pump station chambers. • Annual oil change. • Emergency repairs.	• Regular inspections of facilities ensure wastewater facilities are operating properly and that potential maintenance issues are identified and prioritized for repair to avoid equipment failure. • Regular scheduled maintenance activities at wastewater facilities ensure that the facilities continue to operate properly. • SCADA upkeep to monitor and improve the efficiency and capacity of wastewater facilities and assets. • Facilities emergency repairs due to failure alarm or reported failure to reduce the possibility of a spill or other system failure.
		Wastewater Treatment Plants and Large Pump Stations • Regularly scheduled inspections and maintenance by the Public Utilities Commission (PUC). • PUC has a standard routine for maintaining the facilities. • Implement SCADA upkeep projects. • Emergency repairs.	
	Renewal and Replacement	**Sewers** • Sewer replacements are coordinated with road reconstructions. • The City prioritizes replacing clay sewers. • Redundancy for critical force mains is a concern the City aims to address.	• Coordination of sewer works together with road reconstruction. Allows the management of a range of assets within any road right-of-way to be optimally coordinated, leading to reduced cost and limited disruption to businesses and residents. • Replacing older pipe materials such as Clay sewers with Polyvinyl Chloride (PVC) pipes to reduce potential main failures. • Critical force main redundancy ensures wastewater network availability in case of a force main failure and unavailability.
		Manholes & Chambers • Replaced at the same time as the sewer mains. • Minor defects observed on site are addressed under the maintenance budget.	• Bundling similar works to manage related assets and reduce overall lifecycle cost.
		Service Connections • Replaced at the same time as the sewer mains. • Minor defects observed on site are addressed under the maintenance budget.	• Bundling similar works to manage related assets and reduce overall lifecycle cost.
		Small Pump Stations • The small pump stations are assessed annually in terms of priorities for renewal/replacement.	• Renewal or replacement of underperforming wastewater facility assets reduce potential loss of service caused by unplanned failure.

Asset Group	Lifecycle Activity	Description of Activities Practiced by the City	Benefit or Risk Associated with the Activities
		Wastewater Treatment Plants and Large Pump Stations • The City is looking to conduct detailed condition assessments for larger pump stations. • Large pump stations operated by PUC are renewed based on functional needs. • Wastewater treatment facilities assets are renewed / replaced based on facility inspection reports.	
	Disposal	• Current practice is removal of old assets and landfill disposal. • Equipment is disposed or inventoried as spare parts.	• Ensure assets are disposed in compliance with waste regulations in Ontario.
	Non-Infrastructure	• Sanitary flow monitoring project to monitor and track I&I. • Perform sewer capacity studies. • Plan formalized condition assessment programs. • Master Plans and Official Plan.	• Monitoring and tracking I&I will facilitate identification of future remedial actions as may be required. Reducing infiltration and inflow will mitigate overflows and by-passes during periods of intense rainfall. • Sewer capacity studies provide the ability to understand the need to upsize pipes to accommodate needs. • Condition assessment programs help to identify and record asset condition to inform decision-making for maintenance and capital programs. • Master Plans and Official Plan include strategic planning / budgeting and project prioritization enable to inform long-term decision making.

5 Funding Need Analysis

5.1 Capital and Operating Budget

5.1.1 Capital Budget - Historical Expenditure and Future Forecast

Historical capital expenditures for wastewater services have typically included maintaining and upgrading West End Plant, East End Plant, Pump Stations, Miscellaneous Capital, Emergency Repairs, PUC Capital Budget, and studies to ensure compliance with all wastewater regulations and other requirements, and maintain assets in good working order. **Figure 5-1** present the capital reinvestment budget forecast.

Figure 5-1: Capital Reinvestment Budget Forecast

Asset Class	Asset Category	Asset Type	2025-2029 5-Year Average Reinvestment Budget
	Linear	Wastewater Mains, Manholes & Chambers, and Service Connections	$2,000,000
Wastewater	Facilities	East End Treatment Plant, West End Treatment Plant, and Pump Stations	$3,200,000*
		Total	**$5,500,000**

**This number represents the regular capital reinvestment budget; the City's forecasted capital budget also include update projects (including EE UV upgrade, WE Phase II upgrade, etc.), which is incorporated in the service level forecast in this AMP.*

5.1.2 Operating Budget - Historical Expenditure and Future Forecast

The City's historical operating expenditures for wastewater services have centered on routine maintenance and operation of the collection system and facilities, ensuring regulatory compliance and enforcement, and maintaining SCADA and communication systems. These expenditures also support compliance management and reporting, and drive continuous optimization of both collection and treatment processes.

Figure 5-2: Operating Budget Forecast

Asset Class	Asset Category	Asset Type	2025-2029 5-Year Average O&M Budget
	Linear	Wastewater Mains, Manholes & Chambers, and Service Connections	$2,800,000
Wastewater	Facilities	East End Treatment Plant, West End Treatment Plant, and Pump Stations	$7,100,000
		Total	**$9,900,000**

5.2 Capital Reinvestment Funding Needs Analysis

This section outlines the capital funding scenarios analyse approach, assumptions, and presents service level trends regarding asset condition under various budget scenarios.

5.2.1 Lifecycle Model Approach and Assumptions

The lifecycle analysis was implemented within an PowerBI Model. The analysis involves integrating key asset attribute information including asset inventory, age, expected service lives, replacement values, and condition to create a theoretical asset replacement cycle for each asset. The other relevant capital upgrade needs information (e.g., the City's current plan for WWTP-EE and WE upgrade) were also considered in the lifecycle model. The 2023 condition assessment results of the WWTPs and PSs are incorporate in the analysis. A financial dashboard was developed to present the lifecycle modeling results.

The annual reinvestment needs for the wastewater assets were determined based on their age and ESL in years (i.e., replacing assets that have exceeded their ESL, in inflated dollar values, incorporating the following assumptions on inflations:

- The base year used is 2025. Any historic asset replacement values have been inflated using the experienced inflation rate from Non-Residential Building Construction Price Index (NRBCPI).
- Inflation rate: the inflation rates adopted for the financial model are presented in **Table 5-1**. The inflation for 2025 and later is determined based on the City's input.

Table 5-1: Inflation Rate[4]

Year	Inflation Rate
2022	7%
2023	7.1%
2024	6%
2025	2%
2026	2%
2027	2%
2028	2%
2029	2%
2030 - 2034	2%

Table 5-2 presents the proposed reinvestment targets for wastewater infrastructure from 2025 to 2034. It outlines the intervention measures and target percentages for each asset type, along with the resulting average annual reinvestment rates over the 10-year period.

[4] Past inflation data obtained from NRBCPI using the non-residential; yearly result taken from an average of quarterly results. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810027601

Table 5-2: Wastewater Reinvestment Assumptions

	Asset	Measure	Target	Resulting 10-Yr. Annual Avg. Reinvestment Rate (2025-2034)
Wastewater Linear	Wastewater Gravity Mains	Percentage of gravity mains exceeding their expected service life, that are replaced in 2025 and thereafter	100%	1.3%
	Wastewater Force Mains	Percentage of force mains exceeding their expected service life, that are replaced in 2025 and thereafter	100%	
	Wastewater Service Connections	Percentage of required replacement of service connections when replacing gravity mains addressed	100%	
	Wastewater Manholes & Chambers	Percentage of required replacement of manholes & chambers when replacing gravity mains addressed	100%	
Wastewater Facilities	Wastewater Pump Stations	Percentage of wastewater pump station assets exceeding their expected service life, that are replaced in 2025 and thereafter	100%	1.5%
		Structural and Building Envelope are assigned with repair cost annually	0.1% of replacement value	
	Wastewater Treatment Plants – East End	Percentage of East End WWTP assets exceeding their expected service life, that are replaced in 2025 and thereafter	100%	
		Structural and Building Envelope are assigned with repair cost annually	0.1% of replacement value	
		WWTP-EE upgrade projects (2025 to 2029)	100%	
	Wastewater Treatment Plants – West End	Percentage of west end wastewater treatment plant assets exceeding their expected service life, that are replaced in 2023 and thereafter	100%	
		Structural and Building Envelope are assigned with repair cost annually	0.1% of replacement value	
		WWTP-WE upgrade projects (2025 to 2029)	100%	

In the future, when condition assessment programs are implemented for linear, conditions will be used to update the renewal and replacement forecast to better inform asset reinvestment needs.

5.2.2 Wastewater Linear Assets Budget Scenarios & 10-Year Service Level Forecast

This section presents the budget scenario analysis and the 10-year service level forecast for wastewater linear assets.

5.2.2.1 Budget Scenarios Setting for Wastewater Linear Assets

Table 5-3 budget scenarios setting for linear assets. Scenario 1 (S1) is a “Do Nothing” approach with zero expenditure; S2 assumes an ideal, unconstrained budget enabling asset replacement at end-of-life; and S3 reflects the City’s defined budget at $2.0 Million annually.

Table 5-3: Wastewater Linear Assets Budget Scenarios

Scenario		Description	Budgets
S1	Do Nothing	Spend Nothing	$0 Million
S2	Unconstrained Budget	Replace assets at end of life	Unlimited
S3	City's Planned Budget	City's Current Planned Budget	$2.0 Million annual budget

5.2.2.2 Wastewater Linear Assets Funding Need

The average annual reinvestment estimates for the City's wastewater linear is $25 Million over the next 10 years in inflated dollar values. This is equivalent to a total of approximately $255 Million over the next 10-year period, as presented in **Figure 5-5**. The City should note that there are significant backlogs for reinvestment on the sewer gravity mains, force mains, and service connections which have already exceeded their ESLs. This theoretical expenditure spike is presented in the year 2025 in **Figure 5-5.**

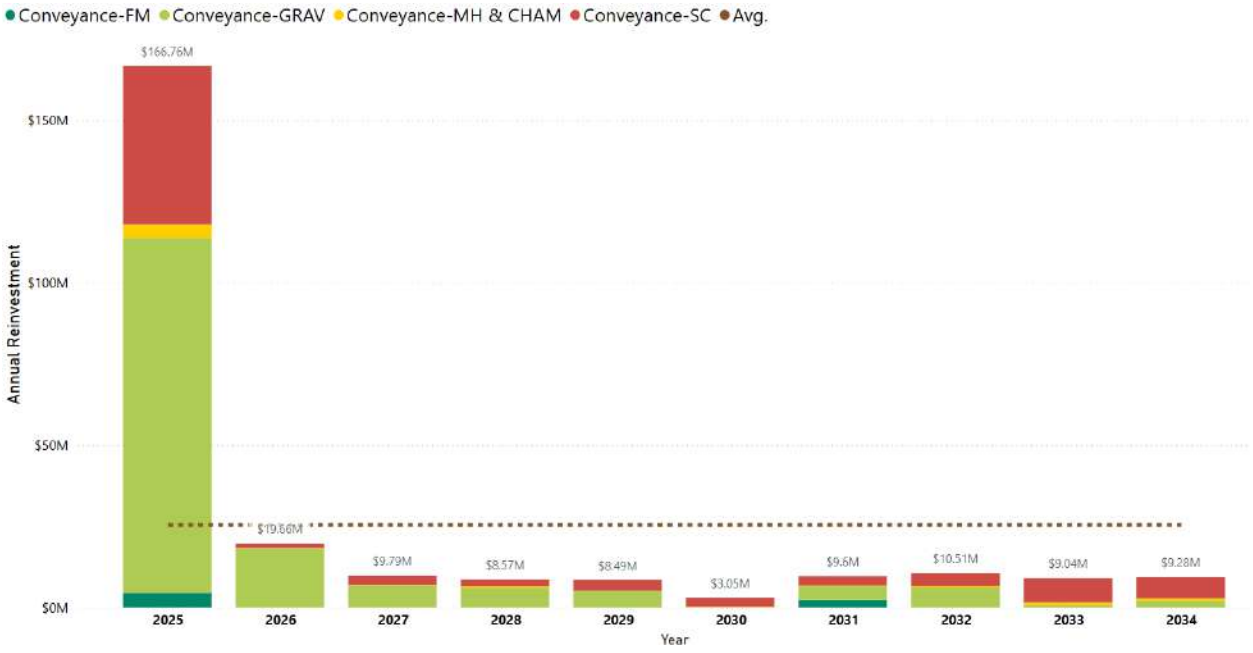


Figure 5-3: 10-Year Funding Need for Wastewater Linear Assets – Unlimited Budget Scenario

The detailed 10-year reinvestment needs for gravity mains, force mains, service connections, manholes and chambers are presented in **Table 5-4** in inflated dollar values.

Table 5-4: Wastewater Linear Assets 10-Year Total and Annual Average Capital Reinvestment Need

Asset Type	Annual Average Need	10-Year Total
Wastewater Gravity Mains	$15,872,000	$158,723,000
Wastewater Force mains	$690,000	$6,900,000
Wastewater Service Connections	$8,182,000	$81,820,000
Wastewater Manholes & Chambers	$730,000	$7,302,000
Total	**$25,475,000**	**$254,745,000**

5.2.2.3 Wastewater Linear Assets 10-Year Service Level Trend Forecast

Figure 5-4 presents the projected condition of wastewater linear assets under three funding scenarios over a 10-year period. Currently, 86% of linear assets are in fair or better condition. Under the "Do Nothing" scenario, the service level declines steadily to 80% by 2034. With an unlimited budget of approximately $25 Million annually, the asset

condition improves to 95. Under the City's current budget of $2 Million annually, the service level declines more moderately, reaching 82% by 2034.

These projections indicate that the City's current funding is not sufficient to sustain current service levels for wastewater linear assets over the long term. While the decline under the current budget is gradual, it still reflects increasing deferred maintenance and future risk. Additional investment or complementary strategies may be needed to close this gap and preserve long-term system performance.

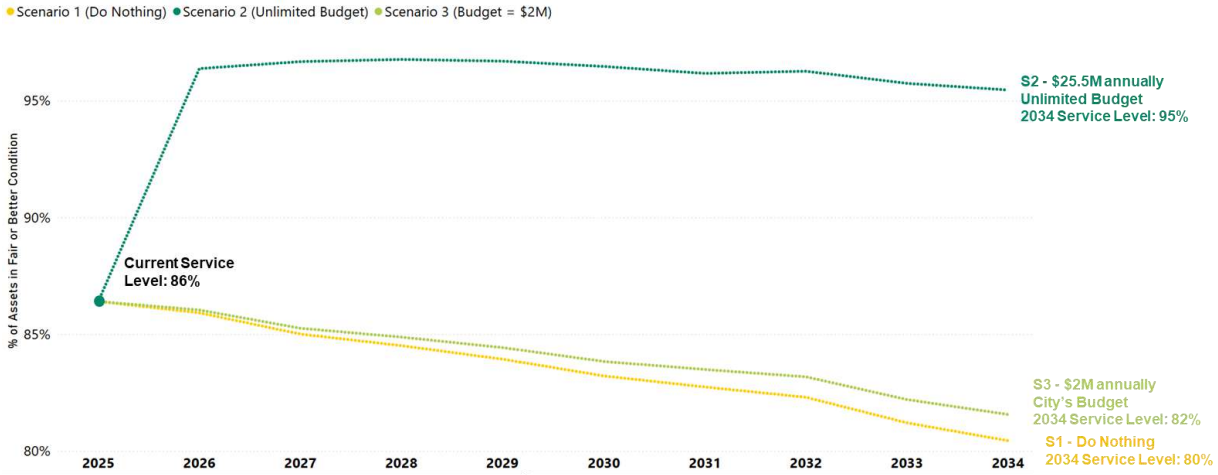


Figure 5-4: Wastewater Linear Assets Levels of Service Trend in the Next 10-Year for All Budget Scenarios

Figure 5-5 illustrates the projected condition distribution of wastewater linear assets from 2025 to 2034, assuming the City maintains its current annual investment of $2 Million. Currently, 61% of assets are in very good condition, with only a small proportion rated as poor or very poor. However, under continued funding at this level, the condition of the asset base is expected to decline steadily. By 2034, only 44% of assets are projected to remain in very good condition, while the share of assets in poor or very poor condition increases from 13% to 18%.

The gradual decline reflects the aging network and the impact of deferred reinvestment. Without additional investment or the implementation of life-extension strategies, a growing portion of the system will fall into poor to very poor condition categories.

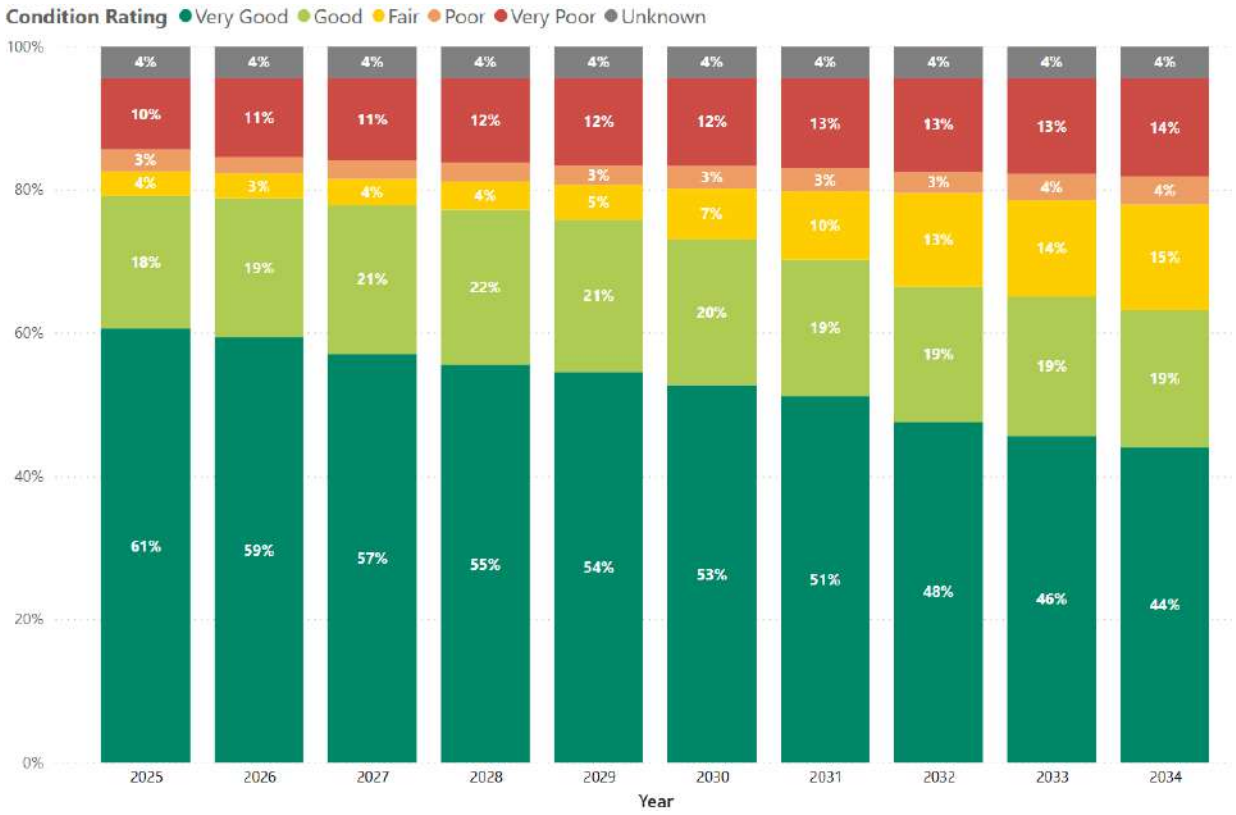


Figure 5-5: Wastewater Linear Assets Condition Projection under Scenario 3 - City's Planned Budget

5.2.3 Wastewater Facilities Budget Scenarios & 10-Year Service Level Forecast

This section presents the budget scenario results and the 10-year service level forecast for wastewater facilities.

5.2.3.1 Budget Scenarios Setting for Wastewater Linear Assets

Table 5-6 shows budget scenario setting for wastewater facilities. S1 is a "Do Nothing" approach with zero expenditure; S2 assumes an ideal, unconstrained budget enabling asset replacement at end-of-life or rehab where applicable; and S3 reflects the City's defined budget at $3.2 Million annually.

Table 5-5: Wastewater Facility Assets Budget Scenarios

Scenario		Description	Budgets
S1	Do Nothing	Spend Nothing	$0 Million
S2	Unconstrained Budget	Replace assets at end of life or rehab where applicable	Unlimited
S3	City's Planned Budget	City's Current Planned Budget	$3.2 Million annual budget

5.2.3.2 Wastewater Facilities Funding Need

The average annual reinvestment estimates for the City's wastewater facility is $3.3 Million over the next 10 years in inflated dollar values. This is equivalent to a total of approximately $33 Million over the next 10-year period, as presented in **Figure 5-6**. The reinvestment needs vary significantly from year to year. A funding need spike is observed in 2025, where total reinvestment needs reach $13.8 Million, primarily driven by needs at the Pump Stations and the WWTP-EE facility. It is noted that the planned upgrade project including the EE UV upgrade, WE Phase II upgrade, etc. in the next 5 years is factored in this funding need analysis.

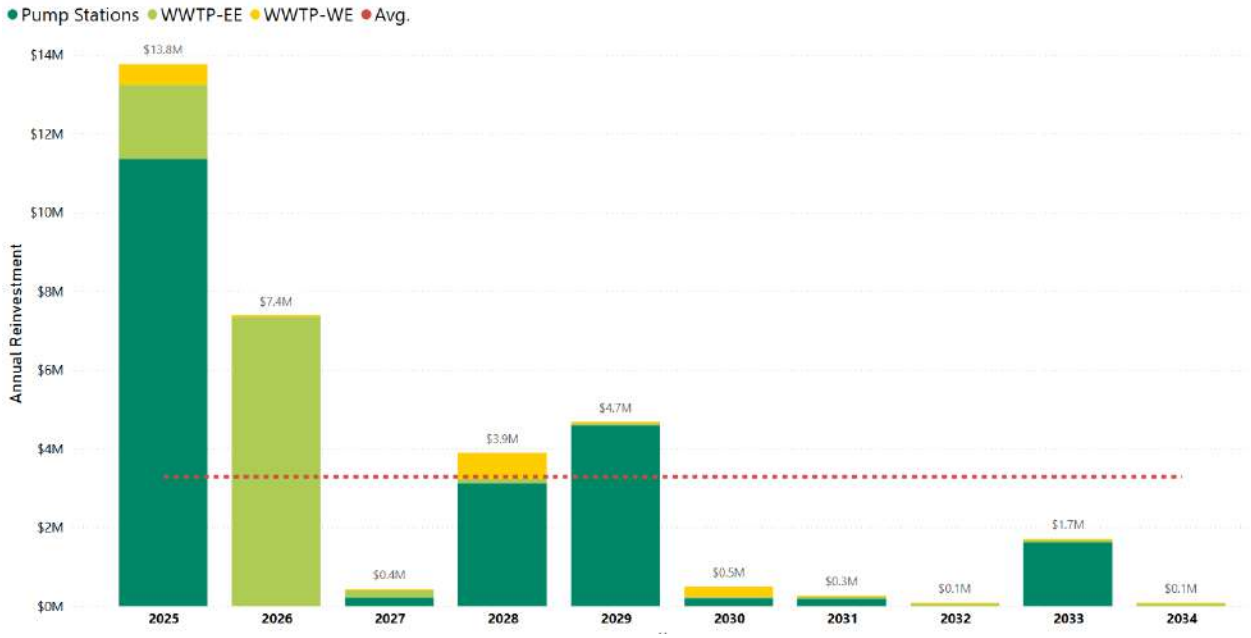


Figure 5-6: 10-Year Funding Need for Wastewater Facility Assets – Unlimited Budget Scenario

The detailed 10-year reinvestment needs for pump stations, and WWTPs are presented in **Table 5-6** in inflated dollar values.

Table 5-6: Wastewater Facilities 10-Year Total and Annual Average Capital Reinvestment Need

Asset Type	Annual Average Need	10-Year Total
Wastewater Pump Stations	$2,129,000.00	$21,290,000
Wastewater Treatment Plants – East End	$982,000.00	$9,820,000
Wastewater Treatment Plants – West End	$170,000.00	$1,700,000
Total	**$3,281,000**	**$32,810,000**

5.2.3.3 Wastewater Facilities 10-Year Service Level Trend Forecast

This analysis models the service level in terms of condition of wastewater facility assets over a 10-year horizon under three funding scenarios shown in **Figure 5-7**. Currently, approximately 88.8% of the City's wastewater facility assets

are in fair or better condition. In a “do nothing” scenario, the condition of the asset base declines significantly, with only 50% of assets projected to remain in fair or better condition by 2034. In a scenario assuming unlimited funding results in a stabilized condition level of approximately 75% by 2034. Notably, the City’s current budget scenario—based on an annual investment of approximately $3.2 Million—yields nearly identical results, also achieving a projected service level of 75% by 2034.

This finding indicates that the City’s current level of capital investment in wastewater facility assets is very close to adequate for maintaining asset condition over the next decade.

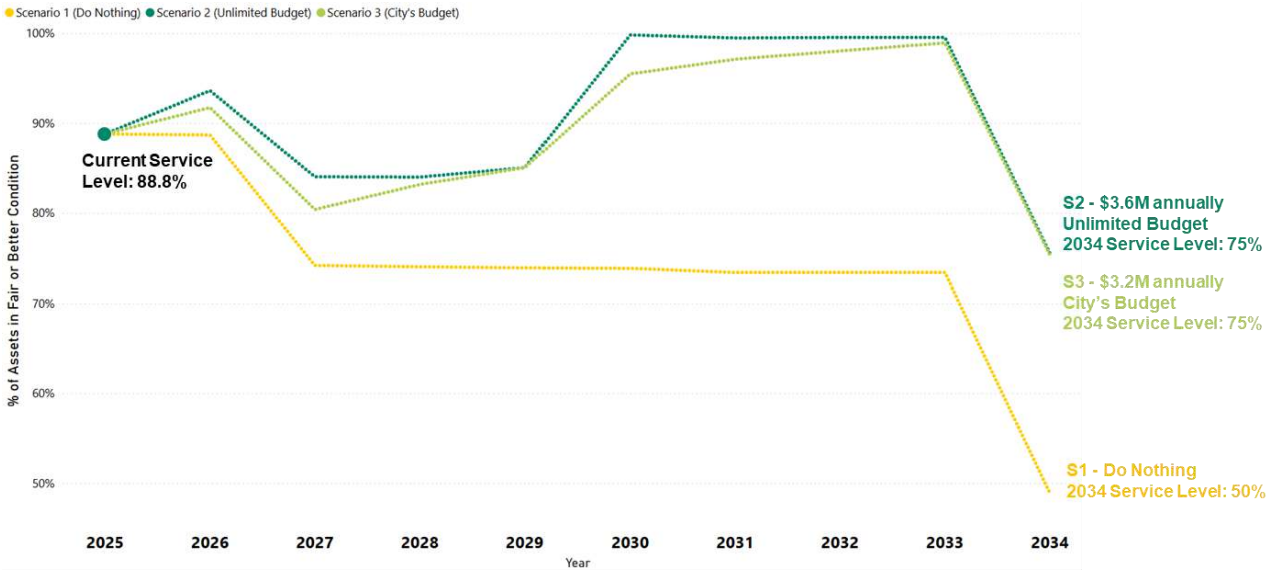


Figure 5-7: Wastewater Facilities Levels of Service Trend in the Next 10-Year for All Budget Scenarios

Figure 5-8 shows the detailed condition distribution profile under the City’s planned budget scenario for facility wastewater assets. Notably, the percentage of assets in poor and very poor condition peaks in 2028–2029, reflecting the impact of aging infrastructure before major reinvestment efforts take effect. From 2030 onward, the condition profile improves and stabilizes, indicating that the City’s current level of investment is sufficient to maintain overall system performance, provided that assets are renewed in a timely and strategic manner.

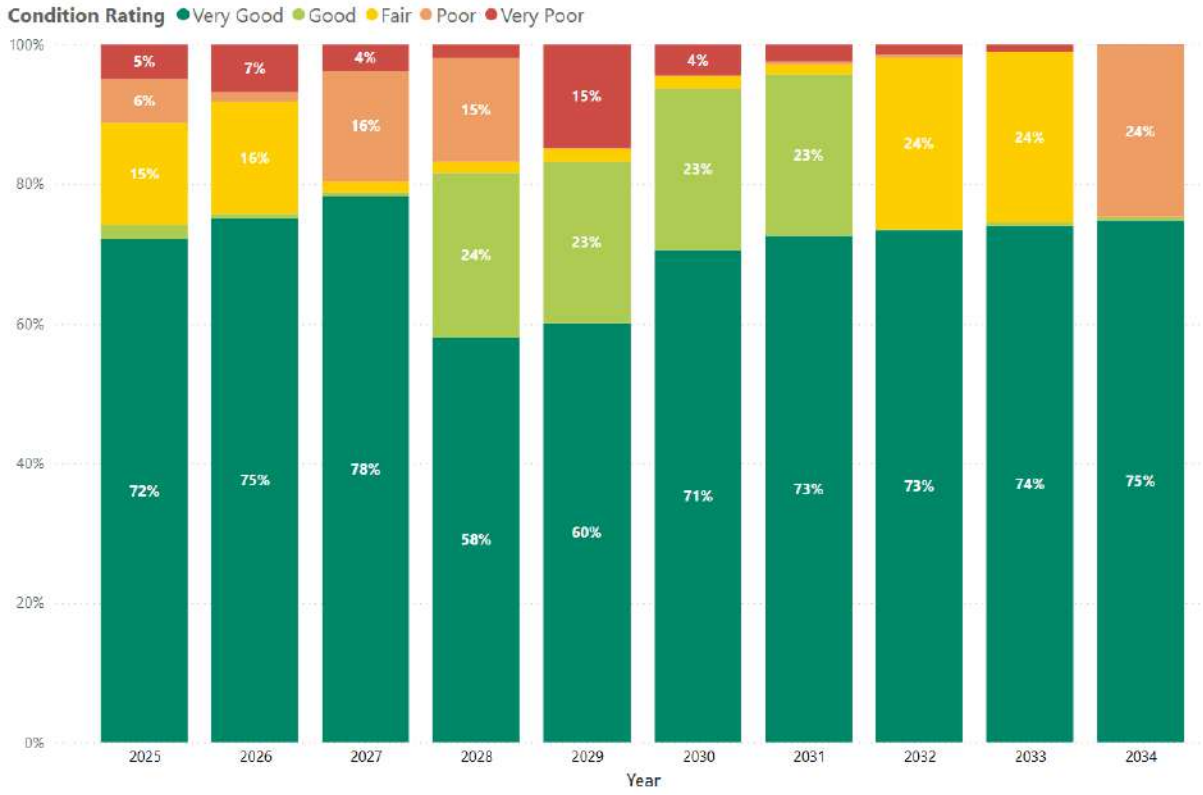


Figure 5-8: Wastewater Facilities Condition Projection under Scenario 3 - City's Planned Budget

5.3 50-Year Reinvestment Need

Looking ahead over the long term, the average annual reinvestment estimate for all the City's wastewater linear and facility assets is $53 Million over the next 50 years in inflated dollar value, for a total of approximately $2.7 Billion, as presented in **Figure 5-9**. Considering the reinvestment needs starting from around 2039, a significant amount of the City's aged gravity mains will require renewal or replacement as they will approach and exceed their theoretical ESLs.

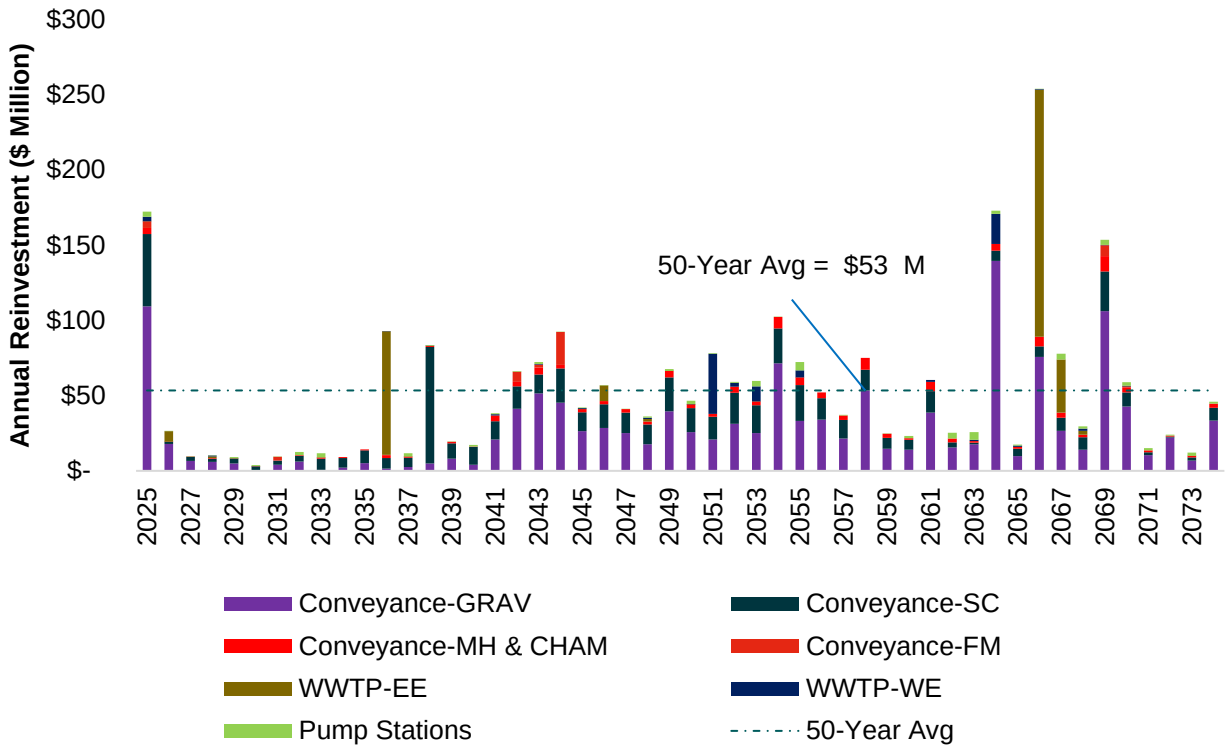


Figure 5-9: Wastewater System 50-Year Reinvestment Needs – Unlimited Budget Scenario

5.4 Growth Related Capital Funding Need

The growth-related capital funding for wastewater services includes a need to acquire the Biosolids Management Facility, estimated at $43.8 Million over 2025–2029. Base O&M costs are estimated at $1.5 Million (in 2023-dollar values)—allocated 80% to wastewater and 20% to solid waste—and will be adjusted for inflation. Due to a learning curve, the first two years of operation (2027–2028) will incur costs at 150% of the base rate. Consequently, an additional annual O&M budget of approximately $1.3 Million (in 2025 dollars) is needed for wastewater services, rising to about $1.9 Million during the initial two years. This translates to a total of $14 Million in O&M funding needs over the next 10 years for the Biosolids Management Facility.

5.5 Full Funding Profile

Figure 5-10 shows a full picture of the City's wastewater funding need forecast over the next 10 years, which provides the City the full funding requirements in order to perform effective financial planning activities. The total annual reinvestment cost from **Figure 5-3** has been overlaid with the City's annual average wastewater O&M cost. In addition, 1% of the annual reinvestment is used as an allocation for asset disposal costs.

The City's wastewater full funding requirement increases to approximately $218 Million over the next 10 years with additional funding requirement, and O&M, disposal for all linear and facility assets, equivalent to $21.8 Million per year in inflated dollar value (growth related lifecycle cost not included, see **Section 5.4** for estimated funding need for growth).

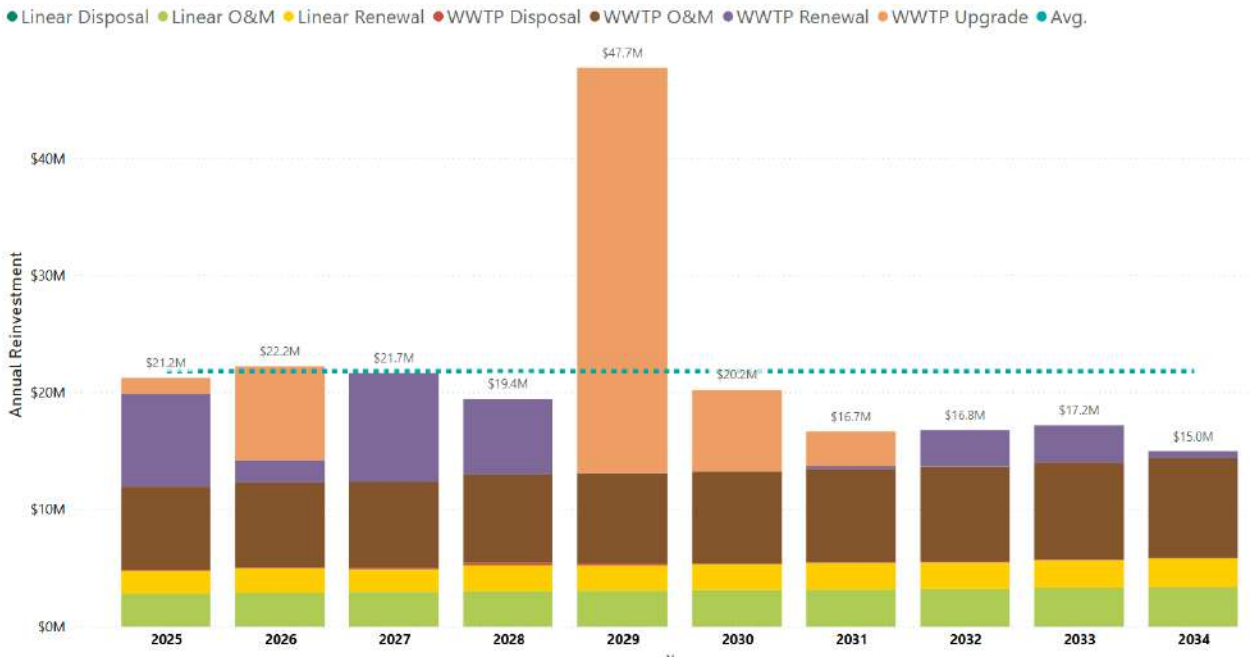


Figure 5-10: Full Funding Profile (City's Planned Capital Reinvestment Budget Scenario Included)

5.6 Funding Gaps & Risk

The City intends to continue to invest in the growth and renewal of the Wastewater assets over the next 10 years. **Table 5-7** compares the City planned capital reinvestment budget against the capital reinvestment funding needs. The shortfall between the City planned capital reinvestment budget against the capital reinvestment funding needs is referred to as the "funding gap".

Table 5-7: Funding Gap – Capital Reinvestment Funding Needs vs. Budget Forecast

Asset Class	10-Year Need Total ($Million)	10-Year City Budget Total ($Million)	10-Year Gap Total ($Million)
Wastewater Facilities	$33	$32	Very Close to Adequate
Wastewater Linear	$255	$20	$235

The growth-related capital funding need is outlined in **Section 5.4**, which further exacerbates the funding gap for the City's wastewater management system by highlighting additional investments required to accommodate future growth.

As described in **Section 3.5**, risks are identified for each service level performance measure. **Table 5-8** provides a high-level overview of the key risks associated with funding gaps, as well as the potential consequences and impacts of not meeting the proposed service levels.

Table 5-8: Risk of Delayed Intervention for Wastewater System

Key Risk	Asset	Potential Consequences/Impacts
Insufficient funding to keep up with population and demand increases	All Wastewater assets	- Constrained growth (e.g., impacts on housing supply) - Difficulty balancing growth-related and renewal budgets
Insufficient funding for linear asset lifecycle renewals	Linear Assets	- Reputational risk to the City - Unwanted media attention - Declining asset condition over time - Greater reliance on reactive maintenance - Reactive interventions are costlier than proactive actions - Increased frequency of service interruptions and asset failures - Compromised regulatory compliance - Ministry of the Environment, Conservation and Parks (MECP) violations (e.g., health and safety concerns, beach closures) - Reduced system resiliency and redundancy
		- Aging pipes not replaced contribute to increased inflow and infiltration (I&I) - Elevated risk of sewer backups
Higher vulnerability of assets to emergencies/ extreme weather events	All Wastewater assets	- Damage to infrastructure from more frequent and severe weather due to climate change - Accelerated asset deterioration - Risks of sewer backups - Additional pressure on already constrained financial resources
Insufficient funding for operations and maintenance	All Wastewater assets	- Increasing annual maintenance costs as infrastructure ages - Emergency responses divert resources from routine maintenance - More time spent responding to complaints and public inquiries

5.7 Funding Sources & Alternative Strategies

The Funding Gap represents the shortfall between optimal and forecasted funding levels. Addressing this gap requires careful strategic consideration. Options may include increasing revenues (e.g., user rates, taxes), issuing debt, adjusting the LoS, or accepting elevated asset-related risks. Each of these choices involves trade-offs that must be weighed in light of financial sustainability, regulatory obligations, and community expectations.

The City's current internal funding and external funding source include, but not limited to:

- Sewer Rate
- Reserves
- Long Term Debt
- Debt Servicing
- Ontario Community Infrastructure Fund
- Housing Enabling Water Systems Fund
- Canada Community Building Fund

Internal funding such as sewer rate is secure and guaranteed. This refers to stable revenue sources under the City's direct control. While external funding, such as provincial or federal grants, is considered at risk. These external sources are subject to change based on policy shifts or economic conditions. Overreliance on such funding creates vulnerability, as any reduction can compromise planned infrastructure investments or service continuity.

The City has acknowledged the growing backlog of reinvestment needs within its wastewater infrastructure, a challenge that continues to escalate under current funding limitations. To begin addressing this gap, City Council approved a 10 per cent annual increase to the average residential sanitary sewer bill, effective January 1, 2024.

Recognizing the constrains of internal funding and limitations and uncertainties associated with external funding, it becomes increasingly important to explore complementary approaches that do not depend solely on financial sources. In this context, alternative or non-financial strategies play a critical role in enhancing the City's ability to manage service levels and asset performance within existing fiscal constraints. **Table 5-9** highlights the City's non-financial strategies to address the identified wastewater funding gap. These strategies are designed to support long-term financial sustainability through alternative delivery methods, changes in practices or policies, and system optimization, without relying solely on increased funding.

Table 5-9: Non-Financial Strategies to Address Funding Gaps for Wastewater Service

Category	Strategy	Description / Actions
Planning & Prioritization	I&I Studies and Capacity Modeling	Use hydraulic models and I&I studies to identify and prioritize capacity issues caused by aging infrastructure and cross connections.
	Performance Condition Assessment and Formalize Risk Assessment	The City will continue to maintain and enhance asset condition data while developing a formalized risk assessment framework to support evidence-based, risk-informed decision-making. Risk considerations are still in the early stages of integration into asset management decisions. Establishing a structured and consistent risk assessment process will enhance the transparency and repeatability of decision-making.
	Master Planning & Resilience Mapping	Incorporate high-risk segments identified in the wastewater Master Plan into capital planning.
	Continuously Coordinate Pipe Replacement with Road Renewal Planning	Align renewal of linear assets closely with planned road reconstruction to minimize cost while managing I&I and failure risks. The City already implement good practice by triggering pipe replacement based on road renewal schedules, which helps avoid unnecessary rework and surface disruption. However, there is an opportunity to enhance and formalize this coordination by adopting a more proactive, corridor-based bundling approach. This means moving beyond reactive alignment to strategically coordinating utility and road reinvestments earlier in the capital planning cycle. By jointly prioritizing projects at corridors, using asset condition and risk to optimize timing, and identifying corridors where full upgrades can be bundled, the City can maximize cost-efficiency, reduce construction-related disruptions, and better manage risks such as I&I or pipe failure.
	Consider Pipe Lining	Assess opportunities to extend the service life of aging sewer mains through trenchless relining technologies, particularly in areas where road reconstruction is not scheduled in the near term. Lining reduces infiltration, delays costly full replacement, and minimizes surface disruption.
Operational & Engineering Solutions	Cross-connection Removal	Identify and remove stormwater inflow sources and cross-connections, focusing on neighborhoods with aging pipes and I&I risks.
	Process Optimization (UV Transition)	Maximize the benefit of UV disinfection by optimizing operational protocols to reduce the likelihood of effluent violations.
	Flushing, Grease Enforcement & Maintenance	Maintain robust maintenance programs and enforce by-laws related to grease and other contributors to backups.
Regulatory & Policy	Monitoring & Compliance	Improve effluent monitoring to quickly detect issues, assess root causes, and prevent future violations.
Redundancy & Optimization	Proactive Inspections & Equipment Redundancy	Regularly inspect and maintain vertical assets; install redundancy where needed to ensure service reliability.
	Process Optimization	Balance operational performance with cost and energy savings at treatment plants.

6 Implementation Plan and Continuous Improvement

Continuous improvement is an important component of any AM program and is achieved through the implementation of recommended improvement initiatives which support sustainable service delivery. While the City's wastewater assets are in a relatively good condition at the moment, there are future challenges that must be contended with considering the 50-year projection presented in **Figure 5-9**. It is important to address these challenges thoroughly and promptly to leave a positive legacy for future generations.

A suite of improvement initiatives has been identified for the next update of AM planning for the City's wastewater assets, as outlined below:

- **Recommendation 1: Refine asset data and fill data gaps to make more informed and defensible decisions.**

  Continue to collect data and fill gaps in the GIS inventory to have a more accurate representation of the current state of wastewater infrastructure. The City has made great effort in ensuring that the GIS is the primary source of truth for its assets by capturing much of the inventory within the system. It is recommended that the City continue to merge asset data from various drawings, spreadsheets, and other databases through the process of digitizing, transforming, or georeferencing assets to capture the whole inventory.

- **Recommendation 2: Develop a Data Governance Framework to provide a holistic and consistent approach to the City's wastewater data management practices**.

  A Data Governance Framework includes developing an Asset Information and Data Standards Strategy to clearly define what asset data exists, who is accountable for managing it, methods of data collection, and safeguarding data quality. The successful deployment of a Data Governance Framework aims to achieve the following benefits:

  - Enhanced data integrity to support reliable analysis.
  - Improved data management workflows and processes.
  - Improved AM reporting.
  - Clearly defined data management roles & responsibilities.

- **Recommendation 3: Review business process for asset acquisition and design workflow diagrams to formally document AM processes.**

  An opportunity exists for the City to continually reevaluate its business practices, including data management, to promote information sharing between roles, departments, and systems. The development of process maps is an excellent resource for visualizing the flow of information and formalizing procedures.

- **Recommendation 4: Develop a regular wastewater sewer condition assessment program**.

  Condition assessment is one of the primary steps utilized prior to performing maintenance, rehabilitation, or replacement activities. In sewers, the most commonly used inspection technique is CCTV for sewers up to 1,200 mm; larger sewers can be good candidates for multi-sensor inspection (MSI). For force mains, applicable pressure system condition assessment tools can be considered including leak detection. Wall thickness measurement can also be considered for ductile iron and cast-iron force mains. The results from this inspection will be used to evaluate the internal condition of the pipeline to determine the structural and operational condition. A CCTV program will allow the City to:

  - Better forecast infrastructure renewal and rehabilitation needs.
  - Avoid infrastructure failures and the resulting economic, social, and environmental costs.

- Leverage cost-effective methods to extend the life of assets before the asset becomes too deteriorated and must be replaced.

- **Recommendation 5: Develop a regular wastewater facilities condition assessment program.**

  The last wastewater facilities condition assessment for the West End WWTP was performed in 2013. Condition assessment of the East End WWTP has been completed in 2023. AECOM recommends that the City to continously updates wastewater facility asset (treatment plants and the pump stations) condition at least every five years to inform maintenance, renewal, or replacement plans. A detailed condition assessment can include:

  - Inventory confirmations of key process equipment including process structural, process mechanical, process electrical and process instrumentation, building structures and systems, and site work.
  - Completion of all required asset class attributes (includes capturing manufacturer, model, serial number, and year installed).
  - Determining the current condition grade of each asset using a consistent condition rating scale.
  - Application of consequence of failure/criticality values based upon established criteria and information derived from discussion with plant staff.
  - Populating current asset replacement value based on local and recent cost data.
  - Developing a risk assessment and forecasting model.

  In addition, to ensure condition assessment results can be effectively incorporated into the next AMP update, the City will assign unique asset IDs across all wastewater-related databases. This will enable linkage between the asset inventory and condition assessment results, supporting the maintenance of a single source of truth for asset information.

- **Recommendation 6: Refine the Levels of Service Framework.**

  The AMP represents the City's Levels of Service in alignment with the requirements of O. Reg. 588/17 July 1, 2025 deadline. The City will continue its efforts to:

  – Regularly record LoS performance measures to monitor changes over time and identify emerging trends.

  – Review and update performance measures as needed to ensure they remain relevant and effective.

  – Periodically assess proposed LoS to confirm alignment with shifting community expectations, regulatory changes, City priorities, available resources, and observed performance trends—supporting adaptive and responsive service delivery.

  – Continuously enhance demand management by routinely evaluating future demand drivers that influence service delivery and asset use, integrating these insights into long-term capital planning to ensure LoS remains responsive to changing needs.

- **Recommendation 7: Develop a Formalized Risk Assessment Framework and use risk scores to drive financial needs forecasting.**

  The use of a risk-based approach to inform financial needs provides a clear direction in maintenance, rehabilitation, and replacement work in terms of balancing priorities. It also provides transparency to the public and other stakeholders to demonstrate that decisions are made in an impartial and consistent manner, without unreasonable bias, and in accordance with agreed upon policy and priorities.

- **Recommendation 8: Implement a CMMS / Work Management System.**

  The City will conduct an AM Software Strategy following the completion of this AM plan to identify future system requirements that may include enhancing existing software, adding-on, or replacing.

- **Recommendation 9**: **Refine and Regularly Update the Wastewater Lifecycle Funding Model.**

  The current wastewater funding model is built on available data, assumptions, and generalized asset information, providing a high-level estimate of future funding needs. As such, it is essential to refine the model periodically by incorporating updated data—such as asset condition assessments, project cost information, and implementation

schedules—to improve its accuracy. Project timing and costs should also be reviewed and adjusted as projects near execution to ensure realistic planning and budgeting.

- **Recommendation 10: Strengthen Renewal Planning for Wastewater Linear Assets through Corridor-Based Coordination on Infrastructure Renewal and Potential Life Extension Strategies.**

  While funding for wastewater facilities appears to be close to adequate, a significant funding gap exists for wastewater linear assets. The aging of sewer mains poses increasing risks to the wastewater collection system service delivery. Over the next 10 years (2025-2034), the funding gap for linear assets is estimated at approximately **$235 Million**. In the longer term, as illustrated in **Figure 5-9**, renewal needs are projected to rise substantially over the next 50 years, highlighting the importance of long-range financial planning for linear assets. To address these challenges, it is recommended that the City:

  – Enhance corridor-based coordination by aligning the renewal of linear assets with planned road reconstruction to minimize lifecycle costs and service disruptions; the City currently demonstrates sound practice by triggering pipe replacement based on road renewal schedules, minimizing surface disruption and rework. To build on this, the City is recommended to enhance its coordination efforts by adopting a proactive corridor-based bundling approach. This involves jointly prioritizing capital projects across road and utility programs earlier in the planning cycle, using asset condition and risk data to optimize timing, and identifying corridors where full upgrades can be bundled. This strategic integration will help maximize cost-efficiency, minimize disruption, and better manage infrastructure risks such as I&I and pipe failure

  – Assess opportunities for trenchless lining of aging sewer mains, particularly in areas where road reconstruction is not scheduled in the near term. Trenchless lining can extend asset life, reduce infiltration, delay costly full replacement, and significantly minimize surface disruption.

  – Review and update financial model assumptions for wastewater linear assets, including ESLs and replacement values. Incorporate new data as it becomes available—such as results from the ongoing CCTV inspection program—to improve the accuracy of long-term funding need projections.

- **Recommendation 11: Continue to monitor growth needs and integrate growth related wastewater infrastructure funding needs into the financial forecast and update the Wastewater AM Plan as appropriate.**

  As referenced in **Section 3.7**, the City's wastewater system is expected to grow in line with an increase in the City's population. AECOM recommends that the City:

  − Includes growth-related capital needs as part of the capital budgeting.

  − Coordinates AM planning and development planning processes to ensure that the infrastructure systems that are built to serve new growth can be sustained over the long term.

  − Ensures that the wastewater asset inventory is always kept current as new assets are added and existing assets are refurbished or retired.

- **Recommendation 12: Continue to find ways to improve AM initiatives across the City by maintaining a high level of AM awareness through training, AM buy-in, communication, and knowledge sharing.**

  ISO 55010[5] identifies the that the financial and non-financial functions of AM within organizations are generally inadequately aligned. The lack of alignment between financial and non-financial functions can be attributed to silos in an organization, including reporting structures, functional / operational business processes, and related technical data. Financial and non-financial alignment needs to work both "vertically" and "horizontally", as follows:

  − Vertical Alignment: financial and non-financial asset-related directives by management are informed by accurate upward information flows, effectively implemented across the appropriate levels of the organization.

[5] International Organization for Standardization (2019): ISO 55010 - Asset management — Guidance on the alignment of financial and non-financial functions in asset management

- Horizontal alignment: financial and non-financial information that flows between departments conducting functions such as operations, engineering, maintenance, financial accounting, and management, etc. should use the same terminology and refer to the assets identified in the same way.

- **Recommendation 13: Develop a Knowledge Retention Strategy to document staff AM knowledge and experience for succession planning purposes.**

  Communicate AM improvement initiatives and enhance AM awareness internally through internal communication.

- **Recommendation 14: Develop a Change Management & Communications Plan.**

  AM buy-in and support are needed from all levels of the City to ensure that AM standards, practices, and tools are properly adopted and incorporated into day-to-day work activities. A successful Change Management & Communications Plan will depend on the following factors:

  - AM buy-in from Council, senior management, staff, and departments.
  - AM objectives are realistic and achievable.
  - AM improvement initiatives are appropriately resourced.
  - A network of AM champions is developed and empowered across the City.

Recommendation 15: Public and Council Engagement Activities.

Establish a structured approach to public and Council engagement to ensure the AMP aligns with community expectations, supports informed decision-making, and enhances transparency, the City is committed to establishing a structured approach to public and Council engagement. While several engagement activities have already been undertaken, these efforts lay the foundation for a more consistent and strategic approach moving forward.

For Council engagement, the City has held presentations and conducted media events to share key project updates. It is recommended the development of Councillor Tool Kits could equip elected officials with clear and consistent messaging, including project overviews and frequently asked questions, to help them confidently respond to inquiries from residents. Suggested content for the tool kits includes:

- Overview of the City's Infrastructure Network
- Unique Conditions and Localized Challenges
- Investment in Infrastructure: Past, Present, and Future
- How the City Plans and Delivers Maintenance
- Why Continued Investment in Infrastructure Is Critical
- Asset Types and How They Guide Investment Priorities
- Introduction to Asset Management Principles
- Service Levels: What Residents Can Expect
- How Climate Change Impacts Infrastructure and their Maintenance
- Leveraging Technology to Improve Infrastructure Management
- Funding Sources and Budget Allocation
- How Infrastructure Are Prioritized and Selected for Maintenance

On the public engagement side, the City has shared information through existing channels, and this could be enhanced through a dedicated project webpage. This webpage would serve as a central hub for infrastructure planning updates, offering frequently asked questions, downloadable resources, project timelines, contact information, and an interactive feature to encourage two-way communication. A targeted social media strategy is also recommended to further broaden outreach—leveraging platforms such as Facebook and Instagram, including the use of sponsored posts to promote project milestones and public input opportunities.

The recommended engagement strategies would help foster public trust, define customer-focused performance targets, and ensure that the AMP reflects the evolving priorities of both Council and the broader community.

APPENDIX A

Wastewater Asset Inventory

A



Appendix A - Wastewater Asset Inventory

The City’s wastewater asset inventory is presented as a separate MS Excel file.

aecom.com

The Corporation of the
City of Sault Ste. Marie

C O U N C I L R E P O R T

July 14, 2025

TO:	Mayor Matthew Shoemaker and Members of City Council
AUTHOR:	Melanie Borowicz-Sibenik, Assistant City Solicitor/Senior Litigation Counsel
DEPARTMENT:	Legal Department
RE:	Senior Citizens Drop-In Centre – Extension Agreement

Purpose

The purpose of this report is to request Council authorization of an Extension Agreement as it relates to the Senior Citizens Drop-In Centre property located on at 619 and 615 Bay Street (collectively the "Subject Property").

Background

The City and the Ontario Housing Corporation originally entered into a Lease dated August 1, 1975 (the "Original Lease"), whereby the City leased the lands and premises comprising the Subject Property for the Senior Citizens Drop-In Centre.

This Original Lease was thereafter amended on two separate occasions, specifically by Lease Amendment dated August 30, 1983 and thereafter by Lease Amendment dated June 2, 1988.

The Province subsequently passed Order in Council 2396/2000 which had the effect of transferring all rights, interest, liability or obligations that Ontario Housing Corporation had in the Subject Property to the Sault Ste. Marie Housing Corporation ("SSMHC").

The Original Lease expires on August 1, 2025. Legal and SSMHC through their Counsel Steven Shoemaker, have been negotiating the terms and conditions of the new lease agreement which will be presented to Council for approval. The Extension Agreement seeks to extend the Original Lease on the same terms and conditions, for a period of two months to provide time for negotiations to be completed and the final lease to be prepared.

Analysis

The Extension Agreement confirms that the extension period will be on the same terms and conditions as the Original Lease.

Financial Implications

There will be no change to the financial arrangements during the extension period.

Strategic Plan / Policy Impact / Climate Impact
This Extension Agreement is linked to Focus Areas 3 Infrastructure, 1 Community Development and 4 Service Delivery of the Corporate Strategic Plan.

Recommendation
It is therefore recommended that Council take the following action:

The relevant By-law 2025-116 is listed under item 12 of the Agenda and will be read with all by-laws under that item.

Respectfully submitted,

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The Corporation of the
City of Sault Ste. Marie

C O U N C I L R E P O R T

July 14, 2025

TO:	Mayor Matthew Shoemaker and Members of City Council
AUTHOR:	Nicole Maione, Director of Community Services
DEPARTMENT:	Community Development and Enterprise Services
RE:	Sault Ste. Marie Transit – Roadmap to Electrification Study

---

Purpose

The purpose of this report is to outline the results of a comprehensive study examining the potential for electrifying the transit system, including but not limited to infrastructure requirements, greenhouse gas (GHG) emissions reduction potential, financial implications, procurement timelines as well as opportunities and challenges. It will also address alternative emission reduction options to support this shift for Sault Ste. Marie's transit system.

Background

On December 14, 2020, City Council received a presentation and report related to the Sault Ste. Marie Community Greenhouse Gas (GHG) Reduction Plan 2020-2030 and passed the following resolution:

> Resolved that the report of the Climate Change Coordinator dated 2020 12 14 concerning Sault Ste. Marie Community GHG Reduction Plan 2020 – 2030 be received and that Council approve the adoption of the Sault Ste. Marie GHG Reduction Plan;
>
> Further that Council approve the goal for greenhouse gas reduction plans of net zero emissions by 2050 and support taking a staged approach to achieve this goal, focussing on a GHG reduction target of 10% corporate and 5% community between 2020 – 2030, with an increasing scale of reduction target between 2030 and 2050;
>
> Further that staff be directed to work to achieve the goals and actions outlined in the plan, with any municipal monetary requests referred to future budgets.

As part of 2022 budget deliberation, City Council approved $75,000 to fund a feasibility study relating to the electrification of Transit. This was contingent on funding approvals through the Investing in Canada Infrastructure Program (ICIP) – Transit Stream. The City received notification that this was approved on July 5,

2023. A transfer payment agreement was subsequently signed on April 8, 2024, By-law 2024-38. The City's share of the project cost is 26.67%.

In alignment with the City's Community GHG Reduction Plan, the City of Sault Ste. Marie participated in a Battery Electric Bus (BEB) Joint Procurement Roadmap Study (Appendix A – SSMBEB Fleet Transition Plan Final Report) as part of Metrolinx's Joint Transit Procurement Initiative. The BEB Roadmap provided a framework for full fleet electrification for Ontario Transit Agencies, beginning with the acquisition of consulting services to develop and plan for full fleet electrification

Analysis

The BEB Feasibility Study and Fleet Transition Plan acts as a roadmap to guide the process to fully electrify Sault Ste. Marie Transit (SSM Transit). The project included three tasks:

1. Route Modelling and Schedule Optimization
2. Facility Assessment
3. Full Fleet Electrification and Transition Plan

Route Modelling and Schedule Optimization

The route modelling ran energy consumption modelling along all routes within the transit network to determine range requirements. This included a review of the existing fleet, schedule, vehicle mileage, and energy consumption. It also assessed seasonal variations, route topography, passenger loads, road speed, auxiliary HVAC loads, and battery degradation over time. This was completed for both conventional and specialized services. Schedule optimization is used to optimize the service schedule to maximize BEB operations using two charging strategies: only in-depot charging, and in-depot charging with on-route charging strategies where in-depot charging is not feasible.[1] Findings from this task were used to inform the transition strategies, including phasing and implementation approach.

Facility Assessment

The facility assessment reviewed the current state of the transit facility and evaluated the constraints and capabilities to support fleet electrification. This task included necessary facility upgrades for fleet electrification at each phase and determined the best option for in-depot charging systems. Consideration was given to the fleet breakdown; future plans for expansion or facility relocation; historical

[1] The output identifies any routes that can be electrified using in-depot charging stations only, with no modifications to the service schedule and the percentage of routes that can be electrified using in depot charging stations with modifications to the schedule to accommodate mid-day charging and percentage of routes that require high-powered opportunity charging to be electrified.

and required charging power and energy loads; evaluation of space availability; and consideration of future structural reinforcements.

Full Fleet and Electrification Transition Plan

The full fleet and electrification transition plan outlines a step-by-step process to achieve full fleet electrification by 2040. This timeline was determined based on the vehicle lifecycles and leaves additional flexibility to reach the 2050 net zero goal when considering procurement delays, funding, and vehicles that may remain in service longer than expected. This task includes determining high-level electric bus specifications, charging systems and software solutions best suited to the operation; maintenance and staff training for electric buses and infrastructure; detailed timeline for fleet electrification to include a vehicle and procurement schedule; timeline for charging; budget to include capital, construction, operating and maintenance expenses for vehicle and infrastructure; GHG emission savings; and an operational implementation plan that considers resource allocation. The plan provides information on the following six pillars, which are expanded upon in the next section of this report:

1. System Level Planning
2. Operational Planning and Deployment
3. Capacity to Implement Technology
4. Financial Planning
5. Environmental Benefits
6. Project Risks and Mitigation

1. System Level Planning

BEBs are the most common zero emission bus as they utilize the electric grid as a source of fuel, which is ~77% clean[2]. Despite emissions savings, current technology has limited range, to fluctuate anywhere between 150 and 300 KM depending on terrain, weather, passenger load, driving style, stop frequency, HVAC systems, speed/idle time as well as battery age and degradation compared to diesel buses. In most cases, BEBs are not capable of replacing buses 1:1, therefore either additional vehicles become necessary, and/or on-route chargers (bus charging unit located at a layover point for buses) would need to be introduced.

Energy modeling for the bus fleet was completed using the Zero + model[3]. Modelled scenarios for conventional transit include:

- Baseline / Status Quo (diesel)

[2] https://live.gridwatch.ca/home-page.html

[3] . This model is fed by GTFS data and analysis variables known to impact lifetime vehicle performance such as battery degradation, operating environment, HVAC and auxiliary power loads and the lifecycle of bus batteries. In addition, this model considers several factors such as slope and grade of routes, number of vehicle stops, traffic and ambient temperature, specific to SSM Transit

- Full BEB fleet (mixed 250kWh and 700 kWh), overnight depot charging only
- Full BEB fleet (mixed 250kWh and 700 kWh), with a combination of depot charging and on-route charging

It is important to note that 700kWh buses do not currently exist. The timeline for this technology to advance is unknown. The current battery capacity for a 40-foot bus is around 500KWh. Full transition to electric buses with current technology was not considered as it indicated that the vehicles were not able to complete most blocks with electric or diesel heating, therefore this scenario was discounted.

With depot charging alone, all of SSM Transit's large buses can be transitioned to BEB with a battery capacity of 700kWh. The fleet would need to expand by three additional buses, all BEB buses would have a diesel heater.

Modelled scenarios for specialized transit include:

- Baseline (gas)
- Full BEB fleet (157kWh), with a combination of overnight depot charging and midday charging

With depot and midday direct current fast chargers, the buses can be replaced at a 1:1 ratio. This, however, presents a challenge as Transit Operators' schedule accommodates a 30-minute mid-day break, not the 1.58 to 1.62 hours required for a bus to charge, and not all buses are able to return to the facility to charge.

Operational Planning and Development

The recommended deployment, as per the study, is broken down into three (3) steps and addresses critical fleet and infrastructure implementation needs for conventional transit. It is important to note that a timeline cannot be confirmed due to the uncertainty of when the larger battery capacity will be available, and due to Sault Ste. Marie's climate, a diesel heater is recommended for BEBs:

STEP 1

- Replace one diesel bus with one Pilot BEB (525 kWh battery)
- The BEB can be charged in the depot.

STEP 2

- Wait for future BEB technology to advance (to at least 700 kWh) (assess every two years)
- Replace nine diesel buses with nine BEBs
- All BEBs can be charged in the depot, to avoid additional capital costs and operational complexities with introducing en-route charging.

STEP 3

- Buy three new BEBs (700 kWh) along with transitioning the remainder of the fleet, where all of SSM Transit services are delivered by BEB's.

Again, focus remains on depot charging only, and the facility at 111 Huron Street will have a total of 30 dispensers installed in the bus barn and ten cabinets installed outside of the building due to space constraints on the interior.

CONSIDERATIONS FOR STEP 2 AND STEP 3:

- The strategy for STEP 2 and STEP 3, should be monitored as the BEB technology market advances.
- It should be noted that this study identifies a feasible, preferred strategy for transitioning SSM's existing transit service to BEB technology. As service needs evolve in the future, SSM may wish to consider adjusting its bus scheduling/operations to accommodate.
- Alternatively, if funding for an on-route charging station becomes available, this option could be considered in the future as well.

With the addition of electric buses, additional software programs are required. Specifically, Vehicle Monitoring Systems that provide monitoring and logging of all the vehicle data which is critical to quickly identify mechanical or hardware failures, as well as charging and energy management systems to ensure efficient scheduling of the buses.

Capacity to Implement Technology

Ontario employers have a legal obligation, under the *Occupational Health and Safety Act, R.S.O. 1990* (OHSA), to develop and implement a workplace safety program that ensures the health and safety of their workers. In addition, the Canadian Standards Association (CSA), an electrical safety standard for Canadian workplaces, provides guidelines and requirements for identifying and assessing electrical hazards.

BEBs are classified as high-voltage systems and require specialized Personal Protective Equipment (PPE) and tools. In addition to PPE and tools, there is specific training for Transit operators and mechanics. Mechanic training specific to BEBs includes the following and entails a total of 64 hours of training per mechanic:

- Electrical and Electronic Principles
- General BEB Familiarization
- Original Equipment Manufacturer (OEM) Specific Training

Charging infrastructure will also require both preventative and corrective maintenance to ensure the charging systems remain operational. It is advised that although this maintenance may be completed by a third party, it is recommended that agencies collaborate with the manufacturer to receive specialized training to ensure regulatory compliance and keep staff informed of advancements and safety protocols.

Financial Planning

Financial planning for technology and infrastructure involves a comprehensive evaluation of all associated costs, including initial capital expenditures, ongoing operating and maintenance expenses, scheduled infrastructure improvements over time, midlife rehabilitations, and eventual end-of-life replacement to ensure long-term sustainability and performance.

In summary, full transition to electrification will cost an estimated additional $28.6M over 15 years, compared to the status quo. Average annual capital costs are estimated at $5.2M annually, which is offset by an eventual estimated decrease in operations and maintenance costs, which are estimated to ultimately decrease due to fuel savings.

Net Present Value, 2025$	Diesel	BEB
Life Cycle Capital Costs	**$29.2 M**	**$78.0 M**
Conventional Fleet	$26.3 M	$67.0 M
Paratransit Fleet	$2.9 M	$3.5 M
Related Infrastructure	-	$7.4 M
Life Cycle O&M	**$235.8 M**	**$215.6 M**
Operations	$157.8 M	$157.0 M
Maintenance	$45.2 M	$42.2 M
Propulsion	$32.8 M	$16.4 M
Total	**$265.0 M**	**$293.6 M**
Difference		**$28.6 M**

There are several funding options that exist to support the transition for agencies to electrify their system:

1. Investing in Canada Infrastructure Program (ICIP) – SSM Transit has capitalized on this funding, in which the City's share is 26.67% of total eligible costs. Council has approved, through the 2022 and 2023 budget years, the purchase of two BEBs. Recently, electric bus prices have surged dramatically, with the current cost of one BEB ranging from $1.7M to $1.9M, plus HST. This does not include a potential tariff that is estimated to be anywhere between 3% and 20%. The charging station, which consists of a 200kW High Voltage Contactors (HVC) power cabinet that is capable of charging two heavy duty vehicles, has an estimated cost for purchase and install of $550,000, plus HST. As a result of the increased unit costs, a modification request would need to be submitted to ICIP to adjust the allocation of buses and infrastructure to reflect current pricing, thus reducing the total number of buses the City would be able to purchase.
2. Zero Emission Transit Fund (ZETF) – This fund targets projects that enable or implement transit fleet electrification. Within a capital stream, eligible

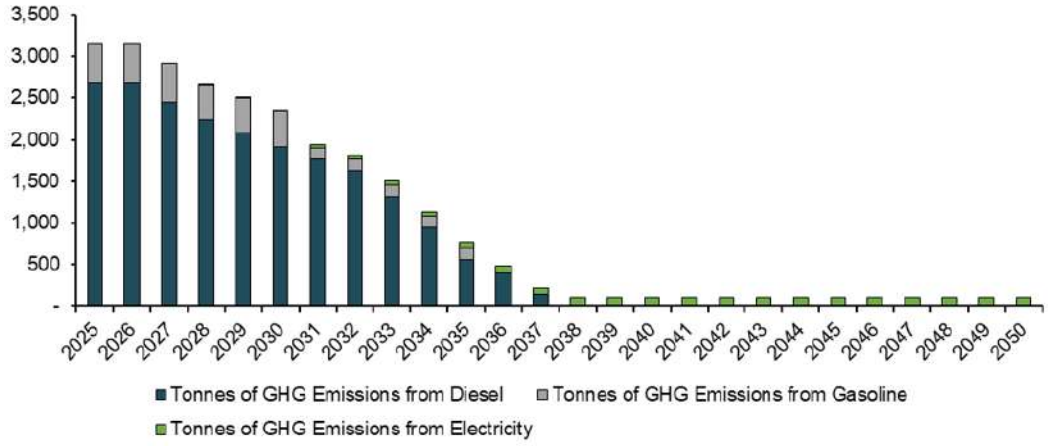
recipients can receive grants covering up to 50% of eligible capital costs for BEBs and charging infrastructure.

3. Canada Public Transit Fund (CPTF) – CPTF aims to provide predictable, long-term funding to communities with existing transit systems. It will support capital and non-capital investments. The City submitted an Expression of Interest for this funding, and for an annual allocation of $587,555 over 10 years. This will primarily be based on a capital plan for fleet replacement.

Environmental Benefits

The primary benefit of transitioning to BEBs is reducing GHG emissions, which aligns with the City of Sault Ste. Marie Community Greenhouse Gas (GHG) Reduction Plan 2020-2030 and the Net Zero 2050 goal.

SSM Transit's buses currently emit approximately 3,100 tonnes of GHG emissions annually. Should full transition occur, the annual GHG emissions are expected to drop dramatically to an estimated 97 tonnes annually. Details are summarized in the table below:



Project Risks and Mitigations

Electrifying a transit system presents a range of complex challenges that must be carefully addressed to ensure a successful and sustainable transition for all transit agencies.

Infrastructure improvements and modifications, such as depot upgrades and the installation of charging stations, require significant planning and investment. Internal resources may be strained due to the need for new technical expertise, staff training, and reallocation of responsibilities. It is crucial to plan well in advance to have infrastructure in place at least six months prior to BEB delivery, to ensure comprehensive testing by qualified individuals, which may include consultants.

Operational scheduling and service planning must be re-evaluated to accommodate charging times and range limitations, while collective bargaining agreements may need to be updated to reflect changes in job duties and work conditions.

Additionally, early estimates for operational costs are unknown and often underestimated, particularly as they relate to energy consumption, maintenance of high-voltage systems, and the integration of new technology. Supply chain disruptions can delay vehicle delivery and parts availability, while blackouts and limitations in grid capacity pose risks to service reliability. Ensuring interoperability between various technologies and adapting to evolving hardware and software standards adds further complexity.

The City of Edmonton experienced half of their fleet being off the road due to a variety of reasons, including the climate[4]. A BEB in Edmonton has a range of approximately 3.5 hours, as opposed to a diesel bus that can be on the road for over 20 hours a day.

Also, the adoption of new software platforms for fleet management and charging coordination may introduce unforeseen bugs and require ongoing technical support and updates.

Funding applications can be denied and timelines for approval delayed. Although several transit agencies have experienced success in applying to the ZETF, the City of Durham experienced setbacks regarding their $33M approved ZETF funding which ultimately resulted in Council approving the purchase of diesel buses.[5]

The Sault Ste. Marie Fire Department has also provided the following pertaining to electric buses:

- Llithium-ion batteries are becoming increasingly used in just about everything, including electric vehicles. They are generally safe when stored, charged and discarded properly. However, fires can occur when they are damaged, not manufactured to proper Canadian safety standards or not charged, stored or used properly.

- From the inspection/enforcement side, the *Ontario Fire Code* is silent on any fire safety concerns and hazards associated with lithium-ion batteries at this time. This is likely because their widespread use is so new that the current code (2015) has not caught up with the technology.

[4] https://edmontonjournal.com/news/local-news/more-than-half-of-edmontons-60-million-electric-bus-fleet-not-roadworthy

[5] https://www.durhamradionews.com/archives/190570

- From the suppression side, storing an electric vehicle inside a building is generally safe (and recommended especially during cold weather); however, should a fire occur because of battery failure, these fires are notoriously difficult to extinguish. These batteries can experience thermal runaway, a rapid and uncontrolled heat generation that is difficult to cool and suppress using traditional methods (like water). The location of the battery also can make it very challenging to reach it and cool the individual cells. So, while they may not happen often, when they do, rapid fire spread can occur, especially where not sprinklered.

Lastly, U.S. tariffs have resulted in immediate, unplanned cost increases due to factors beyond the control of transit bus manufacturers. Through Metrolinx, the transit rolling stock contracts include provisions for price adjustments related to changes in law and regulations. Currently, there is an estimated 3% to 20% increase in costs to account for tariffs.

To mitigate risks associated with the transition to BEBs, infrastructure planning should be in place at least six months in advance of a BEB being delivered, incorporating comprehensive testing by qualified individuals, including external consultants, newly hired specialists, or through additional training of existing staff. Early adjustments to planning must account for the operational limitations of BEBs, ensuring staff are equipped with the necessary tools and training to support schedule optimization. Regular collaboration with the vehicle manufacturer will be essential to address emerging technical issues.

Early engagement with unions is also critical to outline training requirements and support a smooth workforce transition. The deployment of on-board diagnostic software will be key in monitoring vehicle health and generating alerts related to battery performance. Budget planning must be reviewed through a multi-year lens to account for replacement cycles and the local stocking of critical technological components and parts. Consideration should also be given to the impact and frequency of power outages, with the integration of charge management software to provide real-time alerts and failure notifications, supporting proactive system management.

Regarding fire safety, training for staff is recommended on recognizing the signs of thermal runaway and emergency procedures. It is also recommended to isolate BEBs as best as possible by storing them away from higher fuel loads and close to an exit.

Alternative Options

As a result of significant capital costs to purchase electric buses and infrastructure, along with the above-mentioned risks, SSM Transit reviewed alternative options from comparable communities to meet the Sault Ste. Marie Community GHG Plan 2020-2030 and net zero emissions by 2050.

Currently, Milton, Stratford and Barrie have proceeded to electrify their fleet. Milton has invested $800,000 to transition a traditional diesel bus to electric as a pilot program and first step to electrification; Barrie has purchased two (2) fully electric buses as a pilot program; and Stratford has received a hybrid bus, with plans to move ahead with full electrification.

Other municipalities such as Belleville and North Bay have begun the transition to hybrid buses, putting all electrification plans on hold. At an estimated cost of $1.3M, with no infrastructure requirements, hybrid buses are used as a stepping stone towards net zero. Hybrid buses can replace diesel buses at a 1:1 ratio. North Bay is showing a fuel savings of 21%. General high-level estimates show a reduction in GHG emissions ranging from 25% to 40%. The transition to hybrid buses was not included in the scope of the feasibility study, therefore it is noted that estimated savings will vary for Sault Ste. Marie. The battery charges by turning the wheels into generators when stopping, and the engine powers the batteries by generating electricity while the bus is operating, therefore there are no infrastructure requirements.

Finally, Sudbury[6] has paused the roadmap to electrification due to high capital costs and battery range risks related to the Northern Ontario climate.

Hydrogen Pilot

The City of Sault Ste. Marie will be participating in a hydrogen fuel technology system pilot through HYGN, a Canadian owned and operated company.[7] The pilot consists of installing a device, called an Electrolyzer, on the bus that utilizes electricity to convert water into hydrogen and oxygen gas within the device. This will then feed the engine a small amount of hydrogen with the air coming through the air intake. The small amount of hydrogen allows the engine to burn the fuel more completely, thereby releasing more energy, resulting in less unburned fuel out the exhaust. This pilot is expected to reduce fuel consumption from 10% to 20%, and with the potential of emissions being reduced up to 50% at a high estimate. HYGN will collect baseline fuel consumption and emissions data and continue emission testing monthly. The cost is $10,000 per system. Pilots are available for $5,000 per vehicle. The system can be purchased at the end of the pilot for the remaining $5,000. The City of Sudbury has recently started this pilot program, and the City of Kawartha Lakes has reported the results from their pilot and showed a fuel savings of just over $5,000 for 2024 from one 27-foot bus.

6 https://www.sudbury.com/local-news/sticker-shock-sours-city-councils-appetite-for-electric-buses-10414979

7 https://www.hygnenergy.com/

Recommended Next Steps

It is recommended that the City of Sault Ste. Marie temporarily pause the transition to full electrification due to significant capital costs, concerns about performance during the harsh winter months, uncertainty of the timeline to advance technologies to a higher battery capacity, and long-term reliability of electric buses. As previously mentioned, revisiting this in two years is recommended to assess technology and cost improvements.

In the interim, it is suggested to submit a modification request to ICIP for all approved electrification projects and amend the project scope to provide flexibility for the purchase of hybrid, diesel, and gasoline buses, in place of electric units.

Pending approval, it is recommended to purchase one hybrid bus as a trial, as this will align with corporate GHG reduction goals at a lower capital cost.

The City will continue to monitor the electrification of transit technologies and fuel cell buses powered by hydrogen for future consideration.

City staff will continue to capitalize on current ICIP funding, and future CPTP funding sources to ensure ongoing transit services through the ongoing investment in fleet replacement.

The City will also report back to Council on the outcome of the HYGN pilot, and if deemed successful, staff will submit a capital request to expand the project to additional buses.

Financial Implications
The cost of the HYGN pilot, if deemed successful will cost $20,000 plus HST, funded from operations. This initial cost will be offset by fuel savings, estimated at 10 to 20% per unit

Strategic Plan / Policy Impact / Climate Impact
The recommendation supports the focus area of the Corporate Strategic Plan 2024-2027 in several ways:

- Within the Service Delivery focus area, it will continue to assist in delivering excellent customer service to the community.
- It will contribute to the infrastructure focus area by upgrading and maintaining existing assets by leveraging funding opportunities and ensuring energy efficiency.
- Pausing the full electrification of the transit fleet will delay net zero by 2050 emissions goals; however, it allows the City to remain responsive to evolving technology and cost trends. In the interim, the introduction of hydrogen electrolysers and the use of hybrid buses support lower-carbon operations and provide valuable data on alternative fuels. This approach

balances climate goals with fiscal responsibility and technological readiness. Staff will continue to monitor developments to inform future zero-emission transit investments.

Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report from the Director of Community Services dated July 14, 2025, concerning the Zero Emission Electrification Study be received as information, and that staff:

1. Be directed to submit modification requests to ICIP for a change of scope on applicable electrification projects to allow for the purchase of rolling fleet assets to include either hybrid or diesel/gasoline;
2. Be directed to engage with Metrolinx on the purchase of one hybrid bus, pending approval of the modification request;
3. Report back to Council on the outcome of the HYGN pilot project and put forward a budget request for 2026 that further outlines financial requirements; and
4. Be directed to revisit transit electrification technology options and cost estimates every two years, to ensure the City remains aligned with its net-zero emissions goals and is prepared to act as technologies mature and become more cost-effective.

Respectfully submitted,

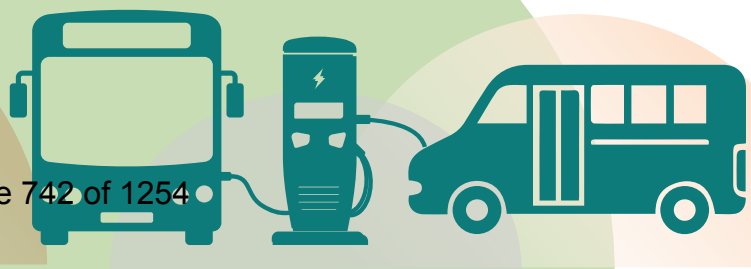
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BATTERY ELECTRIC BUS FEASIBILITY STUDY & FLEET TRANSITION PLAN

City of Sault Ste. Marie

TASK 3 FINAL REPORT: FLEET TRANSITION PLAN

06/30/2025



DISCLAIMER

In preparing this report, HDR relied, in whole or in part, on data and information provided by the Client and third parties that was current at the time of such usage, which information has not been independently verified by HDR and which HDR has assumed to be accurate, complete, reliable, and current. Therefore, while HDR has utilized its best efforts in preparing this report, HDR does not warrant or guarantee the conclusions set forth in this report which are dependent or based upon data, information or statements supplied by third parties or the client, or that the data and information have not changed since being provided in the report.

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1 INTRODUCTION

In 2019, the City of Sault Ste. Marie received funding from the Federation of Canadian Municipalities in support of climate change adaptation initiatives and the Sault Ste. Marie Community GHG Reduction Plan 2020 – 2030. The GHG Reduction Plan identifies short, medium, and long-term actions to reduce GHG Emissions in Sault Ste. Marie with the goal of reaching 10% corporate and 5% community GHG reductions by 2030, and net zero by 2050. To support these goals, the City identified *zero-emissions transportation* as a key objective with an action to *transition to only purchasing vehicles that are highly efficient and run on zero-carbon and renewable energy fuels.*[1]

This study is focused on Sault Ste. Marie's Transit fleet. Recognizing that electrifying the transit fleet may significantly impact daily operations, Sault Ste. Marie has initiated this study to conduct a Battery Electric Bus (BEB) Feasibility Study and Fleet Transition Plan as part of Metrolinx's Transit Procurement Initiative, to support capital funding applications such as Infrastructure Canada's Zero Emission Transit Fund (ZETF) or the Canada Public Transit Fund (CPTF). This Fleet Transition Plan acts as a roadmap to guide the process, identifying feasible transition pathway(s), associated capital and operating costs, service impacts, and, ultimately, a preferred transition pathway.

[1] Sault Ste. Marie Community Greenhouse Gas Reduction Plan 2020-2030

2 TRANSIT FLEET TRANSITION PLAN

The transition from conventional diesel buses to BEBs is a significant undertaking that requires robust planning, as it will impact many aspects of the organization. To support organizations in transitioning their fleets, various funding programs have emerged to support this shift. One such program is Housing, Infrastructure and Communities Canada's Zero Emissions Transit Fund (ZETF)[2], a $2.75 billion program to advance the Government of Canada's commitment to help purchase 5,000 zero emission public transit and school buses. The ZETF is also closely coordinated with the Canada Infrastructure Bank's (CIB) Zero Emission Bus Initiative through which the CIB has committed more than $1.5 billion to supporting the deployment of zero emission buses (ZEBs). Additional funding sources include Housing, Infrastructure and Communities Canada's Canada Public Transit Fund (CPTF), which will provide $3 billion per year for public transit and active transportation infrastructure beginning in 2026-2027; and the Green Municipal Fund, a $2.4B program of the Federation of Canadian Municipalities that includes funding for studies and capital projects focused on installing EV charging infrastructure primarily dedicated to municipal and/or transit fleets.

This Transit Fleet Transition Plan provides the planning basis that aligns with common requirements found across a range of capital funding streams and may be used as the basis of a Capital Project funding application. To apply for capital funding there are typically five specific planning elements that applicants must satisfy:

1. **System Level Planning:** Description of system-level planning undertaken for the project, such as analysis of ZEB technologies, energy consumption analysis, and identification of charging/refueling and facility requirements.
2. **Operational Planning & Deployment Strategy:** Outlines a fleet and infrastructure implementation plan that supports innovative and effective ZEB deployments and future operations. This strategy is informed by optimal route selection, service design, and procurement needs.
3. **Financial Planning:** Provides preliminary capital and operating cost estimates, including the anticipated lifecycle cost savings encompassing fuel and maintenance cost savings.
4. **Capacity to Implement the Technology:** Assesses the organization's current resources, skills and training required for the deployment and operation of a new ZEB fleet. It also assesses potential technological, operational, and system-wide risks associated with the transition and details mitigation strategies.
5. **Environmental Benefits:** Includes a lifecycle assessment of environmental benefits associated with the transition, including estimates of greenhouse gas (GHG) emissions reduction, noise reduction, and non-GHG pollutant reduction.

This Transit Fleet Transition Plan addresses each of these topics in the following report and accompanying appendices.

[2] Infrastructure Canada - Zero Emission Transit Fund Applicant Guide

3 SYSTEM LEVEL PLANNING

The foundation of this Fleet Transition Plan begins with the approach to system-level planning. An analysis was performed to further understand both the BEB and fueling options within the market for Sault Ste. Marie to consider. Complementing the technology review, an energy consumption analysis was developed for Sault Ste. Marie to create an accurate and unique energy profile, which further works to identify charging, refueling and facility requirements specific to the agency's needs.

3.1 BATTERY ELECTRIC BUSES & FUELING OPTIONS

BEBs are currently the most popular ZEB because they utilize the electric grid as a source of fuel, which is universally available and relatively "easy" to connect to for drawing the required power. One shortfall is the limited range of BEBs compared to conventional diesel buses; for agencies with longer range requirements, BEBs may not be capable of directly replacing buses assigned to long duty cycles at a 1-to-1 replacement ratio. In some cases, it's not possible to adjust the service profile of these longer blocks to accommodate the range capabilities of today's available BEBs. For extended range requirements, either additional vehicles become necessary, or en-route charging would need to be introduced at layover points along current routes.

En-Route charging is an enhancement that can greatly improve the feasibility of BEBs in many situations; they can extend the range of a BEB and facilitate one-to-one replacement of diesel vehicles when the routes are conducive to this charging strategy. This is particularly helpful with circular routes where the same en-route charger can be used by a vehicle multiple times throughout the day. En-route charging infrastructure would be ideally located at places such as transit centers where buses operating on multiple routes all have scheduled layover time.

3.2 ENERGY CONSUMPTION ANALYSIS

Understanding energy consumption is a key component of fleet transition planning, as it informs the choice of vehicle technology, infrastructure requirements, finances, and fleet replacement strategies. The following sections outline the methodology and key findings.

3.2.1 METHODOLOGY

HDR's propriety energy consumption model, Zero+, provides a comprehensive understanding of the potential impacts BEB technology may have on Sault Ste. Marie Transit's existing service. **Figure 1** shows the Zero+ Model inputs, outputs, and process.

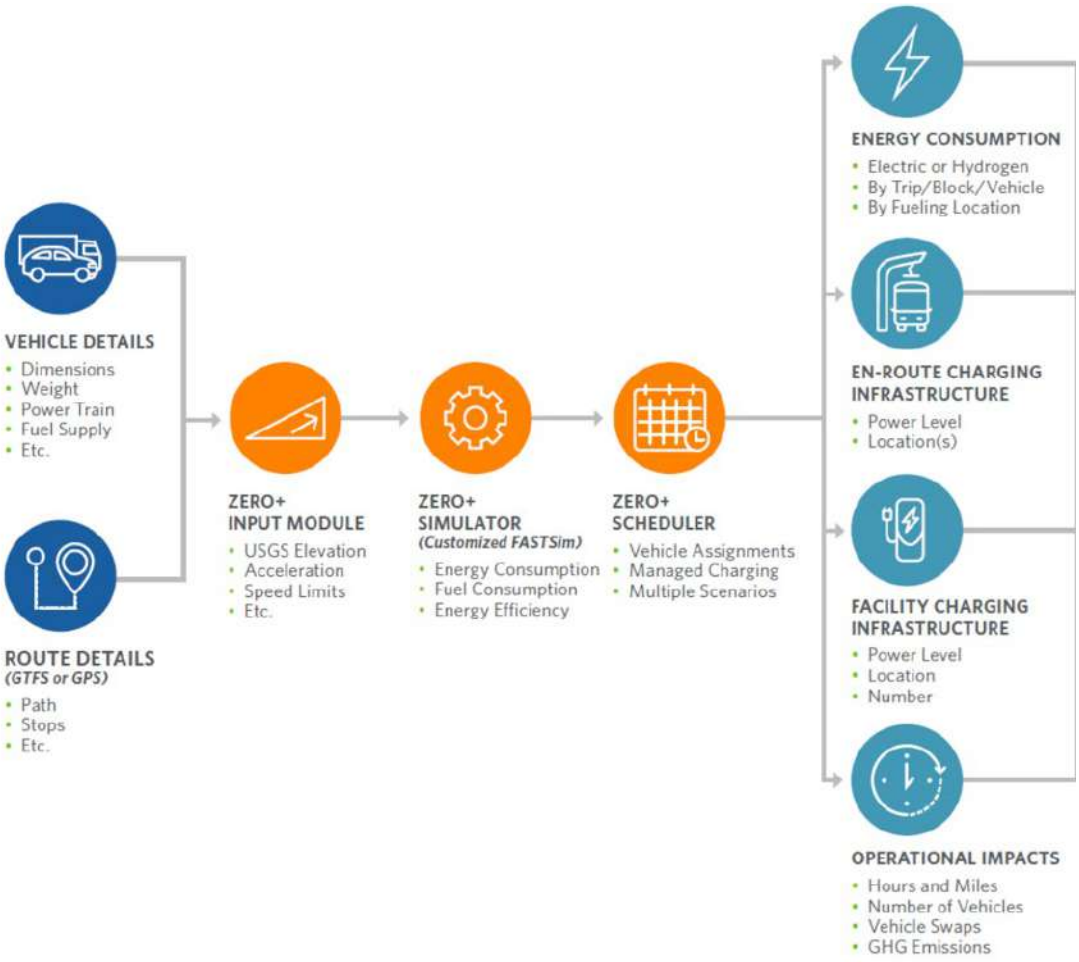


Figure 1. Zero+ Inputs, Outputs, and Modelling Process

Energy consumption is impacted by several factors including slope and grade of the bus routes, number of vehicle stops, anticipated roadway traffic, and ambient temperature. The Zero+ model also analyzes variables known to impact lifetime vehicle performance, like energy density, battery degradation, operating environment, HVAC and auxiliary power loads, as well as the lifecycle of bus batteries and hydrogen fuel cells. The model is fed by GTFS data, GIS data, and vehicle profile assumptions to create an accurate energy consumption profile unique to Sault Ste. Marie Transit's existing service. In summary, the Zero+ results include many data variables, yielding the most accurate results possible to influence strong, effective decision making.

The Zero+ model results, combined with discussions with agency staff, provide the basis upon which the preferred vehicle technology and refueling strategy will be determined. This modelling evaluated whether the optimal charging strategy is depot charging only or a mix of depot and en-route charging, which nameplate battery capacity and auxiliary heater type is optimal and identifies potential strategies that best complement Sault Ste. Marie Transit's service and fleet plans. Simulations were performed at the granular level, so that the strategy can inform individual vehicles, routes, and blocks as well as the full fleet. Examining each vehicle individually drives decisions for the right technology at the system, depot, route, and block levels. This analysis balanced impacts to operations, overall fleet size, and infrastructure requirements and ultimately provided Sault Ste. Marie with the information to make a data-driven determination of the preferred BEB transitional technologies and deployment pace.

Scenarios modelled for fixed route service included:

- Baseline (diesel)
- Full BEB fleet with existing vehicle battery sizes (157 kWh cutaway vehicles and 525 kWh 40-ft buses), using
  - overnight depot charging only
  - combination of depot charging and en-route charging
- Full BEB fleet with projected future battery size (250 kWh cutaway vehicles and 700 kWh 40-ft buses), using
  - overnight depot charging only
  - combination of depot charging and en-route charging

Scenarios modelled for paratransit service included:

- Baseline (diesel)
- Full BEB fleet (using closest EV equivalent), combination of overnight depot charging and midday charging

Scenarios modelled for non-revenue service included:

- Baseline (diesel)
- Full BEB fleet (using closest EV equivalent), overnight depot charging only

Various iterations of these scenarios were also conducted to inform the key findings summarized below.

3.2.2 KEY FINDINGS

For the **fixed route fleet**, the analysis revealed that overnight depot charging in combination with en-route charging can replace 100% of current service blocks with 250 kWh cutaways and 700 kWh 40-ft buses. These buses can replace existing diesel buses at a 1-to-1 ratio. Vehicles with these battery capacities do not currently exist in the market today. Specific service blocks can be feasibly transitioned with technology that is currently available. The phases of the deployment plan detailed in the section below were developed so Sault Ste. Marie Transit can transition the entire fleet to zero emissions with the least number of additional vehicles or infrastructure possible. By delaying the purchase of additional vehicles or installing en-route charging infrastructure, Sault Ste. Marie Transit can wait for the technology and market to mature before making investments that may no longer be needed in the future with advanced technology.

For the **paratransit fleet**, the analysis revealed that overnight depot charging in combination with midday charging during breaks can replace 100% of the current shifts with 157 kWh BEBs. These buses can replace existing diesel equivalents at a 1-to-1 ratio. Vehicles would charge on direct current fast chargers (DCFCs) for the duration of the drivers' 30-minute lunch break and return to service to complete the duty cycle. Vehicles with this battery capacity exist in the market today.

For the **non-revenue fleet**, the analysis revealed that 100% of vehicles can be transitioned to BEV equivalents using only overnight depot charging. Given the technology that exists today, there is no need for Sault Ste. Marie Transit to make any fleet or service modifications for the non-revenue fleet.

The detailed results of the route modelling analysis for fixed route, paratransit, and non-revenue vehicles can be found in **Appendix A: Energy Modelling Analysis**.

4 OPERATIONAL PLANNING & DEPLOYMENT

The following sections highlight critical fleet and infrastructure implementation needs, including actions that will be taken to effectively deploy BEBs and ensure efficient future operations. The fleet deployment plan highlights each phase of the plan, offering a purchase schedule and insight into the phased deployment effort. It is not intended to represent a rigid commitment, rather a strategy based on current data and operational needs where future considerations such as operational priorities and technological advances may influence how the plan is implemented. The facility and infrastructure plan for the depot facility is also provided, covering existing conditions and facility infrastructure implementation.

4.1 FLEET TRANSITION STRATEGY

Based upon fleet modelling results and a preliminary review of current and future facilities, the following strategies have been identified for Sault Ste. Marie Transit to transition to a fleet of BEBs. These strategies are rolled into a recommended phased deployment plan in the following subsection.

4.1.1 FIXED ROUTE FLEET STRATEGY

Relative to current operations, the energy modelling analysis documented in **Section 3.2 Energy Consumption Analysis** and **Appendix A: Energy Modelling Analysis**. This analysis indicates that utilizing existing BEB technology (40' BEB with 525 kWh+ and cutaway shuttles with 157 kWh+ batteries) to conduct current operations is not feasible without significant changes to operations. To address this issue, three options were considered:

1. Increases to fleet size, enabling swapping of vehicles from the Transit Bus Storage and Maintenance Facility when batteries become depleted
2. Schedule changes and new infrastructure to incorporate en-route charging at the Downtown Transit Terminal
3. Delayed fleet transition until future bus technology improves to a minimum battery size of 700 kWh+ for 40' vehicles and 250 kWh+ for cutaway shuttles

Overall, **Option #3 is recommended** as it will minimize costs associated with fleet transition and enable Sault Ste. Marie Transit to implement BEB technology with minimal changes to operations and fleet size. However, relying on future technology improvements may be risky if technology does not evolve as expected or if market conditions change.

With larger projected battery sizes, two charging strategies are considered, firstly a depot-only option with vehicle swaps, and a depot and en-route charging option. Based on the analysis performed, a depot-only with vehicle swaps scenario would increase the peak vehicle requirement from 18 to 21. A depot and en-route charging scenario would maintain the existing peak vehicle requirement of 18 but would also require 7 high-powered overhead pantograph chargers at the Downtown Transit Terminal. This significant additional infrastructure would add capital, operating and maintenance costs well beyond the additional costs associated with three additional buses and added non-revenue hours due to vehicle swaps.

The evaluation above suggests the following strategy for integrating BEBs into the fixed route service:

- Operate a pilot program with one 40' BEB with minimum 525 kWh+ (existing battery capacity) to allow Sault Ste. Marie Transit to become familiar with the capabilities of BEBs for its service.

- Wait for market advancements for 40' BEBs with minimum 700 kWh+ and cutaway shuttles with 250 kWh+ (projected battery capacity) to become available. Use a depot charging only operational strategy that would deploy (8) 40' BEBs and (1) cutaway BEB at a 1:1 replacement ratio.
- Introduce vehicle swaps for the remaining service blocks that would deploy (11) 40' BEBs with minimum 700 kWh+ to replace (8) 40' diesel buses.

It is noted that further BEB range modelling may be beneficial if future BEB technology results in greater energy efficiency, to confirm the need for vehicle swaps. Alternative zero-emission technologies may also be considered in the future, such as hydrogen fuel cell electric buses (FCEBs) should hydrogen fuel cost and availability improve.

4.1.2 PARATRANSIT FLEET STRATEGY

A fleet of 157 kWh BEBs with both mid-day and overnight depot charging allows for a one-to-one replacement of the fleet without the need for service modifications. Vehicles would charge on DCFCs for the duration of the drivers' 30-minute lunch break and return to service to complete the duty cycle. Vehicles would not be able to fully recharge during the 30-minute break but would receive ample charge to return to the garage with at least 20% SOC.

Initially, Sault Ste. Marie Transit should work to replace the five (5) vehicles operating 8-hour duty cycles; in later years, the remaining four (4) vehicles operating 10- to 12-hour duty cycles should be replaced. As technology matures, the need for mid-day charging during drivers' lunch breaks may no longer be necessary.

4.1.3 NON-REVENUE FLEET STRATEGY

Sault Ste. Marie Transit's non-revenue fleet can be transitioned at a one-to-one replacement ratio using readily available BEV equivalents utilizing overnight depot charging, without the need for fleet or service modifications.

4.2 FLEET DEPLOYMENT PLAN

Sault Ste. Marie Transit will take a phased approach to deploying BEBs, chargers, and required related utility infrastructure.

Phase 1: Pilot Program

The transition will begin with a Pilot Program including one (1) 12-metre fixed-route BEB and one (1) dual-port 200 kW plug-in DCFC at the depot facility.

Phase 2: Paratransit & Non-Revenue

In Phase 2, the City will begin transitioning the paratransit fleet to 8-metre BEBs. During this phase, all ten (10) paratransit shuttles will be electrified with 157 kWh BEBs supported by DCFCs; overnight, buses will utilize 24 kW single-port chargers, and during driver breaks buses will utilize dual-port 200 kW chargers to "top up" before returning to service at the conclusion of the drivers' breaks. In addition to the 200 kW charger installed in Phase 1, two (2) additional 200 kW chargers will be installed in this phase.

The non-revenue fleet will also be electrified during this phase; the City will purchase six (6) like-for-like electric vehicles to be supported by single-port 19.6 kW level 2 chargers.

Phase 3: Fixed Route

In Phase 3, the City will electrify the fixed-route fleet with like-for-like replacements; 12-metre diesel buses will be replaced with 12-metre BEBs, and 8-metre gasoline cutaways will be replaced with 8-metre BEBs. These BEBs will be supported by dual-port 200 kW chargers overnight.

Table 1 below shows the fleet procurement schedule for both the fixed route fleet and paratransit fleet; this table shows the year in which each vehicle is purchased/ordered, and is it assumed that vehicles will be delivered one to two years after procurement depending on fuel type.

Table 1. Fleet Procurement Schedule, Purchase Year[1]

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Fixed Route																
35/40' Diesel Replacement	2															
40' BEB Replacement	1	1	1	1	1	1	1	1	2	3	4	4	3	3		
40' BEB Addition													1			
27/28' BEB Replacement							2	1								
Paratransit																
Cutaway BEB Replacement		1			6					3						

[1]Schedule is subject to technology and market readiness informed by vehicle lifecycles. Phasing is informed by and expected retirement timelines.

The current industry market suggests that there is currently a one-year lead time on gasoline and diesel buses, while the lead time for BEBs is approximately two-years. **Table 2** below shows the fleet cumulative quantity by fuel type for both fixed route and paratransit services; **Figure 2** and **Figure 3** provide a visual representation of the table data for fixed route and paratransit fleets, respectively.

Table 2. Fleet Composition by Fleet and Fuel Type, In-Service Year[1]

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Fixed Route																
Diesel Buses	30	30	29	28	27	26	25	24	21	19	17	14	10	6	3	-
Battery Electric Buses	-	-	1	2	3	4	5	6	9	11	13	16	20	24	28	31
Paratransit																
Gasoline Buses	10	10	10	9	9	9	3	3	3	3	3	-	-	-	-	-
Battery Electric Buses	-	-	-	1	1	1	7	7	7	7	7	10	10	10	10	10

[1]Schedule is subject to technology and market readiness informed by vehicle lifecycles. Phasing is informed by and expected retirement timelines.

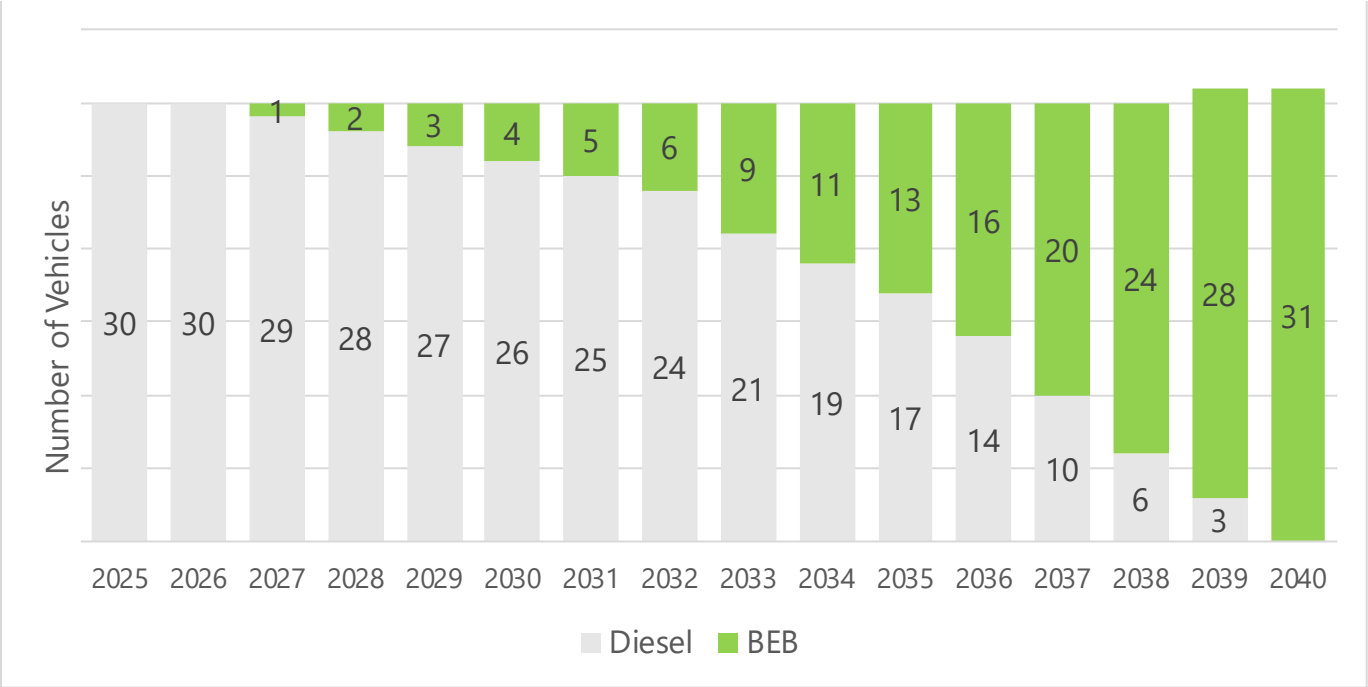


Figure 2. Fixed Route Fleet Composition, In-Service Year

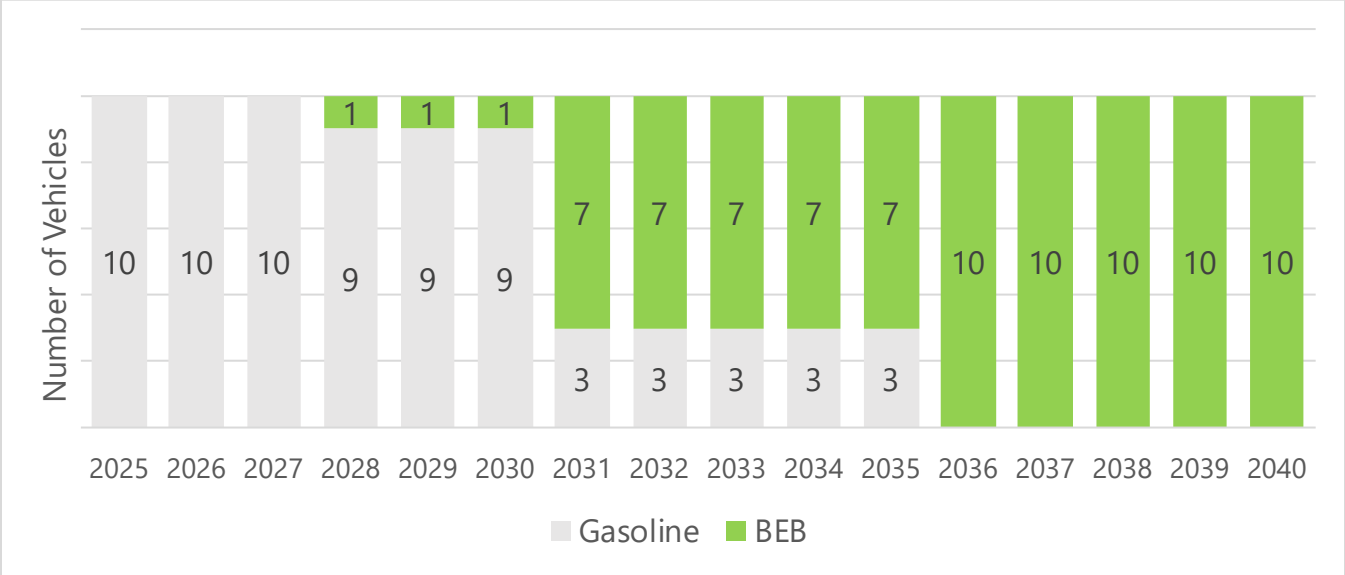


Figure 3. Paratransit Fleet Composition

4.2.1 FUTURE SERVICE CRITERIA

Although Sault Ste. Marie Transit does not currently have service and fleet expansions planned in addition to the base service modelled as part of this study, this section includes criteria relevant to future service needs, should service expansions be considered in the future. Because the nature of such expanded service is unknown, the exact vehicle requirement to support new service cannot be predicted. **Table 3** outlines the feasibility criteria for expanded

service; the feasible distance for a 1:1 conversion is the maximum duty cycle distance a 40' BEB can complete without the need for bus swaps or en-route charging.

Table 3. Future Service Criteria Mileage Guidelines (40' BEB)

	Easiest Route	Hardest Route	Average Route
Average Vehicle Efficiency	1.21 kWh/km	1.35 kWh/km	1.26 kWh/km
Feasible Distance for 1:1 Conversion	Up to 369 km	Up to 330 km	Up to 356 km

"Easiest" refers to the most energy efficient route (i.e., least number of stops, most flat terrain, etc.), while "hardest" refers to the least energy efficient route (i.e., lots of stops, difficult/steeper terrain, etc.). If expanded service exceeds 369 km, either en-route charging or additional vehicles to facilitate bus swaps would be required.

4.2.2 SOFTWARE SYSTEMS

Introducing BEBs can introduce additional variables that Sault Ste. Marie Transit may want to monitor such as dynamic vehicle scheduling, vehicle battery health, charger health and energy management. There are several software packages available for transit agencies to monitor vehicles and chargers live and retroactively; some may be available from Original Equipment Manufacturers (OEMs) and others are third party software packages that would be acquired separate from vehicle or charger procurements.

- **Vehicle Monitoring Systems –** This software can provide constant monitoring and logging of all vehicle data transmitted by BEBs. This information can be critical to quickly identify mechanical component or hardware failures and expedite maintenance repairs. Some OEMs offer this software as part of the rolling stock procurement, but other third-party vendors may be preferred as they are typically agnostic which allows the agency to view all vehicles in the same interface regardless of bus manufacturer. The interface should include vehicle telematics information including energy consumption, battery state of charge (SOC), and vehicle propulsion efficiency that can all be used to evaluate vehicle performance for future procurements.

- **Charging and Energy Management Systems –** This software can be utilized to schedule and manage charge sessions between different vehicles; this can provide significant operational cost savings through demand peak shaving. This optimizes costs where utility rates are priced in a time of use utility rate structure. Some providers offer options with additional functionality such as management of other energy resources like battery energy storage and solar generation.

- **Digital Yard Management Systems –** This software can help staff know which buses are ready or not ready for service. Tools are now available that allow staff to know the real-time location and status of vehicles in the yard. Some solutions can also help by providing parking information for the vehicle depending on the status and SOC of the vehicle. For example, a digital sign at the entrance of the facility could let drivers know based on vehicle information to park vehicles that are required to be held for scheduled maintenance in one area, vehicles with high SOC that can go back into service in another area and vehicles with low SOC that need more time to charge in a different area. This tool could also be shared with operations to let them know where vehicles are parked in the yard, whether a given vehicle is ready for service and/or if a substitution needs to be made.

- **Dynamic Bus Dispatching & Scheduling Software –** This software can be particularly helpful with BEB fleets to ensure vehicles assigned to routes are fully charged by the time they are due to pull out of the garage for revenue service. In many cases, this software can be tied into charge management and digital yard management system interfaces so that dispatchers can see the current vehicle state of charge when assigning vehicles to service blocks. In some cases, this can also provide an operational safeguard if a dispatcher attempts to assign a BEB to a block that exceeds the vehicle's capable range, reducing the probability of needing to do in-service bus swaps.

4.3 FACILITY & INFRASTRUCTURE PLAN

Sault Ste. Marie only transit depot facility is located at 111 Huron Street in Sault Ste. Marie, Ontario. An assessment of this facility was conducted based on a detailed review of technical drawings and plans provided by the Sault Ste. Marie, including architectural, electrical single line diagrams, and facility layout plans.

4.3.1 EXISTING CONDITIONS

The Transit Maintenance Facility, shown in **Figure 4**, includes an administrative office area, mechanics garage, and indoor parking areas for the transit and supervisor vehicles. There is an existing 300kVA transformer located on the southeast side of the maintenance garage. A 12.7kV distribution powerline connects the transformer to electrical service along Huron Street.



Figure 4. Transit Maintenance Facility Aerial

4.3.2 FACILITY INFRASTRUCTURE IMPLEMENTATION

The transit depot facility's electrification is planned to occur in phases, as shown below in **Figure 5**. Initially, the fixed route pilot bus is planned to be charged and stored in the first position along the right-most parking lane in the garage. The remainder of this parking lane will be reserved initially for storage purposes, with additional electric vehicles parked in the remainder of the parking lanes.

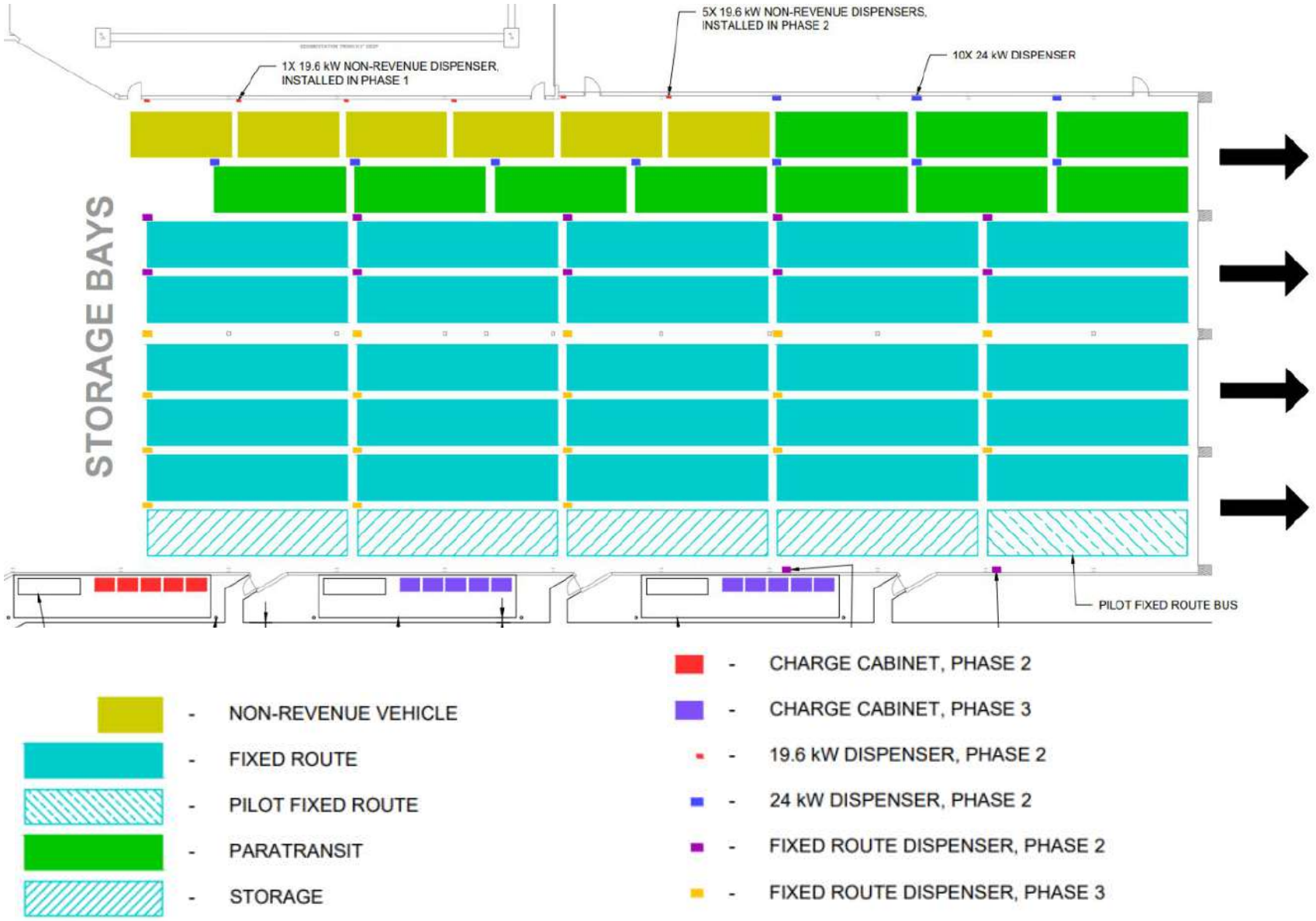
All parking of vehicles and charger dispensers are located inside the facility within the storage bays area. However, due to space constraints, the charger cabinets cannot be accommodated indoors. As a result, they have been allocated along the northern wall of the facility. To protect against the elements and harsh winter conditions, the cabinets are planned to be housed within a pre-engineered steel enclosure.

In the outer parking lanes, vehicles will be supported by wall-mounted plug-in dispensers; this will include the fixed route pilot bus as well as non-revenue vehicles and some paratransit buses along the opposite interior wall. Inner parking lanes will be supported by overhead retractable cable reel plug-in dispensers due to limited spacing in between the lanes for ground-mounted dispensers.

In the figure below, fixed route charger dispensers are shown at each vehicle parking stall within each parking lane. Larger charge cabinets that will feed the dual-port DCFCs will be collocated along the exterior of the building at the bottom of the graphic. These charger cabinets will also be installed in phases, with five (5) cabinets and ten (10) dispensers being installed in Phase 2, and ten (10) cabinets and twenty (20) dispensers installed in Phase 3.

A detailed view of the facility layout, along with the corresponding single-line diagram can be found in **Appendix F: Site Plan & Single Line Diagram**

Figure 5. Phased Deployment Plan Conceptual Layout



5 CAPACITY TO IMPLEMENT THE TECHNOLOGY

In this section of the plan, Sault Ste. Marie Transit's current resources, skills and training required for the deployment and operation of a new BEB fleet are evaluated to develop a staffing and training plan equipped to meet the agency's needs.

5.1 STAFFING & TRAINING PLAN

With the introduction of battery electric technology to the Sault Ste. Marie's transit fleet, proper training on bus systems and subcomponents unique to BEBs is critical to ensure safe, efficient operation and maintenance of the transitioned fleet. Sault Ste. Marie will work with internal and external training programs while in close coordination with OEMs and neighboring transit agencies to acclimate the existing workforce to the new technology, avoiding any displacement of the existing workforce.

This section will address the necessary steps to evaluate the existing workforce skills, identify skill gaps individually, and develop a plan to build and implement an effective training program for bus operators and maintenance personnel. In addition to development of the existing workforce, this chapter will also convey a workforce growth strategy for attracting new employees, retaining new and current staff, and funding opportunities to sponsor the required growth.

5.1.1 SAFE WORKPLACE POLICIES AND STANDARDS

In Ontario, employers have a legal obligation, through the Occupational Health and Safety Act, R.S.O. 1990 (OHSA), to develop and implement a workplace safety program that ensures the health and safety of their workers. This includes a written policy, hazard identification and control, worker training, worker involvement in program development, procedures for accidents and illness, and regular review and updates. Failure to comply with the OHSA can result in harm to workers and penalties for the employer.

The Canadian Standards Association (CSA) developed CSA Z462:21, an electrical safety standard for Canadian workplaces to prevent electrical injuries and fatalities. It provides guidelines and requirements for identifying and assessing electrical hazards, selecting, and using personal protective equipment (PPE), establishing safe work procedures, and training workers. CSA Z462:21 is updated periodically to reflect changes in technology, regulations, and best practices. The standard is widely adopted in Canada by a variety of industries where electrical hazards exist, including manufacturing, construction, and utilities.

CSA Z462:21 is largely based on its American counterpart, developed by the National Fire Protection Association (NFPA), called NFPA 70E. Both standards are focused on fixed electrical infrastructure (such as charging infrastructure) and do not directly address "mobile" high-voltage systems such as the battery drivetrains in battery electric vehicles. Transit agencies are identifying principles from these standards to apply to battery electric workplaces, and it is possible that updated versions of the standards will include consideration of battery electric vehicles.

5.1.1.1 Personal Protective Equipment (PPE)

PPE is designed to protect users from health and safety hazards. PPE must be implemented when elimination, substitution, engineering and administrative controls fail to reduce or remove hazards.[3]

[3] https://www.ccohs.ca/oshanswers/hsprograms/hazard/hierarchy_controls.pdf

Under both Federal and Provincial law, PPE is required to be provided by the employer and worn by the employees to maintain safe working conditions. The following policies and standards related to PPE are applicable:

Canada Labour Code (R.S.C., 1995, c. L-2)

- Section 122.2 states that "Preventive measures should consist first of the elimination of hazards, then the reduction of hazards and finally, the provision of personal protective equipment, clothing, devices, or materials, all with the goal of ensuring the health and safety of the employees."
- Section 125 (l) requires the employer to provide the prescribed safety materials, equipment, devices, and clothing and Section 126 (1) requires employees to use safety materials, equipment, devices, and clothing intended for their protection.

Occupational Health and Safety Act, R. S. O. 1990

- Section 25 of the Act outlines the employer's duties, requiring them to provide equipment, materials and protective devices in good condition to ensure safety measures and procedures are enforced in the workplace.
- Section 27 of the Act outlines the supervisor's duties to ensure that protective devices, measures and procedures are conducted and that they wear the equipment, protective devices or clothing required by the employer.
- Section 28 outlines the workers' duties to work within the provisions of the Act and use or wear equipment, protective devices or clothing required by the employer.

BEBs are classified as high voltage systems, and as such, require specialized tools and PPE that may not be necessary when working on the typical 12/24 V systems found in diesel buses. Examples of additional PPE that may be required for working on high voltage systems are offered by the Transportation Learning Center. The Transportation Learning Center[4] provides a list of typical tools and PPE that are expected to be needed to work on BEBs which are shown in **Table 4** and **Table 5** below.[5]

Table 4. Recommended Insulated Tools

Tool	Recommended Quantity	Estimated Cost
CAT III rated digital multimeter(s) (rated up to 1000 VDC)	1 for each BEB technician	$200 CAD per each
Insulated hand tools that follow ASTM F1505-01 and IEC 900 standards and compliance with OSHA 1910.333 (c)(2) and NFPA 70E standards (as recommended by the OEM)	1 set for each BEB technician that could be working on a BEB at any given time	$5,000-7,000 CAD for complete tool kit

[4] ITLC_ZEB_Report_Final_2-11-2022.pdf (transportcenter.org)

[5] Cost estimates were taken from PPE and equipment suppliers such as Cole-Parmer, Salisbury, Haix, International Safety and Grainger, and are subject to change.

Table 5. Recommended PPE for BEB Maintenance

Tool	Recommended Quantity	Estimated Cost	Notes
ASTM Class 0 insulated gloves with red label	1 pair, properly sized for each technician	$130-160 CAD per pair	Insulated gloves need to be tested and replaced at specified intervals.
Leather gloves to be worn over ASTM insulated gloves	1 pair, properly sized for each technician	$60 CAD per pair	
Insulated EH Rated Safety Shoes	1 pair, properly sized for each technician	$250-800 CAD per pair	
NRR 33 rated ear plugs	Ample supply for each technician that could be working on a BEB at any given time	$50 CAD per box of 200 pairs	
NRR 331 rated (overhead) earmuffs	Ample supply for each technician that could be working on a BEB at any given time	$65 CAD per each	Combining NRR 33 rated ear plugs with NRR 31 ear muffs can provide a NRR protection level of 36.
Arc flash suits	Ample supply for each technician that could be working on a BEB at any given time	$250-600 CAD per each	
Combination arc flash shield and hardhat	Ample supply for each technician that could be working on a BEB at any given time	$200-450 CAD per each	
Arc flash hoods	Ample supply for each BEB technician that could be working on a BEB at any given time	$75-80 CAD per each	Arc flash shield, hardhat and hood may be procured as one integrated item depending on manufacturer and agency preference.
Insulated electrical rescue hook(s) (Sheppard's Hook) sized for use on BEBs	1 set for each BEB technician that could be working on a BEB at any given time (certain HV operations require a second worker to be available to extricate primary worker in an emergency)	$1,000-1,300 CAD per each	

5.1.2 TRAINING PROGRAM DEVELOPMENT

5.1.2.1 Current Training Program

Sault Ste. Marie performs nearly all maintenance in-house, including rebuilding motors, differentials and transmissions. Warranty work is performed both in-house and by the manufacturer; oftentimes, warranty work is performed in-house simply due to the facility's distance from the manufacturer. Some repair work, such as extensive bodywork and front-end alignments on smaller buses, is performed by outside staff.

At the Huron Street Facility, there are four in-ground hoist spots and two portable hoist bays for working on vehicles. Conventional buses get a service inspection every 10,000 kilometres, while paratransit and community buses are



serviced every 5,000 kilometres. All buses have safety inspections every six months, and upkeep work is performed as needed.

Sault Ste. Marie currently has one full-time trainer reporting to transit; this trainer primarily serves bus operators, but trains all staff to get their CZ license. The new driver training program consist of 42 lesson plans. Sault Ste. Marie's staff trainer also provides training on in-house equipment, such as forklift and trackless training. Senior mechanics on staff will train apprentices or newly hired mechanics. As of today, staff have not yet completed high-voltage training. Sault Ste. Maries plans to purchase OEM training alongside new rolling stock purchases.

While Sault Ste. Marie does not have any electricians on staff who would be responsible for future charger maintenance, facility maintenance staff take care of the other tasks, such as painting, snow removal, and most general maintenance.

5.1.2.2 OPTA ZEB Committee

In early 2021, The Ontario Public Transportation Association (OPTA) recommended the establishment of a ZEB Committee in response to the need expressed by members for the ability to learn from and share with one another as revenue and non-revenue fleets are transitioned to zero emission technology. The OPTA ZEB Committee's mandate is to establish and maintain a forum for OPTA members to develop and share best practices, lessons learned, standard documentation, and key metrics for the implementation of zero emission vehicle technology. This forum is defined by three Workstreams:

- WS1 - Operations and Maintenance Work Plan
  - WS1A – ZEB Planning, Scheduling, and Operations
  - WS1B – ZEB Safety, Training, and Maintenance
  - WS1C – ZEB Performance, Monitoring, and Reporting
- WS2 - Engineering Work Plan
  - WS2A – ZEB Light & Heavy-Duty Vehicle Requirements
  - WS2B – ZEB Infrastructure Requirements
  - WS2C – NA Technical Working Group
- WS3 - Procurement and Vendor Engagement Work Plan
  - WS3A – Engage Vendor Community
  - WS3B – Commercial Bus Management
  - WS3C – Paratransit EV Commercial Management
  - WS3D – Non-Revenue Vehicle Commercial Management

5.1.3 TRAINING CURRICULUM

5.1.3.1 Bus Drivers

Bus drivers will directly interact with BEBs and bus chargers but are not responsible for any maintenance or repair. However, it is important for this subset of Sault Ste. Marie staff to be familiar with BEBs and their associated charging systems, complete standard trainings offered by the OEMs, and be aware of the safety protocols for using BEBs and electric vehicle supply equipment (EVSE). Safety trainings can be provided by the vehicle OEMs and/or in-house by trained trainers. It is common practice to implement a 'train-the-trainer' model, in which the OEM-provided training only occurs once before in-house staff can continue training other bus drivers.

Bus drivers will also need to be retrained to operate BEBs and leverage the regenerative braking systems, which are best utilized when drivers minimize brake usage and instead gradually slow down. Bus drivers should also complete trainings aimed at familiarizing them with plugging in an BEB and verifying the charge session is active. In addition, bus drivers act as the first line of defense in proactively identifying bus issues that will require corrective maintenance. They should have extensive knowledge of all dash indicator lights and safety procedures so they can diagnose any potential roadside issues. Bus drivers should be made aware of the following signs of an impending issue:

- Popping or crackling noises originating from the battery boxes
- Puffs of smoke, usually whitish in color, emanating from the battery storage boxes
- The bus fails to power up when first turned on

If a bus driver notices signs of popping noises or smoke while in service, the BEB should be evacuated immediately and first responders notified. If the BEB fails to power up on the first attempt, the driver should immediately notify maintenance staff. **Table 6** summarizes a series of recommended trainings that should be undertaken by bus drivers to support the safe and efficient operation of BEBs.

Table 6. Recommended Driver Trainings for BEBs and EVSE

Training	Purpose	Duration	Delivery
BEB	Inform the operator of the layout of BEB systems and emergency protocols	2 hours in-classroom and bus walk-around	In-house Trainer
Cab	Familiarize the operator with the various controls, warning devices and appropriate actions	1 hour on-bus; provide a printed diagram of all warning lights	In-house Trainer
Regenerative Braking System	Train operators how to maximize vehicle range via the regenerative brake system	Up to 1 hour behind the wheel per operator	In-house Trainer
Charging Protocols	Familiarize operators with charger plug-in procedures and how to verify a charge session is active	1 hour hands-on	In-house trainer

5.1.3.2 Bus Maintenance

While BEBs require significantly less maintenance than their diesel counterparts, regular maintenance of some vehicle components is still necessary. If bus maintenance will be performed in-house, maintenance staff will typically require the most training as they have frequent, in-depth interactions with BEBs. Training for BEB maintenance should focus first on electric/electronic principles, then progress to general BEB familiarization, and end with OEM-specific trainings relevant to BEB models within the Sault Ste. Marie fleet.

5.1.3.2.1 Electrical & Electronic Principles

Essential training to introduce staff to the basic electrical and electronic skills needed to safely maintain BEBs includes topics such as:



- The ability to read basic wiring diagrams
- Safely handle low-voltage batteries
- Troubleshoot and repair basic circuit faults, wiring and terminals
- Inspect and test relays and gateway modules
- Demonstrate proficient use of digital multi-meters (DMM), oscilloscope and graphing multimeter
- The ability to inspect and test capacitors, diodes, and other electronic modules
- Differentiate between direct current (DC) and alternating current (AC)

Sault Ste. Marie should encourage existing mechanics to study for, and obtain ASE A6, T6, or H6 certification in low-voltage systems, as this should be a prerequisite to high-voltage training. Trainings regarding high-voltage and arc flash safety protocols following NFPA 70E standards and CCOHS requirements should be a prerequisite to any hands-on vehicle training.

5.1.3.2.2 General BEB Familiarization

Many BEB components, such as air brakes, foundation parts, steering, wheel end components, and ACA access systems, are similar to those on diesel buses, and maintenance staff will not require extensive retraining to work on these components. Maintenance staff will need to learn procedures for the proper use and inspection of PPE as well as Lock-Out-Tag-Out (LOTO) procedures. For other BEB-specific components and systems, APTA has developed an extensive Zero-Emission Bus Maintenance Training Recommended Practice, which can serve as a resource for developing BEB training.

5.1.3.2.3 OEM-Specific Training

OEM-specific training will include gaining knowledge of numerous system functions such as system familiarization, high-voltage sub-systems, battery storage systems, troubleshooting and diagnostics, and routine preventative maintenance requirements. Purchasing OEM training alongside new BEBs is recommended as standard practice. **Table 7** summarizes trainings that should be provided to maintenance staff to ensure a safe work environment with BEBs.

Table 7. Recommended Maintenance Trainings for BEBs

Training	Purpose	Duration	Delivery Type
PMI	Instruct staff regarding routine preventative maintenance procedures and BEB repairs	16 hours	OEM, contractor, or in-house
Propulsion & Braking	Familiarize staff with the motor drive system (theory and hands-on) and the regenerative braking system	8 hours	OEM, contractor, or in-house
Plug-In Charging	Instruct staff on the proper and safe use of plug-in charging stations, and inspections of receptacles and cables	4 hours	In-house
High-Voltage Batteries	Ensure knowledge of high-voltage disabling (LOTO), lithium-ion battery packs, battery chemistry, and identification of parts	8 hours	OEM, contractor, or in-house
Battery Mgmt. System	Familiarize staff with the operation of the battery management system and software	8 hours	OEM, contractor, or in-house
Equipment & Tools	Instruct staff on how to use and inspect specialized high voltage insulated tools to ensure a state of safe condition	4 hours	In-house
Troubleshooting	Instruct staff on OEM-specific procedures to diagnose problems using both software and multimeters	8 hours	OEM, contractor, or in-house
High-Voltage Tools	Describe various forms of high-voltage PPE, including use, inspection, and certification	1 hour	OEM, contractor, or in-house
High-Voltage PPE	Describe the inspection process for various high-voltage insulated tools	3 hours	OEM, contractor, or in-house
Arc Flash PPE	Provide instruction on arc flash range, PPE, and protective barriers	3 hours	OEM, contractor, or in-house
Work Restrictions	Ensure knowledge of which staff are and are not qualified/certified to perform tasks	1 hour	OEM, contractor, or in-house

5.1.3.3 Charger Maintenance

Charging infrastructure will require both preventative and corrective maintenance to ensure the charging systems are kept operational, which will become increasingly important as more BEBs are introduced to the fleet. A comprehensive training program for staff working with EVSE should cover preventative and corrective maintenance. Special attention should be given to safety protocols and compliance with local regulations to ensure Sault Ste. Marie can handle high-voltage components and respond to potential hazards. It is also essential that routine checks,

maintenance, and repairs of EVSE align with recommended maintenance plans and manuals from the OEM. EVSE workforce activities include, but are not limited to the following:

1. Frequent Safety Inspections

It is standard practice to inspect EVSE frequently for visible faults. The faults can be electrical, external, display or operational. Some of the key elements to inspect are:

- Charging station operation (starting and monitoring a charging session)
- Station displays and indicator lights
- Electrical (including earthing, voltage and continuity checks)
- Inspect wiring and checking to see that there are no loose connections
- Ensuring cooling vents are unobstructed

2. Preventive Maintenance

Sault Ste. Marie should commit to a proactive program of preventative maintenance. This will help minimize downtime, ensure uninterrupted fleet operations and can help reduce the occurrence of major repairs. A typical preventative maintenance procedure for EVSE includes the cleaning of cables, cabinets and filters, as well as operation/charging session and thermal imaging checks.

3. EVSE Recordkeeping

Maintaining a log of completed work and EVSE issues ensures accurate fault analysis, time documentation, and that proper corrective measures have been executed and necessary work has been completed. Additional components, such as EVSE uptime, downtime, and the cost and length of repairs, should also be logged.

If EVSE is maintained by another party, this level of training may not be necessary; however, it could still be helpful to increase staff understanding of EVSE. Additionally, fostering collaboration with OEMs for specialized training can enhance regulatory compliance and keep staff informed of equipment advancements and safety protocols. This will prepare the workforce to effectively contribute to the installation, maintenance, and operation of EVSE and to support the growth of BEB operations at Sault Ste. Marie.

5.1.4 SKILLS ASSESSMENT, CATEGORIZATION, AND GAP IDENTIFICATION

Based on standard BEB and EVSE workforce development practices, the following gaps would need to be addressed within Sault Ste. Marie's workforce to support a BEB fleet:

1. Bus drivers will not require significant retraining to operate BEBs. Acclimating bus drivers to the regenerative braking system will likely be the largest operational difference between BEBs and conventional buses.

2. Sault Ste. Marie mechanics will require the most extensive training to allow them to safely conduct preventive maintenance and diagnose faults. Many systems on BEBs are similar to those on diesel buses, including air brakes, foundation parts, steering, and wheel end components. Consequently, Sault Ste. Marie maintenance staff will not need extensive retraining in these areas.

   The first step in preparing maintenance staff to work on BEBs is performing a detailed skills gap analysis to gain a baseline understanding of the skill level of the current workforce. The International Transportation

Learning Center (ITLC) has developed a template Skills Gap Survey which can be used in conjunction with other BEB-specific resources to develop a custom questionnaire.

3. As the BEB fleet grows, all staff will require some level of high-voltage and arc flash safety training. The training level needed will depend on the employee's specific job description. Sault Ste. Marie will need to continually monitor and assess the skills required of each staff member.

4. Sault Ste. Marie should ensure there is a plan in place to mitigate damage resulting from thermal events. Staff who already have fire suppression knowledge will need to ensure they are certified within the current 3-year cycle.

Table 8 shows the composition of Sault Ste. Marie's existing operations and maintenance staff as of December 2024, including the number of employees, number of authorized positions, union affiliation, and role categorization with respect to the zero-emission transition.

- **Operations Support**: Staff in this category would include those who are critical to bus operations but do not directly interact with the buses.
- **Bus Operations**: Staff in this category would include operational staff who directly interact with the buses but do not perform any vehicle maintenance.
- **Bus Maintenance Support**: Staff in this category include operational staff who directly interact with the buses and are responsible for the assignment and oversight of maintenance functions.
- **Bus Maintenance**: Staff in this category include operational staff who directly interact with the buses and perform routine and unplanned maintenance functions.

Table 8. Sault Ste. Marie Transit Current Maintenance and Operations Staff

Job Title	Role Category	Part Time/ Full Time	# of Employees	Union Affiliation	CDL Required?
Dispatcher / Dispatcher Clerk	Bus Ops Support	FT	2	Yes	No
Customer Service / Payroll / Clerical	Bus Ops Support	FT	2	Yes	No
Clerical	Bus Ops Support	PT	1	Yes	No
Manager of Transit	Bus Ops Support	FT	1	No	No
Area Coordinator	Bus Ops Support	FT	1	No	Yes
Trainer	Bus Ops Support	FT	1	No	Yes
Transit Inspectors	Bus Operations	FT	3	No	Yes
Bus Operator	Bus Operations	FT	70	Yes	Yes
Maintenance Supervisor/Foreman	Bus Mx Support	FT	1	No	Yes
Bus Mechanic	Bus Maintenance	FT	8	Yes	Yes
Store Attendant	Bus Ops Support	FT	1	Yes	Yes
Cleaner	Bus Mx Support	FT	4	Yes	Yes
Dispatcher / Dispatcher Clerk	Bus Ops Support	FT	2	Yes	No

5.1.5 TRAINING PROGRAM IMPLEMENTATION

Sault Ste. Marie's current technical training will continuously evolve as older buses are retired and replacement buses and onboard systems are integrated. The training program is envisioned to follow a phased approach. Initially, Sault Ste. Marie can identify and develop a core group of subject matter experts from an internal applicant pool to serve as BEB fleet specialists. This approach will proactively develop qualified fleet specialists through hands-on experience and learning. In turn, this will influence the transition to an entirely zero emission certified workforce on a timeline that aligns with the integration of new BEBs into the fleet.

As the number of zero emission vehicles in the fleet increases, more mechanics will complete zero-emission maintenance training. For instance, if Sault Ste. Marie expects delivery of six BEBs, transition training for three mechanics to become BEB-certified fleet specialists will begin at least three months before delivery. Sault Ste. Marie expects its first non-pilot program BEB deliveries in 2028, providing ample time to identify and enroll candidates in the transition training program. Additionally, the current approximate 2-year lead time between order and delivery of BEBs allows further time to implement the necessary training and prepare staff. This will ensure that the staff is adequately prepared when new buses arrive and aligns with the fleet replacement schedule, with a complete transition to 100% zero emissions by 2040.

5.1.6 FLEET APPRENTICESHIP PROGRAM

Sault Ste. Marie has a mechanical apprenticeship program, where mechanical apprentices are trained through senior mechanic staff. There are currently two apprentices on staff completing this program. This program is designed to provide practical training for apprentices, which complements their classroom instruction.[6] The program aims to provide on-the-job (OTJ) training and help individuals become Certified Journey Level Heavy Duty Diesel Mechanics. To achieve this, apprentices must complete 6,000 hours of reasonably continuous employment and 720 hours of in-class instruction, which is divided into three levels/semesters, namely Basic, Intermediate, and Advanced. One of the occupational objectives under this program is to train individuals to become Coach Heavy Duty Diesel Mechanics.

5.1.7 WORKFORCE RIGHTSIZING

Sault Ste. Marie is experiencing ongoing recruitment and retention issues, particularly in regard to transit operators. This is resulting in an increase of overtime hours for current staff and has affected services. As the shortage of mechanics and bus operators continues, proper marketing of the agency's Zero Emission Fleet Transition, including the potential opportunity for an advanced technical career, will be crucial to attracting, developing, and retaining the required workforce.

Due to the less frequent maintenance needs of ZEBs, as the overall ratio of ICE to ZEB buses shifts towards ZEBs, some workforce rightsizing could be needed in future years; however, this may be accomplished naturally through the attrition of an older workforce. As Sault Ste. Marie transitions to a zero emissions fleet, it will re-evaluate its staffing needs on a rolling basis, based on overall fleet growth. If necessary, the agency could approve additional mechanic positions to ensure smooth functioning of the fleet. Sault Ste. Marie should monitor and assess the need for dedicated zero emissions staff as the fleet transition proceeds.

[6] Skilled Trades Ontario

5.1.8 FUNDING OPPORTUNITIES

The expenses associated with workforce training are expected to vary, influenced by the widespread adoption of BEBs. Funding is projected to come from several sources, including procurement, where training costs are incorporated into the allocated budget for vehicle or infrastructure procurement, and existing funding streams dedicated to training. Additionally, financial support is anticipated from federal, provincial, and local funding allocations.

While the cost of the training itself is one item to consider, the labor cost to train bus maintenance personnel is anticipated to be high. As highlighted by the International Transportation Learning Center, the following costs will be considered when budgeting for workforce training:

- Classroom training hours
- Instructor hours (instruction and prep)
- Instructor hourly wages and benefits
- Instructor costs per class
- Instructor cost per trainee
- OTJ training hours
- Mentor hours
- Mentor hourly cost
- Mentor cost per trainee
- Facilities costs
- Training materials/mock-up/software/simulation

The City will continually work to identify funding sources for worker training and re-training and utilize the training funding offered through federal grants to support the agency's zero emission workforce training.

6 FINANCIAL PLANNING

When undertaking any major transit technology and infrastructure project, the cost to implement can be a major concern. Although capital costs are often estimated during the planning stage, the costs of operating and maintaining vehicles and infrastructure over time, as well as the costs associated with midlife rehabilitations or end of life replacements, are frequently left out of the decision-making process. These costs can become significant in the long term and may influence future decisions.

Sault Ste. Marie Transit's existing diesel bus fleet has been compared to proposed BEB alternatives to identify the best value alternative for the City of Sault Ste. Marie to reach 100 percent conversion to ZEB technologies before 2040. A high-level summary is provided below, while a comprehensive breakdown of the financial analysis assumptions and results can be found in **Appendix C: Budget & Financial Plan**.

6.1 FLEET TRANSITION SCENARIOS

The financial analysis considers two scenarios for Sault Ste. Marie Transit's fleet transition. Each scenario evaluates the capital, operating, maintenance, and fuel/electricity costs over the 2025-2050 period. The assumptions used are detailed further below. The two scenarios evaluated reflect the following:

- Baseline (Business as Usual) Scenario: Reflects the scenario where no transition to BEBs occurs. All replacements of the current diesel fleet are with new diesel buses, and replacement of paratransit vehicles are with new gasoline vehicles.
- BEB Scenario (Mixed Battery Fleet): This scenario reflects the full transition of Sault Ste. Marie Transit's fleet to BEBs with a combination of fixed-route 28' and 40' BEBs, and paratransit BEB cutaways as part of a phased transition beginning in 2025.

6.2 LIFECYCLE COST ANALYSIS

The lifecycle cost analysis compares the discounted lifecycle cost of implementing each scenario described above. A discount rate of 8% was applied to all costs back to the initial year of 2025. A general 3% escalation rate was applied to estimate future capital expenditures, based on the Bank of Canada's long term inflation target of 1-3%.[7] The upper bound of that range is selected as a conservative estimate for estimating future cost escalation.

6.2.1 CAPITAL COSTS

Capital costs include bus unit costs, mid-life rehabilitation costs, and BEB charging equipment and required electric servicing upgrades. Cost estimates were based on recent experience with other transit agencies, a recently awarded BEB procurement contract, and include the required infrastructure for the BEB scenarios modelled. **Table 9** contains the capital cost assumptions used in the lifecycle cost analysis. The 700-kWh bus is not yet available on the market, so the price for that bus was estimated based on scaling up the 525 kWh BEB price based on the additional battery size.

[7] Our commitment to 2% inflation - Bank of Canada

Table 9. Capital Unit Cost Assumptions

Conventional Fleet Capital Assumptions	
Diesel Bus Cost	$910,000
Gasoline Parabus Cost	$169,000
BEB Fleet Capital Assumptions	
Battery Electric Bus Cost (250 kWh)	$558,000
Battery Electric Bus Cost (525 kWh)	$1,600,000
Battery Electric Bus Cost (700 kWh)	$2,133,000
Battery Electric Parabus Cost	$203,000

In addition to the unit capital costs above, infrastructure phasing costs are shown below in **Table 10**. Lump sum phasing costs include budgetary pricing provided by electrical infrastructure OEMs for unit substations, and typical unit costs for other civil and electrical work (conduits, grounding, patching), and other anticipated construction expenses. The per-phase costs also factor in a 4% engineering design and a 30% contingency based on concept plan details.

Table 10. Infrastructure Lump Sum Costing by Phase

Phase	Cost (2025$)	Key Equipment Added
Phases 1 & 2	$4,087,000	• One 200kW DCFC (phase 1) • One 19.6kW Level 2 charger (phase 1) • One 1.5MVA MV transformer (phase 2) • One 600V switchboard (phase 2) • One 480V switchboard (phase 2) • One 208V switchboard (phase 2) • Four 200kW DCFC (phase 2) • Ten 24kW DCFC (phase 2) • Five 19.6kW Level 2 chargers (phase 2) • One Pre-engineered steel enclosure (phase 1 & 2) • Optional Storm Water Management system (phase 1 & 2) • Miscellaneous civil items and earthwork (phase 1 & 2) • Switchboard main conductor, and charger conductor (phase 1 & 2)
Phase 3	$6,192,000	• Two 1.5MVA MV transformers • Two 480V switchboards • Ten 200kW DCFC • Two Pre-engineered steel enclosures • Miscellaneous civil items and earthwork • Switchboard main conductor, and charger conductor

Table 11 below displays a comparison between the capital costs under each scenario. Implementing a full transition to BEBs will result in an additional $48.8 million in capital costs relative to the Baseline Scenario. This is largely driven by the increased costs of BEBs due to the 700-kWh battery size for conventional 40' vehicles, and the additional electrification infrastructure required.



Table 11. Capital Cost Scenario Comparison, Discounted 2025$, Millions

	Baseline Scenario	BEB Scenario	Variance
Diesel Buses & Gasoline Cutaways	$29.2	$1.8	-$27.4
BEBs	-	$68.7	+$68.7
Fleet Purchases Subtotal	**$29.2**	**$70.5**	**+$41.3**
Additional Infrastructure	-	$7.4	+$7.4
Grand Total	**$29.2**	**$78.0**	**+$48.8**

6.2.2 OPERATING & MAINTENANCE COSTS

O&M costs associated with the transition to BEBs considered the regular expenses required to maintain the City's conventional diesel fleet and gasoline paratransit vehicles, as well as any incremental maintenance costs for new BEB infrastructure. O&M costs for the buses were calculated using historical City operating and maintenance cost data. Annualized O&M costs for BEB charging equipment were estimated from a published service level agreement of representative in-depot, and pantograph chargers. A more detailed discussion regarding these estimates is included in **Appendix C: Budget & Financial Plan**. **Table 12** below contains the key O&M assumptions in the analysis.

Table 12. O&M Cost Assumptions

O&M Cost Assumptions	Baseline Scenario	BEB Transition Scenario
Operating Costs – Diesel Buses ($/hr)	$81.05	$81.05
Operating Costs – Paratransit Buses ($/km)	$4.57	$4.57
Maintenance Cost – Diesel Buses ($/km)	$1.35	$1.22
Maintenance Cost – Paratransit Buses ($/km)	$0.30	$0.27
BEB Maintenance Cost Efficiency Factor	-	10%
Dispenser Maintenance Cost ($/year)	-	$1,986
Average Useful Life of New Bus (years)	14	13
Spare Bus Ratio (Peak Fleet/Total Fleet)	37%	32%

Table 13 below displays the comparison of O&M lifecycle costs between the different scenarios. Costs are shown for the vehicle type, so diesel O&M costs capture the operating and maintenance costs of all diesel vehicles until there are no longer any left in the fleet. In the BEB Transition Scenario, the fleet is not fully electrified until 2038, meaning diesel costs shown are for diesel vehicles in the fleet between 2025 and 2037. The costs are comparable under both scenarios, with minor savings for the BEB Transition Scenario. Notable differences include the incremental maintenance cost savings in the BEB Transition Scenario. This table shows that between the two scenarios, there will be a net savings of approximately $3.8 million in O&M costs over the transition period when transitioning to BEBs over the baseline diesel scenario.

Table 13. O&M Lifecycle Cost Comparison (Discounted 2025$, Millions)

	Baseline Scenario	BEB Transition Scenario	Variance
Diesel O&M Costs	$203.0	$85.0	-$118.0
BEB O&M Costs	-	$114.2	+$114.2
Total	**$203.0**	**$199.2**	**-$3.8**

6.2.3 FUEL & ELECTRICITY COSTS

Fuel and electricity costs associated with the transition include the propulsion of diesel and BEBs, and diesel fuel to operate diesel auxiliary heaters on board BEBs. Diesel fuel costs were estimated using wholesale diesel fuel prices per litre for Sault Ste. Marie, and escalated to include federal and provincial excise taxes, net HST, as well as the federal carbon tax. The average price of diesel fuel per litre was applied to total diesel consumption. Estimated electricity costs are based on Sault Ste. Marie Transit's average per kilowatt-hour and per kilowatt charges, combined with 2023 Ontario electricity prices, and escalated to 2025$ based on inflation. These charges were applied to the total kilowatt-hours and kilowatts to be consumed, respectively. Both diesel and electricity unit costs are escalated over each phase to accurately capture cost increases into the future. Electricity rates in Ontario are subject to change in May and November each year.

Table 14. Fuel and Electricity Unit Cost Assumptions

Fuel and Electricity Cost Assumptions	Conventional Buses	BEBs
Diesel Price (2025$/L)	$1.70	-
Gasoline Price (2025$/L)	$1.79	-
Diesel Bus Fuel Efficiency (L/100 km)	50.1	-
Gasoline Paratransit Bus Fuel Efficiency (L/100 km)	25.3	-
Carbon Levy on Diesel (2025$/L)	$0.254	-
Carbon Levy on Gasoline (2025$/L)	$0.201	-
Electricity Consumption Price (2025$/kWh)	-	$0.106
Electricity Demand Price (2025$/kW)	-	$15.39
Charger Efficiency	-	95%
Diesel Auxiliary Heater Efficiency (L/km)	-	0.034

In the Baseline Scenario, conventional fuel costs are more expensive due to the increasing price of diesel and gasoline, driven in part by escalating carbon taxes, will cost an estimated $16.4 million more than fuel in the BEB Transition Scenario. **Table 15** includes the fuel and electricity lifecycle cost comparison.

Table 15. Fuel and Electricity Lifecycle Cost Comparison, Millions of Discounted 2025$

	Baseline Scenario	BEB Transition Scenario	Variance
Diesel Costs	$27.3	$11.1	-$16.2
Gasoline Costs	$5.5	$2.1	-$3.4
Electricity Costs	-	$3.2	+$3.2
Total	**$32.8**	**$16.4**	**-$16.4**

6.3 OVERALL LIFECYCLE COST COMPARISON

Table 16 below shows the overall lifecycle cost comparison for both conventional fleet and paratransit between the Baseline and BEB Transition Scenarios. It is anticipated that the cost of transitioning to BEBs will be $28.6 million over the Baseline, in 2025-dollar terms. This analysis provides the total cost of the transition, but with successful award of grant funding through sources such as ICIP or ZETF, the cost incurred by the City could be significantly reduced. Because these funds have not been applied for or secured by the City, they are not included in this analysis.

This analysis was completed prior to the recent policy changes from the federal and provincial government that impact fuel prices. The Premier of Ontario has announced a permanent discount to the provincial fuel tax from $0.143 to $0.09. Additionally, the federal government announced the elimination of the fuel carbon tax. With these measures in place, the fuel costs in the analysis may be overstated if these changes remain in effect throughout the entire study period. With these measures in effect, the overall cost to transition increases from $28.6 million in discounted 2025-dollar terms to $34.5 million.

Table 16. Lifecycle Cost Comparison (Discounted 2025$, Millions)

Net Present Value, 2023$	Baseline Scenario	BEB Transition Scenario	Variance
Lifecycle Capital Costs	**$29.2**	**$78.0**	**+$48.8**
Buses	$26.3	$67.0	+$40.8
Non-Revenue	$2.9	$3.5	+$0.6
Related Infrastructure	-	$7.4	+$7.4
Lifecycle O&M	**$235.8**	**$215.6**	**-$20.2**
Operations & Maintenance	$203.0	$199.2	-$3.8
Propulsion	$32.8	$16.4	-$16.4
Total	**$265.0**	**$293.7**	**+$28.6**

6.4 FUNDING PLAN

There are several financing opportunities available to Sault Ste. Marie Transit to secure funding for their zero emission fleet transition. The primary funding source currently available is the ZETF. In addition, a future opportunity is the planned 2026 roll-out of the Federal $3B annual Permanent Public Transit Fund (PPTF) intended to support new and existing public transit infrastructure while helping Canada meet its climate targets.

The ZETF is administered by Infrastructure Canada, and targets projects that enable or implement transit fleet electrification. The ZETF offers flexible financing solutions, including grants and loans to applicants. ZETF funding decisions are determined by project viability, estimated operational savings, and estimated GHG emission reduction. Approximately $2.75 billion in funding is earmarked for the ZETF program to support the numerous municipal transit agencies that may apply for that funding. Funding from either program may be used to offset planning, capital, and

operating costs associated with transitioning diesel fleets to BEBs or alternative fuel technologies. As this funding has not been secured by Sault Ste. Marie Transit, it is not included in this analysis.

With a clear understanding of capital, O&M, and fuel/electricity costs associated with a zero-emission bus transition, Sault Ste. Marie can begin to incorporate these costs into future operating and capital budgets. Federal and provincial funding will be essential in helping Sault Ste. Marie Transit meet the ambitious goal of reaching their zero emission targets by 2050. Sault Ste. Marie Transit should utilize this information to apply for funding from relevant programs at the local, regional, provincial, and federal level such as the ZETF.

The City will consider exploring innovative financing options, such as the Federal Canada Infrastructure Bank's (CIB) Zero-Emission Bus Initiative:

- The CIB collaborates with private and institutional investors to finance public infrastructure initiatives fostering sustainable economic growth and committed to investing up to CAD $5 billion in the Zero-Emission Bus Initiative.
- CIB investments are subject to approval by the program's Board of Directors, and repayment plans are structured based on operational cost savings, particularly in maintenance and energy expenses.
- The City of Brampton set a precedent in 2022 by leveraging this program to secure financing for the acquisition of up to 450 zero-emission buses, a move anticipated to continue through 2027.[8]

[8] CIB's City of Brampton Investment

7 ENVIRONMENTAL BENEFITS

GHG emissions reduction is a primary benefit of transitioning from a diesel fleet to BEBs. This section helps quantify the operational impacts that a conversion to BEBs may have on GHG emissions relative to the baseline diesel scenario. Additional lifecycle emissions associated with the construction of facilities and manufacturing of vehicles, which are required inputs to the ZETF Capital Project application are not included.

7.1 ASSUMPTIONS & METHODOLOGY

The analysis quantified GHG impacts based on estimates of diesel fuel and electricity usage by transit buses over the 2025-2050 period. The following assumptions were used to quantify emissions based on litres of fuel and kWh of electricity consumed, capturing emissions from well-to-wheel. For diesel and gasoline emissions, this captures the emissions released during extracting, refining, transporting, and burning the fuel, while for electricity, this captures the emissions released during the generation, transmission, and charging of electricity. The City's current conventional fleet consumes diesel, the paratransit fleet consumes gasoline, and the emission factors selected reflect this.

The emission rate for diesel fuel is 2.68 kilograms (kgs) of carbon dioxide (CO_2) per litre of fuel, and the rate is 2.65 kgs per litre for gasoline. These values were obtained from the Canadian National Inventory Report, 2023. The emission rates were multiplied by the annual litres of fuel consumed to calculate the annual kgs of CO_2 emitted. To quantify the impact of electricity usage on GHG emissions, the total kWh of electricity used per year was multiplied by the corresponding Electricity Emission Intensity factor for Ontario from 2023 to 2050 (0.03-0.04 kgs of CO_2 per kWh of electricity). This factor represents the kgs of CO_2 per kWh based on the average electricity grid mix for the province. The intensity factor declines over time due to anticipated introduction of new renewable power generation sources. The Electricity Emission Intensity Factor was obtained from the Average Grid Electricity Emission Intensities table in the ZETF GHG+ Guidance Modules, Annex C.[9]

7.2 GHG EMISSION REDUCTION IMPACTS

Based on the assumptions above, the GHG emissions from BEB operations are summarized in **Table 17** below. Over the study period, BEBs will reduce emissions by approximately 55,000 tonnes. This translates to approximately 2,100 tonnes of CO_2 saved per year.

[9] Infrastructure Canada – GHG+ Guidance Modules – Zero Emission Transit Fund

Table 17. GHG Emissions (CO_2 in Tonnes), Baseline and BEB Scenarios, Selected Years and Total

	2025 Snapshot	2030 Snapshot	2040 Snapshot	Cumulative Total
Baseline	**3,149**	**3,149**	**3,149**	**80,939**
Diesel	2,685	2,685	2,685	69,812
Gasoline	464	464	464	11,127
BEB	-	-	-	-
BEB Scenario	**3,149**	**2,352**	**97**	**25,855**
Diesel	2,685	1,914	2	20,803
Gasoline	464	417	-	3,338
BEB	-	20	95	1,714

This reduction is due to the dramatically lower operating emissions of BEBs relative to diesel and gasoline buses. **Figure 6** below shows the annual GHG emissions from operations as the fleet mix changes in the BEB Scenario. There is a substantial decline from approximately 2,685 tonnes of GHGs per year to 97 tonnes per year in the BEB Scenario. The remaining emissions are due to the diesel fired auxiliary heaters on the buses which are used in the colder months as well as the GHG emissions associated with generation of electricity. Canada is targeting to have a net-zero electrical grid by 2035[10] which would further reduce the GHG emissions associated with electricity generation when that transition occurs.

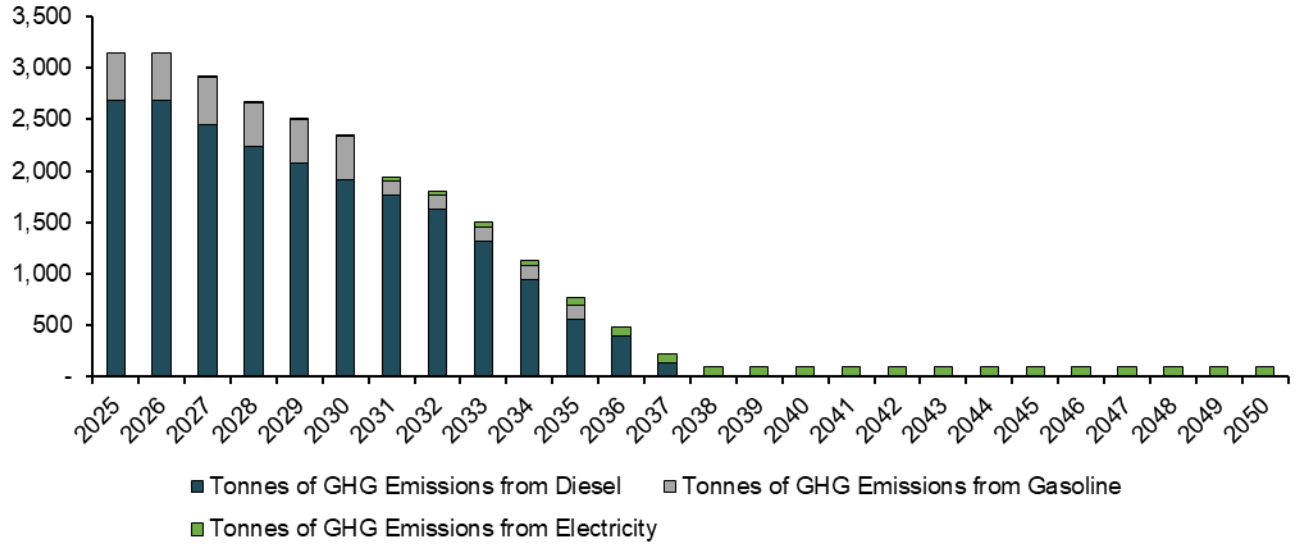


Figure 6. Annual GHG Emissions (CO_2 in Tonnes), BEB Scenario

The cumulative reduction in GHG emissions is shown in **Figure 7** below. The annual emissions reduced grows substantially over time as the diesel fleet is converted to BEBs. By the end of the transition to BEBs, emissions are reduced by over 95%. Remaining emissions are primarily from the generation and transmission of electricity, based on well-to-wheel factors, though there are still minor impacts from diesel auxiliary heating.

[10] Clean Electricity Regulations - Canada.ca

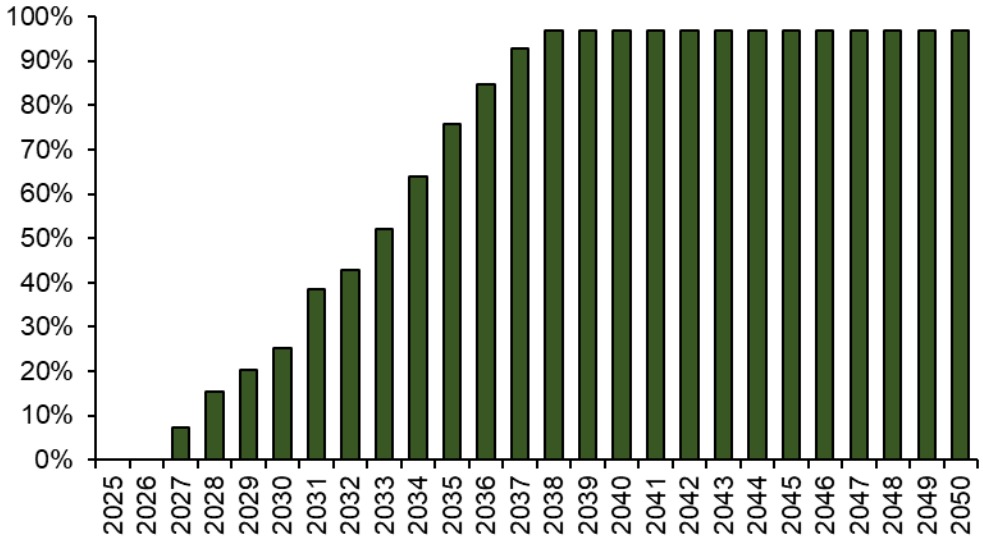


Figure 7. Percentage GHG Reductions from Baseline in BEB Scenario

8 PROJECT RISKS & MITIGATION

There are risks associated with transitioning Sault Ste. Marie Transit's fleet to a new technology and fuel source. The table below highlights potential risk areas associated with implementation and operation of BEBs and potential countermeasures or mitigation strategies to address each risk. It should be noted that risk exposure is subjective by nature and the plan's risk exposure will continuously evolve throughout the transition.

Risk	Risk Description	Risk Response
Infrastructure Transition	As BEBs are introduced to the fleet, it is essential that the necessary infrastructure is in place to enable their integration into the service. Coordination with third parties, such as local utilities and infrastructure manufacturers, can often result in lengthy timeframes and disruptions to current operations.	Initiate planning for infrastructure and ensure construction considerations are made while maintaining current operations. See that infrastructure upgrades are completed at least six months in advance of vehicles arriving. Following infrastructure installation, it is critical to conduct comprehensive testing and commissioning before placing vehicles and infrastructure into active service.
Internal Resource Availability to Support Implementation	The implementation of BEBs will require program management and operational support and may result in resource limitations, additional costs, and delays.	Identify key personnel for the management of procuring vehicles and infrastructure upgrades as a coordinated program. See that existing resources are supplemented by hiring new roles to address identified gaps. Engage external expertise (i.e. consultants) as necessary to offer support during project delivery to support procurement, construction, delivery and commissioning. Continue to leverage the Metrolinx TPI Group Purchasing program for procurement and contract administration for BEB and required charging infrastructure.
Service Planning and Scheduling	The BEB fleet will introduce new variables and processes into service planning and scheduling. Adjusting to these new requirements may take additional time and resources, which could result in an increased cost of service delivery and potential delays in implementation. It is important for service planning and scheduling to be flexible to the changes brought about by the new fleet to ensure smooth and efficient operations.	Initiate service planning adjustments at an early stage to gain insights into the attributes and operational limitations of BEBs using data from the Transition Plan. Ensure staff identify necessary information and tools, assist them in acquiring additional capabilities, and support optimization of schedules with BEBs to maximize fleet utilization and minimize operating costs. Collaborate with BEB OEM on monthly business review calls to address any reliability and performance issues. This includes bench-marking Mean-Distance-Between-Failures (MDBF) data with other transit agencies and in comparison, to conventional diesel bus fleet.
Collective Bargaining Agreement Impacts	Following the transition to BEBs, impacts to the Collective Bargaining Agreement may increase operational costs. Operators may be asked to take on additional duties such as plugging in and un-plugging buses from chargers. Driving behavior heavily impacts vehicle range and it may be beneficial to monitor driver performance to correct inefficient driving practices.	Begin early and constructive engagement with unions on the coming changes to staff requirement to support BEB operations including staffing numbers, skillsets, and operational practices.

Risk	Risk Description	Risk Response
Revenue Operations Assumptions	The modelling forecasts the fleet size required to maintain current operations considering operator hours and associated operating costs. However, the underlying assumptions may not consider the full range of operations which may underestimate operational costs.	Initiate the adjustment of service planning practices to align with the characteristics and operational constraints of BEBs using insights from the Transition Plan. This approach aims to minimize the chance of adverse impacts. Additionally, start early and engage in a constructive dialogue with unions to mitigate the impact of any deviations from expected models. The use of on-board AVL / Electric Bus Telematics Software is critical in creating critical alerts around Battery State of Charge and operating metrics. In addition, dynamic bus dispatching should be considered to support optimal deployment of assets to meet service needs.
Supply Chain Disruptions	The ongoing global shortage of electrical subcomponents, replacement parts, and heightened production demand due to the increased funding available for zero-emissions bus fleets may result in shortages of parts and tooling which would increase costs and delay procurement. Delays in vehicle procurement and delivery would also result in increased maintenance requirements for the current diesel fleets.	Consider supply chain disruptions, as they are applicable to both buses and fixed electrical infrastructure. Plan for adequate lead time to account for potential manufacturing and delivery delays. Review and evaluate capital budget process to consider multi-year approvals for fleet replacement and charging infrastructure needs. Ensure that enough local spare parts are maintained either through contracts or storage at the transit facility. Lists of types and quantities of critical spare parts should be provided by both vehicle and charging system suppliers. Strategies to address some of these challenges have been built into the Metrolinx TPI procurement contract (e.g. late delivery penalties, parts availability, etc.).
Resiliency	Utility blackouts, primary and secondary infrastructure failures, as well as natural disasters or extreme weather events, have the potential to significantly disrupt operations.	Assess the impact and frequency of power outages to evaluate mitigation options that will meet the organization's risk tolerance. Consider the options provided in **Appendix B: Facility Assessment** to determine what level of resiliency is required. Having a plan to replace major critical electrical components with long lead times, such as transformers, should be evaluated.

Risk	Risk Description	Risk Response
Insufficient Grid Capacity	The planned fleet will require significant power demand which may not be available with current infrastructure and require additional costs to install new transmission lines or substations.	Begin constructive engagement with local utilities to ensure necessary infrastructure upgrades are in place in time to support the charging equipment in the early stages. It is also recommended that the regular engagement continues in case of modification in the plan. Engagement was done as part of the facilities assessment and currently, there are not expected to be capacity constraints to support the required electric upgrades at the site identified, although costs and constraints may vary with any timeline changes. Upgrades will also need to consider impacts from other facility related electrification and expansion.
Technology Interoperability	Potential incompatibility between buses and chargers from different manufacturers may be discovered during testing and commissioning which would result in additional costs and delays.	Thoroughly inquire and assess the compatibility of the equipment to be purchased during the procurement phase and engage vendors that demonstrate interoperability. Ensure contracts include testing and commissioning of vehicles with any equipment that is expected to be used. If the infrastructure provider can be standardized for the City's fleet, a Service Level Agreement can be developed to include provisions such as preventative maintenance and inspections, technical support, emergency response, spare parts, and other critical services.
Technology Obsolescence	The technology for EVs is quickly evolving and older generation vehicles and chargers may not be compatible with newer ones. These changes can be driven by updates to charging standards, advancements in battery technology, or changes in design principles.	Before procuring additional vehicles and infrastructure, regular and periodic market scans of the industry are recommended. Vehicle and charging manufacturers should be expected to maintain spare components for the expected lifespan of vehicles. Also, enough spare components should be purchased to ensure equipment is kept serviceable. Leverage Metrolinx TPI Group Purchasing contracts to assist with contract administration as well as obsolescence and parts availability throughout the life of the contract. Evaluate options to lease / finance infrastructure through PUC or another 3rd party.
Software Issues	The smart charging software available in modern chargers is subject to bugs and disruptions which may potentially impact operations negatively.	Ensure thorough testing and commissioning are done after installation of new infrastructure servicing BEBs and that timely support is available for software essential to operations. Leverage Metrolinx TPI Group Purchasing contracts to assist with contract administration and language surrounding obsolescence, reliability and parts availability throughout the life of the contract. Adding on a charge-management software can be considered to proactively alert any charging faults, log error codes, troubleshoot issues remotely and push software updates to resolve issues and upgrade functionality.

Risk	Risk Description	Risk Response
Software Adoption	Delays or failure to adopt software tools highly beneficial for fleet electrification, such as smart charging, dispatch, and control, planning and scheduling, depot management, and fleet telematics, may cause implementation delays.	Before procuring new infrastructure for BEBs, conduct a comprehensive assessment of software and data needs. Once installed, thoroughly test and commission the new infrastructure and software. Leverage Metrolinx and consider participation in the OPTA ZEB Committees to share ideas and best practices around software deployment. (ie. use of ChargePoint, etc.)

APPENDIX A: ENERGY MODELLING ANALYSIS

The service data used was based on GTFS data for service from April 2024 – February 2025, which is representative of typical (post-COVID) service conditions. Three BEB scenarios were modelled: baseline, depot charging only, as well as combined depot and en-route charging. The modelling was adapted to encompass a phased approach, considering a mix of existing battery sizes (525-kWh for 40-ft buses and 157-kWh for cutaways) and expected future vehicle battery sizes (700-kWh for 40-ft buses and 250-kWh for cutaways) in the fleet transition strategy. All scenarios are detailed below after discussing key assumptions.

KEY ASSUMPTIONS

A set of assumptions and variables were identified to develop a model relevant to Sault Ste. Marie Transit's fleet and operations shown in **Table 18** below. It is noted that the assumptions regarding vehicle Original Equipment Manufacturer (OEM) attributes represent a typical, commercially available battery electric bus model. Subsequent procurement following this analysis may result in vehicle OEM specifications that differ from these assumptions, which may impact the results of this analysis. Additional energy consumption modelling based on the selected OEM should be conducted to confirm energy and infrastructure requirements.

Table 18. BEB Simulation Assumptions

Variable	Input
Service Data	City Provided GTFS Schedule (April 2024 – Feb 2025)
Battery Capacity Cutaway	157 kWh (Existing vehicle battery size) 250 kWh (Projected future battery size – required for improved feasibility)
Battery Capacity 40-ft Buses	525 kWh (Existing vehicle battery size) 700 kWh (Projected future battery size – required for improved feasibility)
End-of-Life Battery State of Health	80% (max battery degradation)
Energy Reserve	20% state of charge (SOC)
Heating[1]	Electric Heat (Cold weather) Diesel Heat (Hot weather)
Ambient Temperature	-23C (Cold weather, 10th percentile) +30C (Hot weather, 90th percentile)
Passenger Capacity	100% seated capacity
Depot Charger Power	150 kW @ 95% efficiency
En-Route Charger Power	300 kW (vehicle limited) @ 95% efficiency (40-ft buses only)

[1]Ambient temperature chosen based on largest impact to vehicle operations.

FIXED ROUTE BASELINE SCENARIO

The first modelled scenario assumes depot charging is allowed all day with no modifications to block schedules. Buses are reused if a vehicle has a minimum state of charge of 60% or higher. In this scenario, if a short block is completed and the bus has at least 60% SOC, then the vehicle is used again in the same day to start another block that it can complete. This gives an indication of how feasible the blocks will be based on how Sault Ste. Marie Transit currently operates. The results of the baseline scenario indicate that vehicles were not able to complete most blocks with electric or diesel heating, so this scenario was discounted as it is not a viable option.

FIXED ROUTE DEPOT CHARGING ONLY SCENARIO

The scenarios in this section evaluated a fleet that is equipped with on-board diesel auxiliary heaters that would utilize plug-in depot chargers. It was assumed that buses would be swapped out part way through the block with a fully charged vehicle when the first vehicle reaches 20% SOC. From a scheduling perspective, this would be done by swapping the buses, so they run in shorter blocks that are conducive to BEB capabilities.

The model also assumes that when swaps occur, the bus that would normally stay in service would return to the depot, and another bus and operator would drive from the depot to take its place. This has impacts both on fleet size required (peak vehicle requirement) as well as operational costs due to the increased amount of deadhead miles incurred (non-revenue hours and kilometres between the depot and the first/last stop).

MODEL RESULTS – EXISTING TECHNOLOGY

This scenario evaluated the existing battery technology with battery capacity of 157kWh for cutaways and 525kWh for 40-ft buses.

Below is a review of the main components of the transit service and operations that are likely to change and should be considered when transitioning to a BEB fleet. **Figure 9** shows an estimate of the increase in non-revenue hours and kilometres as well as the estimated number of vehicles required to continue the current transit service.

- Revenue hours and kilometres remain the same
- Non-revenue hours: **114%** increase
- Non-revenue kilometres: **102%** increase
- Peak Vehicle Requirement: **78%** increase
- At least 9 depot chargers will be required:
  - (9) 150 kW plug-in chargers
- (1) 525 kWh BEB (electrifying 1 blocks) can deployed before an increase in fleet is required.

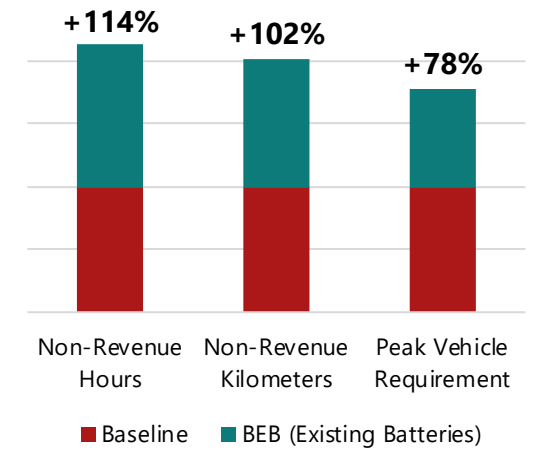


Figure 8. 157kWh & 525kWh BEB Depot Charging Only Model Outputs

The vehicle battery states of charge on each block during weekday service are shown in **Figure 12**. Weekend service was also modelled, but fleet and charging requirements are driven by weekday service which illustrates the most demanding operations for Sault Ste. Marie Transit.

Each block is represented by a line on the chart with its color corresponding to the vehicle's state of charge. The color changes from green to yellow to red to black as the state of charge drops from 100 to 0 percent. Bus swaps (shown in blue) are introduced only between trips to minimize service impacts. Bus swaps are also inserted in locations shown in blue to guarantee the minimum SOC does not dip below the required 20 percent reserve capacity, including the energy needed to return the vehicle to the depot when a swap is needed. Whenever a vehicle is swapped out, it is replaced with a BEB that has a fully charged battery. Swapping buses is only helpful when the bus either stays near the depot all day or returns within a close distance to the depot at multiple points throughout the day. If a block is scheduled to travel a long distance away from the depot, then there is no convenient opportunity for a swap.

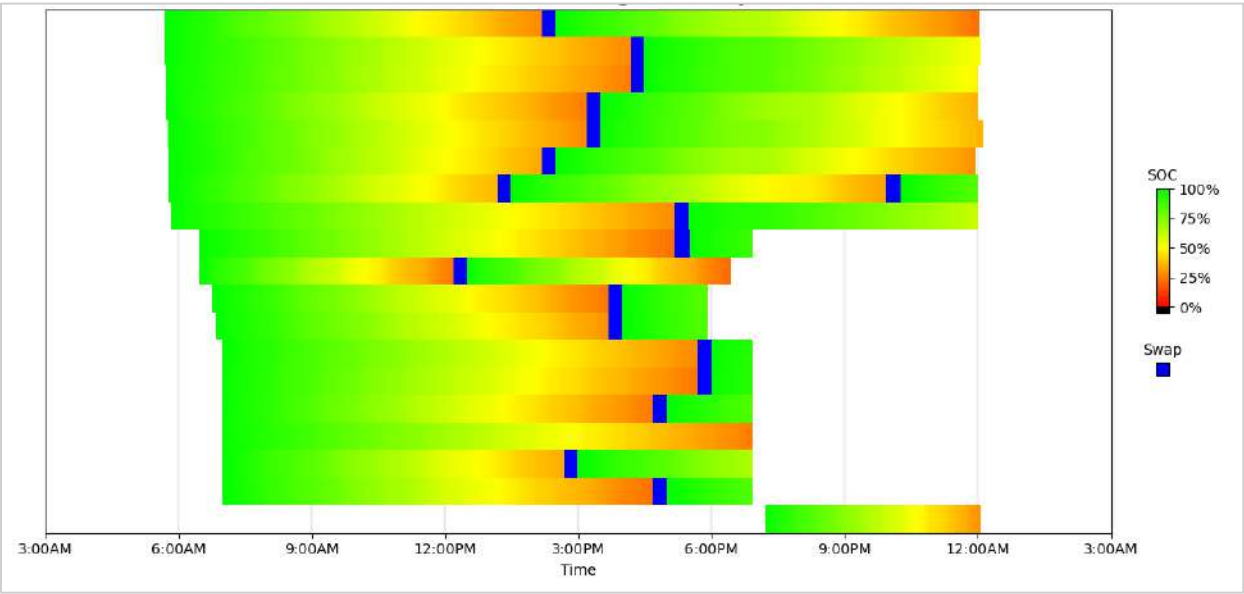


Figure 9. 157kWh & 525kWh BEB Depot Charging Only - Weekday Service Block SOC Heatmap

Power Requirements

Figure 10 shows the daily power demand profile for 157 kWh and 525 kWh BEBs with diesel heaters at the depot facility if Sault Ste. Marie Transit elects to continue with depot charging only. The highest power demand occurs from 3pm to 2am, peaking at 1210 kW, when buses return to the depot for swap and at the end of service when buses are plugged in.

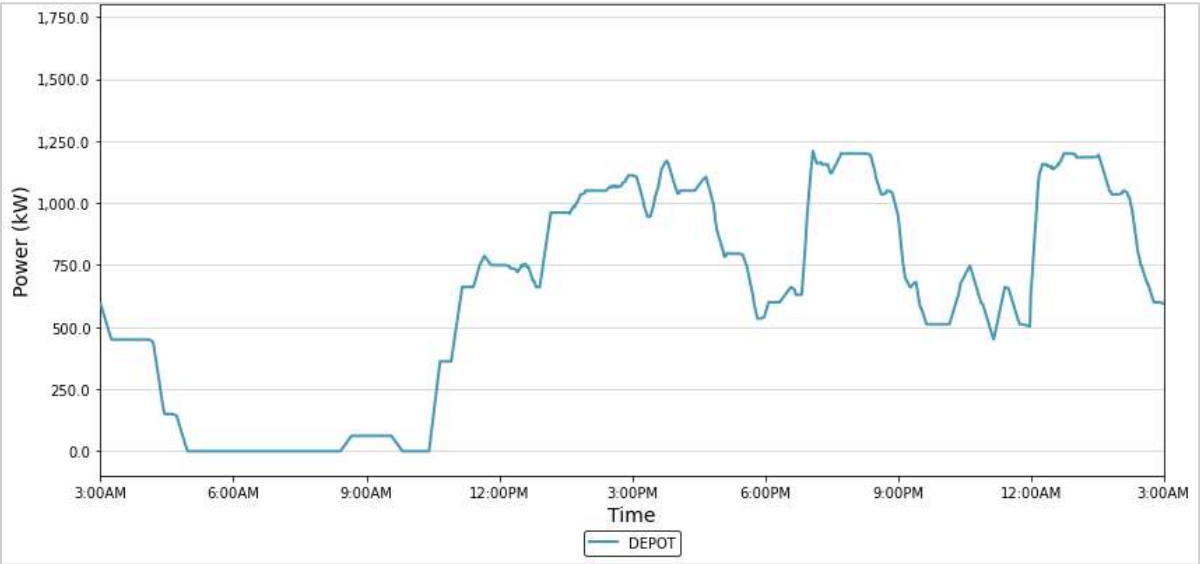


Figure 10. 157kWh & 525kWh BEB Depot Charging Only – Maximum Daily Power Profile at Depot Facility

MODEL RESULTS – FUTURE PROJECTED TECHNOLOGY

Because the scenario modelled with existing battery capacity shows significant operational challenges, additional modelling was done to evaluate the projected battery capacity needed for significant operational improvement to Sault Ste. Marie Transit's existing fixed route service. This scenario evaluated the projected 250kWh cutaways and 700kWh 40-ft buses.

Below is a review of the main components of the transit service and operations that are likely to change and should be considered when transitioning to a BEB fleet. **Figure 11** shows an estimate of the increase in non-revenue hours and kilometres as well as the estimated number of vehicles required to continue the current transit service.

- Revenue hours and kilometres remain the same
- Non-revenue hours: **20%** increase
- Non-revenue kilometres: **18%** increase
- Peak Vehicle Requirement: **17%** increase
- At least 5 depot chargers will be required:
  - (5) 150 kW plug-in chargers
- (9) 700 kWh and (1) 250 kWh BEBs (electrifying 11 blocks) can deployed before an increase in fleet is required.

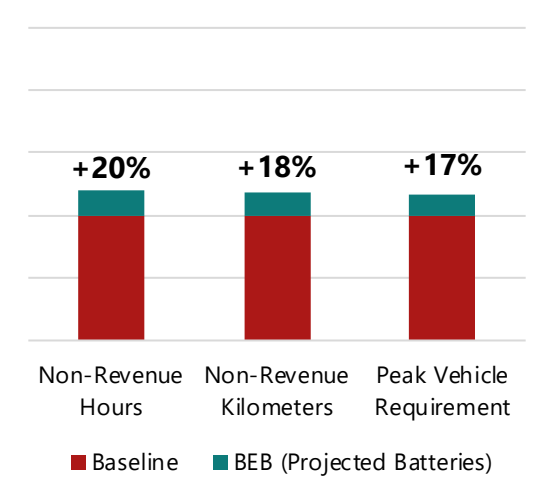


Figure 11. 250kWh & 700kWh BEB Depot Charging Only Model Outputs

The vehicle battery states of charge on each block during weekday service are shown in **Figure 12**. Weekend service was also modelled, but fleet and charging requirements are driven by weekday service which illustrates the most demanding operations for Sault Ste. Marie Transit.

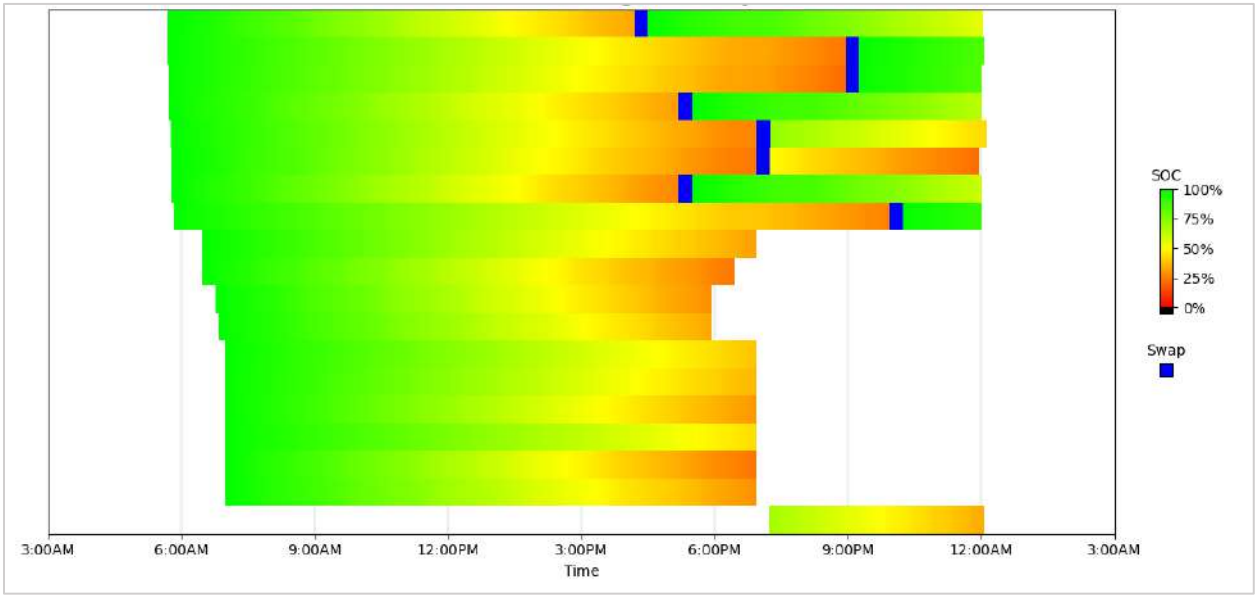


Figure 12. 250kWh & 700kWh BEB Depot Charging Only - Weekday Service Block SOC Heatmap

Power Requirements

Figure 13 shows the daily power demand profile for 250 kWh and 700 kWh BEBs with diesel heaters at the depot facility if Sault Ste. Marie Transit elects to continue with depot charging only. The highest power demand occurs from 6pm to 6am, peaking at 1035 kW, when buses return to the depot for swap and at the end of service when buses are plugged in.

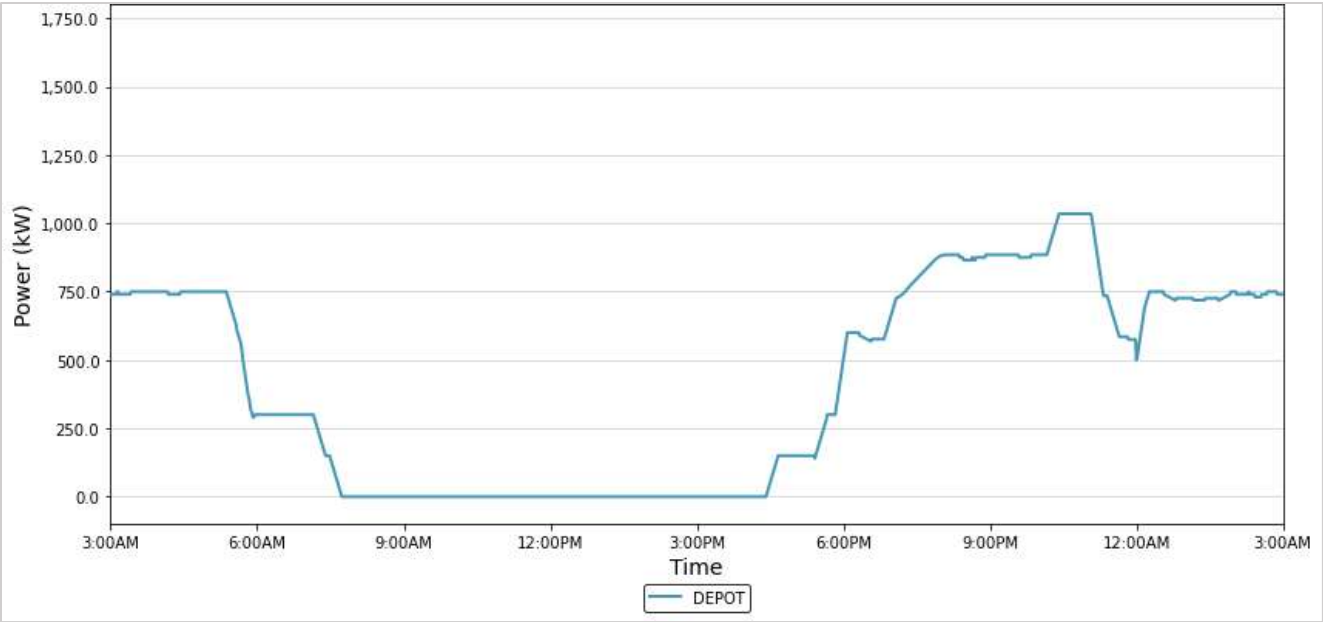


Figure 13. 250kWh & 700kWh BEB Depot Charging Only – Maximum Daily Power Profile at Depot Facility

FIXED ROUTE DEPOT & EN-ROUTE CHARGING SCENARIO

The scenarios in this section evaluated a fleet that is equipped with diesel auxiliary heaters that would utilize plug-in depot chargers and overhead pantograph chargers en-route positioned at the Bus Terminal. Recovery times in the existing schedule were used to identify the most ideal locations for en-route chargers. There was one location identified as having a significant amount of recovery time available for buses to charge.

The review of the en-route charging locations does not consider the complexity associated with property ownership, access, existing utilities, and other site constraints that may limit or be prohibitive for these activities. This illustrative exercise would require additional study prior to committing to this work.

MODEL RESULTS – EXISTING TECHNOLOGY

This scenario evaluated the existing battery technology with battery capacity of 157kWh for cutaways and 525kWh for 40-ft buses.

Below is a review of the main components of the transit service and operations that are likely to change and should be considered when transitioning to a BEB fleet. **Figure 14** shows an estimate of the increase in non-revenue hours and kilometres as well as the estimated number of vehicles required to continue the current transit service.

- Revenue hours and kilometres remain the same
- Non-revenue hours: **74%** increase
- Non-revenue kilometres: **67%** increase
- Peak Vehicle Requirement: **50%** increase
- At least 7 depot chargers will be required:
  - (7) 150 kW plug-in chargers
- 7 enroute chargers will be required:
  - (7) 300 kW pantograph chargers at the Terminal
- (14) 525 kWh BEBs and (1) 157 kWh BEB (electrifying 15 blocks) can be deployed before an increase in fleet is required.

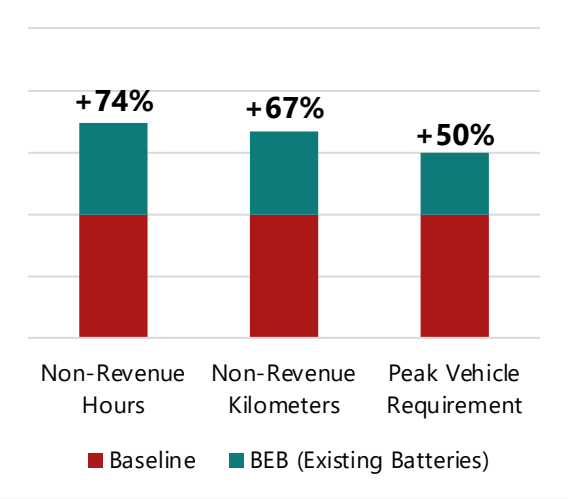


Figure 14. 157kWh & 525kWh BEB Depot and En-Route Charging Model Outputs

By implementing en-route charging with existing BEB battery sizes, there are significant operational improvements in Sault Ste. Marie's service as the number of swaps is reduced to four in total, fewer than the diesel heating scenario with depot charging only. The vehicle battery SOC on each block during weekday service are shown in **Figure 15**.

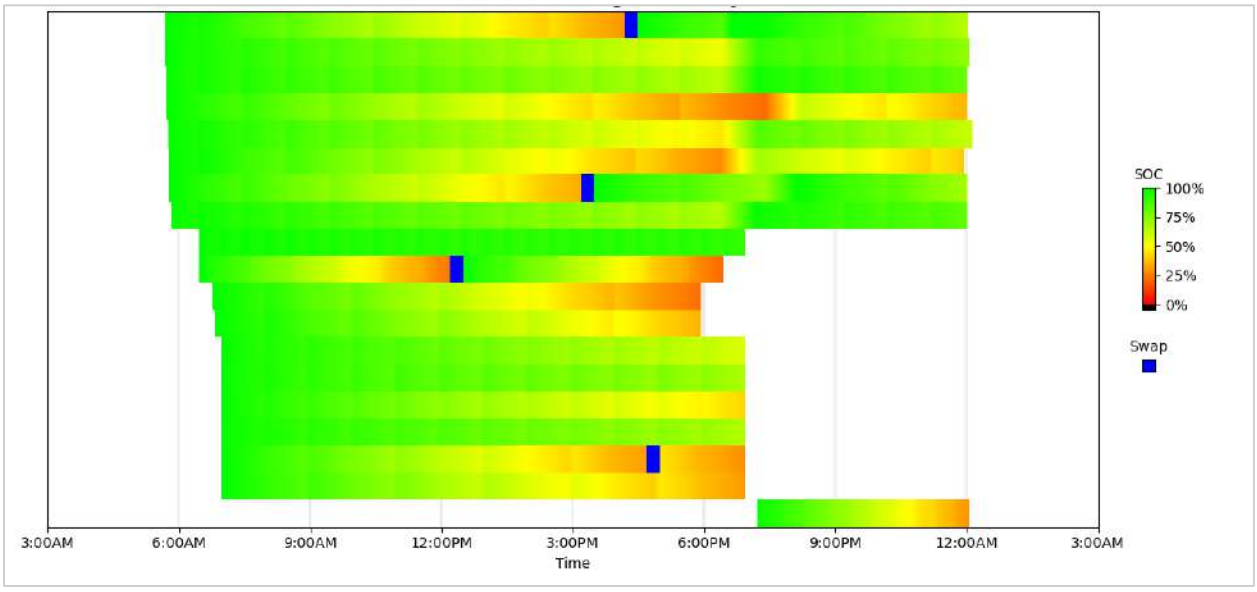


Figure 15. 157kWh & 525kWh BEB Depot and En-Route Charging – Weekday Service Block SOC Heatmap

Power Requirements

Figure 16 shows the daily power demand profile for 157 kWh and 525 kWh BEBs with diesel heaters at the depot and terminal facilities, peaking at 450 kW and 1350 kW respectively if Sault Ste. Marie Transit elects to deploy enroute chargers in the future.

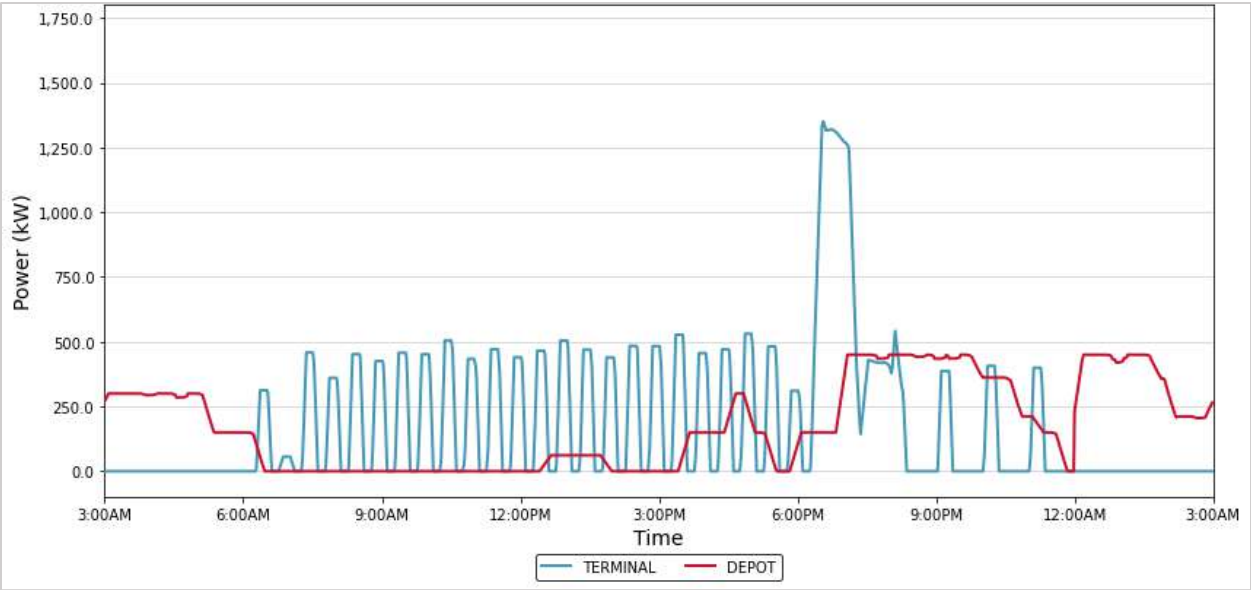


Figure 16. 157kWh & 525kWh BEB Depot and En-Route Charging – Maximum Daily Power Profile at Depot and Terminal Facility

MODEL RESULTS – FUTURE PROJECTED TECHNOLOGY

Because the scenario modelled with existing battery capacity shows significant operational challenges on select blocks, additional modelling was done to evaluate the projected battery capacity needed for significant operational improvement to Sault Ste. Marie Transit's existing fixed route service.

Below is a review of the main components of the transit service and operations that are likely to change and should be considered when transitioning to a BEB fleet. As seen in **Figure 17** there are no increases in non-revenue hours, non-revenue kilometres, or peak vehicle requirement to continue current transit service in this projected battery scenario.

- Revenue hours and kilometres remain the same
- Non-revenue hours remain the same
- Non-revenue kilometres remain the same
- Peak Vehicle Requirement remain the same
- **At least 2 depot chargers** will be required:
  - (2) 150 kW plug-in chargers
- **7 en-route chargers** will be required:
  - (7) 300 kW pantograph chargers at the terminal

(17) 700 kWh BEBs and (1) 250 kWh BEB (electrifying all 19 blocks) can be deployed without any fleet increases

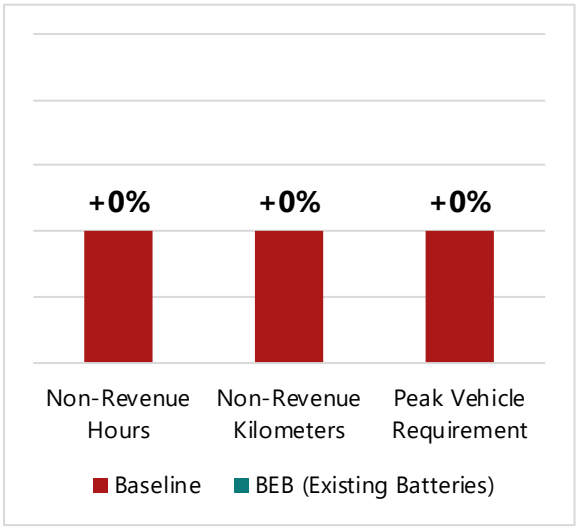


Figure 17. 250kWh & 700kWh BEB Depot and En-Route Charging Model Outputs

By implementing en-route charging with projected BEBs battery sizes, Sault Ste. Marie's service can now be completed without swaps on any blocks. The vehicle battery SOC on each block during weekday service are shown in **Figure 18**.

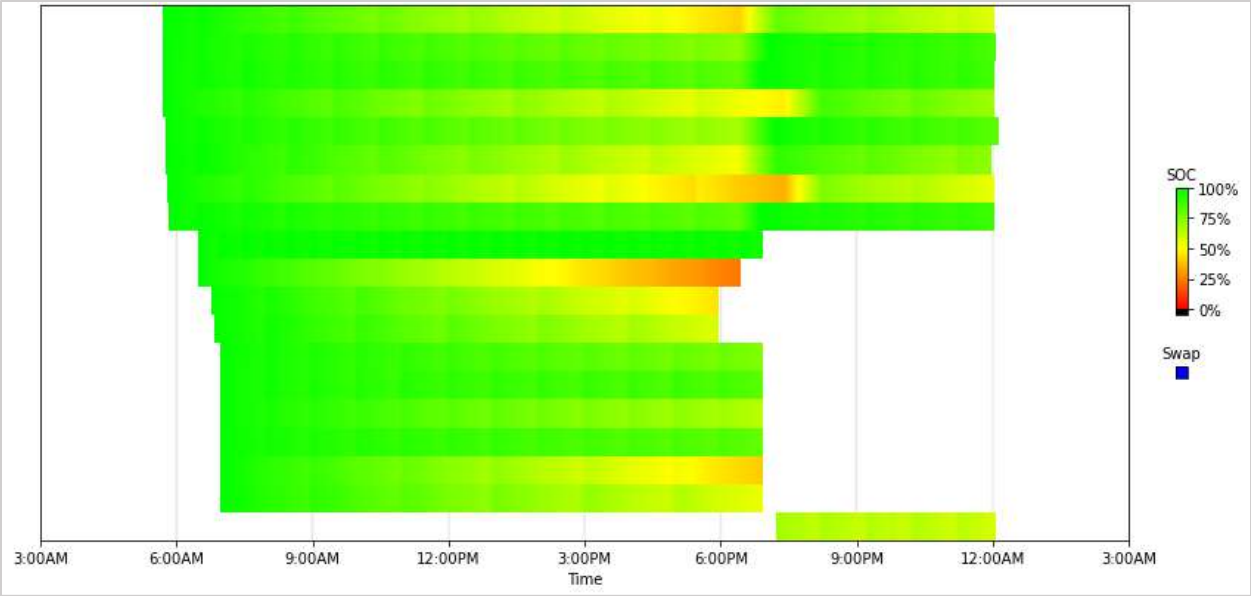


Figure 18. 250kWh & 700kWh BEB Depot and En-Route Charging – Weekday Service Block SOC Heatmap

POWER REQUIREMENTS

Figure 19 shows the daily power demand profile for 250 kWh and 700 kWh BEBs at the depot and terminal facilities, peaking at 300 kW and 1753 kW respectively if Sault Ste. Marie Transit elects to deploy en-route chargers in the future. This scenario has the highest peak power requirement of those modelled.

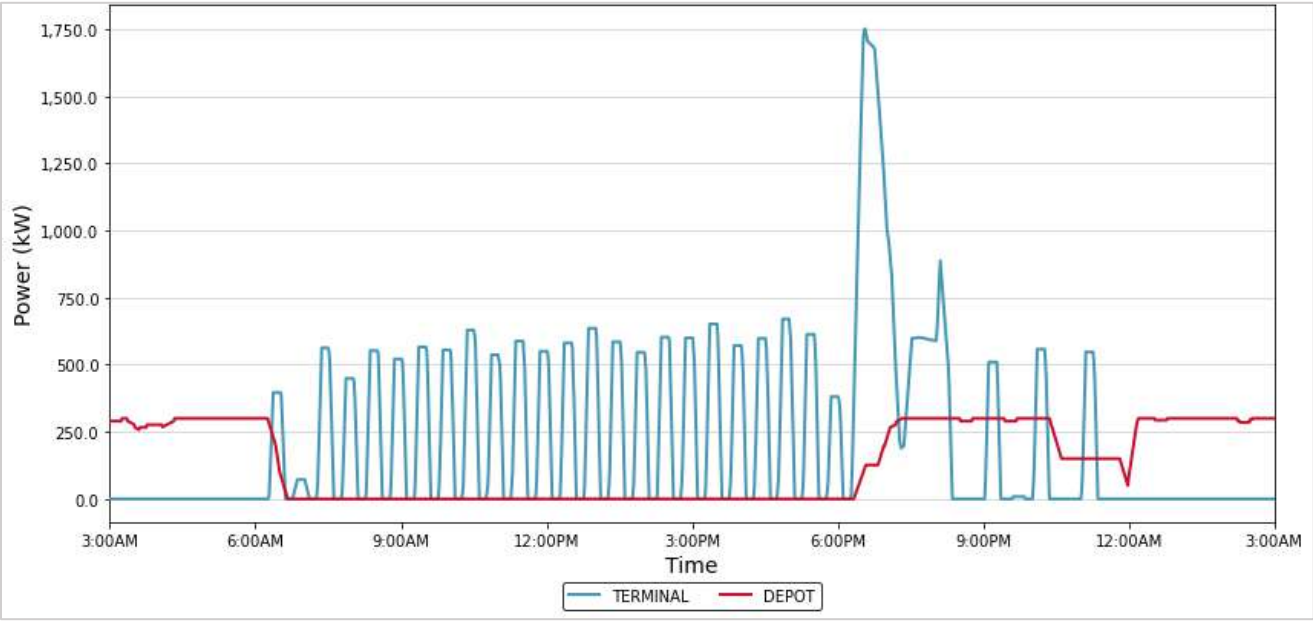


Figure 19. 250kWh & 700kWh BEB Depot and En-Route Charging – Maximum Daily Power Profile at Depot and Terminal Facility

FIXED ROUTE SUMMARY

A summary of modelling results for fixed route transit service is provided for the existing battery capacity fleet and the project battery capacity fleet in **Table 19** and **Table 20**, respectively**.** The modelled fleet requirement column shows the peak number of buses without spares and the chargers columns show the minimum number of charges required.

Table 19. Summary of 157 kWh & 525 kWh BEB Fixed Route Transit Modelling Results

Scenario	Heating Type	Peak Vehicle Requirement	Min. Garage Chargers	En-Route Chargers
Depot only Charging	Diesel	29	5	-
Depot and En-Route Charging	Diesel	21	3	7

Table 20. Summary of 250 kWh & 700 kWh BEB Fixed Route Transit Modelling Results

Scenario	Heating Type	Peak Vehicle Requirement	Min. Garage Chargers	En-Route Chargers
Depot only Charging	Diesel	21	5	-
Depot and En-Route Charging	Diesel	18	2	7

The modelling reveals which existing service blocks are feasible without the need for enroute charging or at least one bus swap to complete service. **Table 21** below shows which service blocks are feasible with 525 kWh buses, feasible with 700 kWh buses, and require swaps, respectively. A total of 11 blocks can be replaced with BEBs at a 1-to-1 ratio without the need for bus swaps or enroute charging; of those, 1 block can be replaced with existing available OEM BEB battery capacity. The remaining 8 blocks would require either enroute charging or a bus swap to complete service.

Table 21. Summary of Feasible Blocks

Feasible with 525kWh bus	Feasible with 700kWh Bus		Bus Swaps Required with 700 kWh Bus	
• **156578**	• 156591 • 156593 • 156584 • 156583 • 156590	• 156576 • 156577 • 156578 • 156579 • 156580	• 156587 • 156592 • 156581 • 156676	• 156586 • 156588 • 156589 • 156585

PARATRANSIT ENERGY MODELLING ANALYSIS

Sault Ste. Marie Transit paratransit services were modelled separately from fixed-route services due to the available data types. The modelling effort for Sault Ste. Marie Transit's specialized fleet is based on operating data provided by the agency, as well as battery and charging specifications of BEB equivalents. Existing specialized vehicle average

daily kilometers and hours were considered in the modelling, derived from provided monthly vehicle data. The total energy consumption of the BEB fleet is computed using the average-case vehicles to forecast overall site energy and fleet size impacts.

To protect the life of the vehicle batteries and avoid range anxiety, a minimum SOC of 20% and a maximum SOC of 90% is assumed. These assumptions are reflected in the analysis by assuming a usable battery capacity equal to 70% of the vehicle's nameplate battery capacity. The use of accessory equipment like accessibility ramps and wheelchair lifts can also impact energy consumption, but the impacts are difficult to predict. Accessory equipment does not typically significantly impact energy consumption, but to account for unknown additional energy requirements, a 10% energy consumption buffer was added to the daily energy needs of each vehicle that is equipped with a wheelchair lift.

MODEL INPUTS

Energy modelling was conducted to understand the feasibility of fleet operations using BEBs and to forecast the magnitude of infrastructure needed to support a transition to a BEB fleet. **Table 22** lists the provided operational profile of each vehicle modelled; a total of nine (9) vehicles were modelled. The total energy consumption of the BEB fleet is computed using both the average and worst-case vehicles, which allows overall site energy and fleet size impacts to be more accurately predicted.

Table 22. Paratransit Fleet Modelling Baseline Scenario Inputs

Vehicle ID	Vehicle Type	EV Replacement	Average Daily Time (Hours)	Max Daily Time (Hours)	Average Daily Distance (km)	Max Daily Distance (km)
34	Chevy 4500	Forest River E450	0	0	0	0
35	Ford E450	Forest River E450	10	12	200	220
36	Ford E450	Forest River E450	8	8	200	220
37	Ford E450	Forest River E450	10	12	200	220
38	Ford E450	Forest River E450	10	12	200	220
39	Ford E450	Forest River E450	8	8	200	220
40	Ford E450	Forest River E450	8	8	200	220
41	Ford E450	Forest River E450	8	8	200	220
42	Ford E450	Forest River E450	8	8	200	220
43	Chevy E450	Forest River E450	10	12	200	220

MODEL RESULTS

On both an average and worst-case day, none of Sault Ste. Marie's paratransit fleet can feasibly be transitioned to BEVs without any modifications to the fleet size or operations. Alternative scenarios were modelled, the most feasible being determining whether vehicles can charge mid-day between trips as well as overnight at the depot.

This scenario assumes no increase in fleet size, but rather the opportunity to charge the vehicles mid-day while parked. To model this scenario, the shift length and distance were assumed to be half the original to create two shifts per day. When breaking down the existing profile into multiple shifts, all vehicles can complete service on both an average and worst-case day. **Table 23** shows these assumptions as they were input into the model.



Table 23. Paratransit Fleet Modelling Split Shift Scenario Inputs

Vehicle ID	Average KM	Max KM	Shift Length	Shifts	Average Day Feasibility	Worst Case Day Feasibility
36, 39, 40, 41, 42	100	110	4	2	Feasible	Feasible
35, 37, 38, 43	100	110	6	2	Feasible	Feasible

Assuming an 80kW DCFC is being used, the model determined the minimum time needed to recharge the vehicles between the two shifts. All nine BEVs will need approximately 1.6 hours of time to recharge and complete the second shift of the day. **Table 24** indicates the *minimum* infrastructure needed to maintain service, but an 80kW DCFC is needed to meet the indicated charge time. In practice, Sault Ste. Marie can also install more powerful DCFCs to decrease the charge time required between shifts.

Table 24. Split Shift Mid-Day Recharging Scenario Model Results

Vehicle ID	EV Replacement	BEB Fleet Size	Minimum Charger Level & Output	Peak Load (kW)	Maximum Daily Energy Consumption (kWh)	Hours to Recharge Mid-Day*
36, 39, 40, 41, 42	Forest River E450	5	48A Level 2	57.6	699.33	1.58
35, 37, 38, 43	Forest River E450	4	25kW DCFC	100	585.86	1.62

**Time to recharge using 80 kW DCFC*

NON-REVENUE ENERGY MODELLING ANALYSIS

Sault Ste. Marie Transit's non-revenue fleet was modelled separately from fixed-route and paratransit services. The modelling effort for Sault Ste. Marie Transit's non-revenue fleet is based on operating data provided by the agency, as well as battery and charging specifications of BEV equivalents. Existing vehicle average daily kilometers and hours were considered in the modelling, derived from provided monthly vehicle data. The total energy consumption of the BEV fleet is computed using the average-case vehicles to forecast overall site energy and fleet size impacts.

To protect the life of the vehicle batteries and avoid range anxiety, a minimum SOC of 20% and a maximum SOC of 90% is assumed. These assumptions are reflected in the analysis by assuming a usable battery capacity equal to 70% of the vehicle's nameplate battery capacity. If the daily amount of energy required exceeds the available energy for a vehicle type, then a scenario that involves mid-day fast charging is considered. These potential scenarios would protect the vehicles' health while avoiding interruptions to normal operations.

MODEL INPUTS

Energy modelling was conducted to understand the feasibility of fleet operations using BEBs and to forecast the magnitude of infrastructure needed to support a transition to a BEB fleet. **Table 25** lists the provided operational profile of each vehicle modelled; a total of six (6) vehicles were modelled. The total energy consumption of the BEB fleet is computed using both the average and worst-case vehicles, which allows overall site energy and fleet size impacts to be more accurately predicted.

The two (2) non-revenue vehicles, Jeep Grand Cherokee and Ram 1500, will travel a combined total of 300-350 km per day and combined service of up to 18 hours per day. Operationally, the two vehicles can be swapped out mid-day. Therefore, when modeling, the average and maximum daily travel is split in half to 150-175 km per day for each vehicle. The average and maximum daily hours on the road for these vehicles is estimated to be 6 and 7 hours, respectively. These values more accurately reflect the hours in service and allows the model to identify charging



needs of the fleet. The time spent driving was estimated by multiplying the number of kilometres driven by an assumed average speed of 50 kph.

Table 25. Non-Revenue Fleet Modelling Baseline Scenario Inputs

Vehicle Make/Model	EV Replacement	Average Daily Time (Hours)	Max Daily Time (Hours)	Average Daily Distance (km)	Max Daily Distance (km)
GMC Sierra	Ford F-150 Lightning	4	8	60	100
Chevy Tahoe	Kia EV9	3	6	30	100
Volkswagen Golf	Toyota bZ4X AWD	4	7	35	100
Jeep Grand Cherokee	Kia EV9	6	7	150	175
Chevy Tahoe	Kia EV9	3	6	60	100
Ram 1500	Ford F-150 Lightning	6	7	150	175

MODEL RESULTS

All vehicles in Sault Ste. Marie's non-revenue fleet can feasibly be transitioned to BEVs without any modifications to fleet or operations.

A baseline scenario was modelled to identify the number of vehicles and chargers required to support a BEV fleet based on current operating characteristics. **Table 26** shows that all vehicles can complete service on a worst-case day. This means that all non-revenue vehicles could be transitioned one-to-one based on current operations and technology.

Table 26. Non-Revenue Fleet Baseline Scenario Feasibility

Vehicle Make/Model	EV Replacement	Average Day Feasibility	Worst Case Day Feasibility
GMC Sierra	Ford F-150 Lightning	Feasible	Feasible
Chevy Tahoe	Kia EV9	Feasible	Feasible
Volkswagen Golf	Toyota bZ4X AWD	Feasible	Feasible
Jeep Grand Cherokee	Kia EV9	Feasible	Feasible
Chevy Tahoe	Kia EV9	Feasible	Feasible
Ram 1500	Ford F-150 Lightning	Feasible	Feasible

Table 27 indicates the minimum infrastructure required to maintain service, although in practice, higher-powered chargers can be used for charging.

Table 27. Baseline Scenario Analysis Results

Vehicle Make/Model	EV Replacement	Minimum Charger Level & Output	Peak Load (kW)	Maximum Daily Energy Consumption (kWh)
GMC Sierra	Ford F-150 Lightning	48A Level 2	11.5	30.5
Chevy Tahoe	Kia EV9	15A Level 2	3.6	14.5
Volkswagen Golf	Toyota bZ4X AWD	15A Level 2	3.6	17.0
Jeep Grand Cherokee	Kia EV9	15A Level 2	3.6	44.9
Chevy Tahoe	Kia EV9	15A Level 2	3.6	20.3
Ram 1500	Ford F-150 Lightning	30A Level 2	7.2	63.9



APPENDIX B: FACILITY ASSESSMENT

CHARGING INFRASTRUCTURE OVERVIEW

There are three types of charging equipment used to charge EVs shown **Figure 20** — Alternating Current (AC) Level 1, AC Level 2, and Direct Current (DC) Fast Chargers.



Figure 20. EV Charging Infrastructure Types

Level 1 is the slowest and most inexpensive charging option. It uses a dedicated 120-volt (V) outlet and can usually replenish a battery at a rate of up to eight kilometers of range per hour. Typically, larger or high-use fleet vehicles cannot achieve a full charge overnight using Level 1 chargers. No electrical upgrades are usually needed to support Level 1 charging.

Level 2 charging stations are most common in daily EV charging for light duty vehicles. Level 2 chargers can use a 208V or 240V outlet or be 'hardwired' directly to the electrical panel (e.g., no outlet). The power output of these chargers' range between 3.5 kilowatts (kW) and 19.2 kW. The most common level 2 chargers are 7.2 kW and can replenish about 30 kilometers of range per hour of charging. A licensed electrician is required to safely install the circuit breaker and wall outlet and complete the necessary permitting process.

DC Fast Chargers represent the fastest, but most expensive, method of charging. The power output of a DC Fast Charger (DCFC) can range up to 450 kW, though the most common size for these chargers is between 50 kW and 150 kW. The maximum DC fast charging rate of an electric vehicle (EV) is determined both by the power output of a DCFC, as well as the maximum charge acceptance rate of the vehicle.

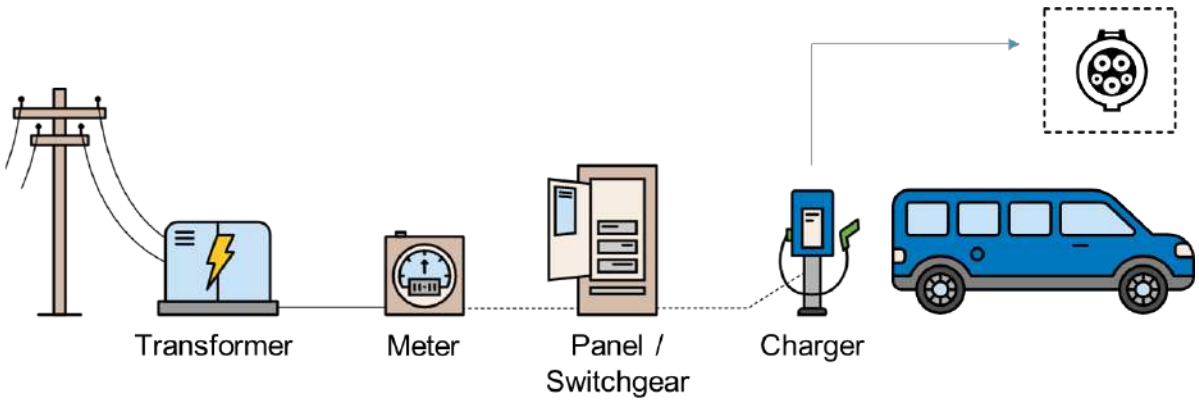


Figure 21. Graphic of Required Equipment for Light Duty Charging Infrastructure

Due to the size of battery packs and charging demands, BEBs will require DCFCs. The main components for charging BEBs are the electrical equipment that feeds the chargers (service feeds, transformers, switchgear, etc.), and the EV charging module containing one or more power modules that can charge buses and dispensers that provide the means to connect the charger to the bus. **Figure 22** depicts a simplified equipment configuration needed for plug-in and pantograph charging.

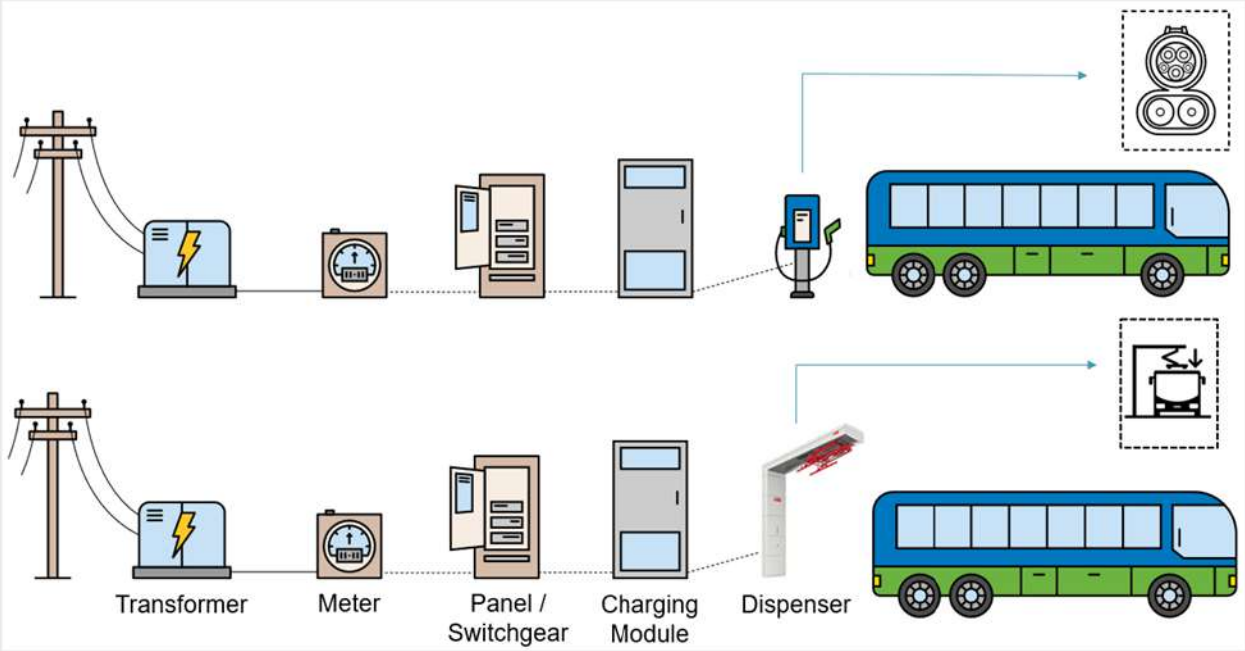


Figure 22. Graphic of Required Equipment for Plug-In or Pantograph DC Fast Chargers

BEB chargers are largely connected to vehicles in one of two ways:

- A cable with a CCS1 connector (SAE J1772) for plug-in charging; or
- Inverted pantograph that touches down on the charging rails mounted on the roof of the bus (SAE J3105-1).



Figure 23. Plug-In Charging Dispenser and Port

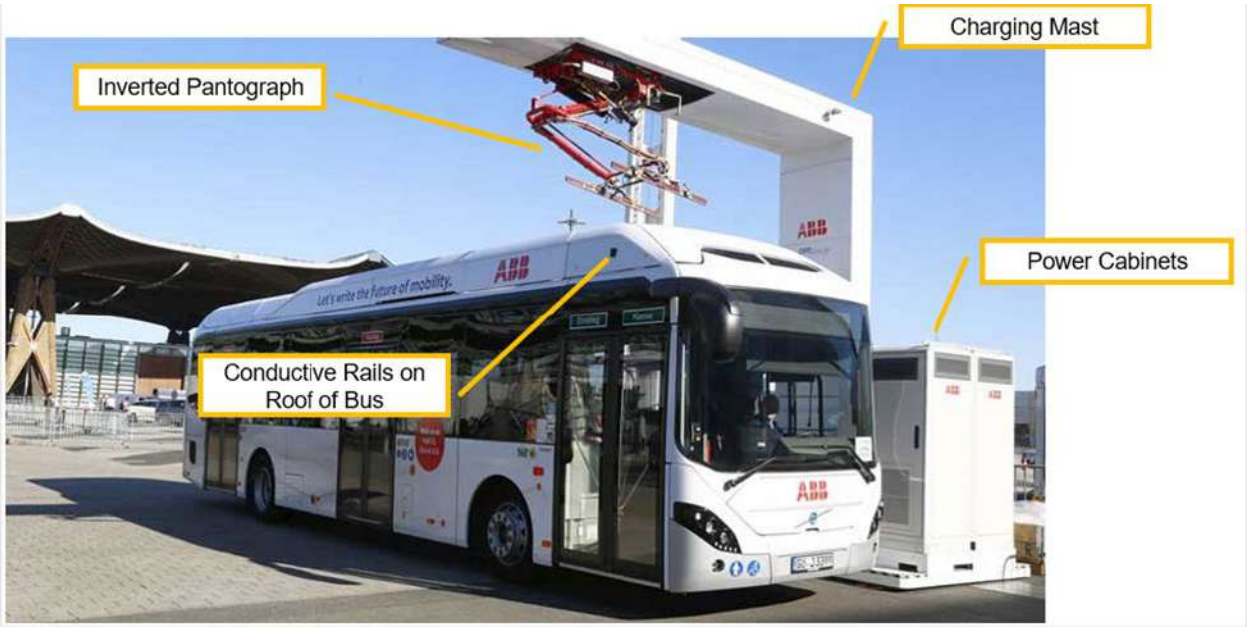


Figure 24. Components of Overhead Pantograph Charging Equipment

While are other options are available such as roof-mounted pantograph-up, wireless inductive charging and others, they are either not currently available in North America, have limited adoptions, or are not economically feasible.

DEPOT CHARGING

Depot charging refers to the siting and use of charging infrastructure at the facility where buses are typically stored overnight. At the depot, the main difference between plug-in and pantograph dispensers is the way the vehicle is connected to the charger. Charging speeds will vary based on connection type, as overhead pantograph chargers can generally deliver more power via overhead roof rails than plug-in dispensers. At this time, pantograph charging is not being considered for implementation, as plug-in dispensers are the more economical option.

There are trade-offs with picking either plug-in or pantograph as the connection option.

Table 28. Opportunities and Challenges by BEB Charger Dispenser Type

Dispenser Type	Opportunities	Challenges
Plug-In	• Lower cost • Fewer physical alignment issues • Fewer communication issues (since communication is hard-wired)	• Requires someone to physically plug-in the bus. • Requires more floor space. • Could be also mounted to the ceiling, but would require a cable management system • Plug-in connectors are more easily damaged
Pantograph	• Takes up less physical space when mounted to existing overhead structure • Offers automatic way of connecting that does not require operator or service person to physically plug-in cable	• Higher cost • Physically heavier and mechanical portions can require maintenance • Potential challenges for vehicle alignment under pantographs • Potential interference with wireless communication between dispenser and bus

The plug-in charging standard used for DC fast charging for BEBs (CCS1) is based on the SAE J1772 model and has been in use since 2011; thus, it is a mature and reliable standard that has received several revisions. The pantograph charging standard (J3105-1) was published in 2020 and is less technologically mature. At present, some aspects of the pantograph standard are being refined to address issues in the depot setting, where pantographs are in close proximity to each other and there were challenges in communication caused by cross talk between wireless communication and the dispenser use.

Manufacturers offer products that enable several dispensers to be powered from a single charging cabinet. This can be achieved either through "sequential charging," where buses are put in a queue and charged individually, or through "parallel charging," where power is shared among multiple connected vehicles. This infrastructure reduces the amount of charging modules required and provides multiple dispensers and charging options. Despite this advantage, the failure of a single charging cabinet can impact the charging of multiple buses. **Figure 25** depicts an example of equipment configuration needed for a single charging module with three plug-in dispensers.

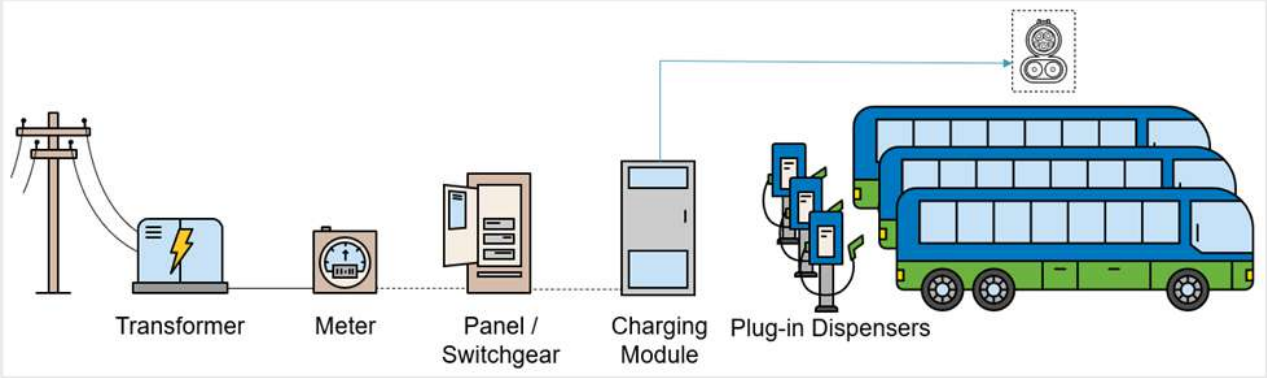


Figure 25. Graphic of Required Equipment to Feed a Single Charger with Multiple Plug-In Dispensers

Charging modules come in different sizes and power levels depending on the amount of charging required. Some modules can serve up to four dispensers, while newer options can charge 40 or more. Regardless of size, it's important to match the number of dispensers to the number of vehicles stored at the facility.

CHARGING INFRASTRUCTURE CONSIDERATIONS

DEPOT CHARGER SELECTION FOR BATTERY ELECTRIC BUSES

As mentioned above, there are currently several charging solutions available for transit applications. For Sault Ste. Marie Transit, facility space planning constraints may restrict the type of charger dispensers that are operationally feasible. For charging indoors, wall mounted chargers would be a good option for the two outer most parking lanes; while for the remaining inner parking bays, overhead retractable plug-in cable reels could be installed. These options minimize space requirements within the building by eliminating the need for bay restriping to include space for ground-mounted dispensers and protective bollards.

A dispenser for each bus is recommended to ensure that when the fleet is parked at night all vehicles can be charged without the need to circulate buses through a limited number of charging bays. It is likely that there will be times when a charger or dispenser will occasionally be out of service due to failure or routine maintenance. Since transit fleets typically maintain a fleet size that includes several spare buses beyond the number required to meet peak

service each day, having at least one dispenser per bus will also provide for resiliency in that there will effectively be spare chargers.

Ceiling-mounted cable retractors that have enough cable range to reach the vehicles are a viable option. However, a detailed design is necessary to identify specific locations and determine whether any conflicts with other infrastructure exist where the equipment would be mounted. Motorized cable reels that raise and lower the connectors when not in use are also available. When using motorized retractors, there should also be consideration given to how the reels will be activated, such as by pull cord, remote switch, or other automated custom solutions, or other available options.

DEPOT CHARGER SELECTION FOR SUPPORT VEHICLES

Support vehicles are smaller vehicles and have smaller batteries that do not require the same high-powered charging that the heavy-duty transit fleet utilizes. Lower powered level 2 wall-box style chargers can be utilized to charge these vehicles. Level 2 chargers can use a 208V or 240V outlet or be 'hardwired' directly to the electrical panel (i.e., no outlet). The concept plans in this study allocate these smaller 19.6kW AC wall boxes due to their more limited power demand and lower cost.

ROOF STRUCTURAL LOADING

There is adequate physical space for either hanging plug-in dispensers, but the structural capacity requires further investigation. A detailed design should be conducted to determine if there is structural capacity to support the weight of ceiling-mounted charging dispensers and to identify appropriate locations. The weights of equipment can vary significantly by manufacturer, and this may limit which types of dispensers could be used if mounting to the ceiling structure.



Figure 26. Example of Wall Mounted Cable Reel

In some cases, powered cable reels can be mounted on the wall to avoid putting additional weight on the roof structure of a building. This option could be considered during detailed design if the capacity does not allow for

extra weight in certain locations. However, it is important to conduct a thorough analysis of the wall framing to ensure that it can handle the additional loads.

Table 29 below provides information gathered from manufacturer specification sheets. It should be noted that the cable reel dispensers have a significant advantage in terms of the usable range between the dispenser and the bus which can make them a good option for areas with high ceilings.

Table 29. Dispenser Weight and Dimension Specifications of Select Manufacturers

Type	Manufacturer	Model	Weight	Useable Range	Dimensions
Pantograph	Wabtec	ChargePANTO	387 kg	1.50 – 1.7 m	2247 x 1250 x 574 mm
Pantograph	Wabtec	DepotPANTO	90 kg	1.0 m max	1524 x 825 x 475 mm
Pantograph	Schunk	SLS 301	90 kg	0.36 m max	1580 x 1020 x 1000 mm
Cable Reel	Wabtec	ChargeREEL	125 kg	6.7 m max	900 mm reel diameter

UTILITY COORDINATION

PRIMARY & SECONDARY METERING

Typically, utilities provide service connections to clients either as primary or secondary metered services. PUC will provide a maximum transformer size of 1.5MVA, using either primary or secondary metering. PUC mentioned no limit to service size, only requiring services larger than 1.5MVA to be fed in parallel by multiple transformers, or to be split onto multiple services. The charging infrastructure requires 3,590 kVA and will utilize secondary metering so that the metering equipment will be on the transit facility's property, and the charging infrastructure will be split between three individual services.

For a primary metered service connection, the utility brings power to the client at distribution and transmission voltage. The client is responsible for designing, constructing, owning, operating, and maintaining a substation to step this voltage down and distribute it throughout the facility. Metering equipment for the client is done at the distribution/transmission voltage which is more costly than the equipment required for secondary metering but typically comes with a per kWh discount. The client may also choose a primary service even if their power requirement can be provided as a secondary service if the client needs a different voltage than what the utility can supply as a secondary service voltage.

Secondary metering service connections have a stepdown transformer owned and maintained by the utility that reduces the voltage from the primary distribution voltage to a standardized lower voltage, either 600 V three phase, 208 V three phase, or 120-240 V single phase. With a secondary metering service, a utility meter is then installed downstream of the transformer. Secondary services are preferred because they are less expensive and maintained by the utility but are limited to a maximum service size that is determined by each utility.

REDUNDANT FEEDS

For critical infrastructure such as that which would power public transit services, redundant power feeds to a site are used to increase the reliability of the utility service. This is commonly achieved by bringing a separate circuit to the site that is fed by the same substation off a different circuit and power line, or by a separate substation and powerline.

If the redundant feed comes from the same substation and a different circuit, this only protects the site from an outage on one of the powerlines, such as a tree falling on the powerline or a pole breaking. In the event of an outage at the substation, both feeds would also experience an outage. For this application, a redundant feed from the same substation is only practical if an alternate circuit is already nearby the site, otherwise a new powerline would need to be brought to the site from the nearest location, which is expensive. A separate circuit could also be added from the existing powerline feeding the site; however, this is not very practical as it would only provide redundancy for the run of cables leaving the powerline going to the site and does not provide much benefit since typically any outages along one of the powerlines would cause both circuits to trip.

Redundant feeds from a separate substation provides the most robust utility feed for a site; however, this is also the most expensive option as substations are rarely geographically close to each other. New power lines, etc. would need to be installed, which is extremely costly.

Except for very specific scenarios when there are already nearby substations or secondary circuits to the site, redundant feeds are not recommended as there are more cost-effective alternative power sources that can be utilized, such as diesel generation or battery energy storage systems. These options also provide better redundancy since they are entirely separate from the power grid. For a specific site, the nearby circuits and substation feeding them is usually only known by the utility and typically not shared with clients as it is rarely of concern.

UTILITY INFRASTRUCTURE OWNERSHIP

Some municipalities in other regions have partnered directly with local utilities or third parties to install and maintain electrical infrastructure and charging equipment. Business models such as Charging as a Service (CaaS) and Energy as a Service (EaaS) are two examples where a third-party service provider offers energy-related assets and services to customers. CaaS focuses specifically on providing EV charging infrastructure, whereas EaaS encompasses a wider range of energy-related assets and services, including energy storage, renewable energy sources, and energy management systems.

Reliability and backup power are also critical components that can be included in energy as a service (EaaS) agreements and are often factored into the service level agreements (SLAs) between the EaaS provider and the customer. Although PUC offers an EV charger rental program, this may not be suitable for Sault Ste. Marie Transit as it may complicate funding incentives and eligibility.

UTILITY RATE CONSIDERATIONS

Electrical costs are determined based on the utility's approved rate tariff which in Ontario is regulated and approved by the Ontario Energy Board (OEB). In Ontario's energy system, customers are classified into two categories: Class A and Class B.

A Class A customer in Ontario's energy system refers to a larger business or industrial customer that has an average peak demand of more than 5 megawatts (MW) in any of the previous twelve months. These customers have the option to participate in the Industrial Conservation Initiative (ICI) program, which allows them to reduce their Global Adjustment (GA) charges by reducing their electricity consumption during periods of peak demand.

A Class B customer refers to a residential or smaller business customer that has an average peak demand of less than 5 MW in any of the previous twelve months. These customers are charged a regulated price for the electricity

they consume, which is set by the OEB and is based on the Hourly Ontario Energy Price (HOEP).[11] Class B customers also pay a GA charge calculated on an hourly basis and is included in the overall electricity price that Class B customers pay.

Customers in Ontario also have the option of purchasing electricity from third party energy retailers approved by the OEB. When purchasing electricity through energy retailers, customers are still responsible for other aspects of electricity like delivery, regulatory and global adjustment charges.

Given its current fleet size and expected electrical demand, it's expected that Sault Ste. Marie will remain a Class B customer. There are three basic components that make up energy costs in each monthly billing cycle:

- **Monthly Service Charges** – These are base charges, assessed monthly, that are included for every meter location.
- **Energy Consumption Charges** – These are charges that are based on the quantity of electrical energy consumed over a monthly period. These charges are based on the kWh that are used and the rate may include taxes, delivery, transmission, and global adjustment fees.
- **Demand Charges** – These are charges that are based on the highest electrical demand observed over the billing period. Demand is measured in kilowatts (kW) and is based on the highest kW level drawn in each month. This can be thought of as a high-water mark type charge where once peak demand is reached once a month, there are no additional costs for having any demand levels that are at or below that level.

APPLICABLE UTILITY CHARGES

The PUC has different utility tariffs that change the cost of electricity depending on the monthly average peak demand. The projected fleet charging loads are expected to be in the General Service Business Class, which applies to peak demand greater than 50 kW but less than 4,999 kW

CHANGING UTILITY RATE STRUCTURES

It's important to note that the demand for electricity is increasing, partly due to the shift towards clean electricity in fleets and building systems. This increase in demand is causing some utilities in North America to modify how they structure their rates. The following are examples of different rate structures that utilities have implemented to accommodate the rising demand. These examples are intended to provide insight into how rates may evolve in the future.

As a general service customer greater than 50kW, PUC allows its customers to choose between different electricity pricing options by switching among tiered pricing and weighted average hourly / hourly market pricing. These options impact overall electricity charges as specified in the electricity rate schedule dated May 2024.[12] Further discussions between Sault Ste. Marie and PUC are recommended to understand and select the preferred electricity pricing option among tiered pricing and weighted average hourly / hourly market pricing.

Tiered pricing

PUC offers its customers a Tiered pricing option, where a certain amount of electricity can be used at a lower price. Once this limit is exceeded, a higher price applies.

[11] Decision and Rate Order EB-2022-0044

[12] Electricity Rates - Effective May 1 2024

Weighted Average Hourly / Hourly Market Pricing

PUC offers its customers the option to utilize the HOEP, which is a variable rate that is administered by the Independent Electricity System Operator (IESO). Customers who choose this option will pay a different rate each hour, reflecting the supply and demand on Ontario's electricity grid. This can provide cost savings when energy is used at lower-priced period, but entirely depend on market conditions.

SEPARATE METERS/FEEDS FOR EV CHARGING

Many utilities have been employing a separate service and meter for electric vehicle charging. This meter is separate from the rest of the facilities at the site and means that it only measures the demand and consumption of EV charging.

Separate meters allow for the utility to isolate the demand and consumption of vehicle charging compared to other loads at the site which can allow them to apply discounted EV electricity rates. Separate meters or sub-meters are typically recommended for EV charging infrastructure even if the utility does not currently offer an EV rate. Utility tariffs are constantly changing and if an EV charging rate becomes available in the future, additional metering will not be required.

Another reason this is preferable is that different departments within the City are responsible for different expenses, such as bus operations for charging versus administration for building electrical and outside lighting. Separate meters or sub-meters will allow the City to understand how much of their energy costs are going to move the fleet compared to normal building loads.

SOLAR ENERGY GENERATION RATES

Currently, PUC does not purchase surplus energy generated in a net metering agreement; however, they do permit the accumulation of credits for up to 12 months if a site generates more electricity than it consumes in a month.

RESILIENCY CONSIDERATIONS

As transit agencies increasingly adopt BEBs, they must carefully consider resilience to ensure uninterrupted reliable service. Factors like reliability of the electrical grid and availability of backup power need to be considered to ensure that service levels are maintained.

GRID RELIABILITY

Before considering adding additional infrastructure to mitigate power outages, it is important to understand how many outages typically occur and how long they last. Short duration outages (less than an hour) will have minimal impact on operations, whereas sustained outages (over one hour) could cause a disruption to transit service. If sustained outages are more common, a backup power source should be considered for the facility to limit the impact of outages on the transit network.

PUC indicated that the 34.5 kV service in this area is reliable, and only small outages are expected at this site.

REDUCED BUS SERVICE

In the case of an outage, reducing transit services for the duration of the outage is a common choice. Services can be reduced to a maintainable level depending on the severity, type, and outage duration (utility, local, software, etc.) and then returned to baseline operation once an outage is restored, and buses are fully charged for operation.



SPARE BUS CAPACITY

The City plans to maintain several spare buses to allow for regular fleet maintenance without service interruptions. Using available spare buses during a power outage can mitigate immediate impacts of a shorter duration outage. Depleted buses can be swapped with fully charged spares to ensure uninterrupted service.

In the near term, the City will continue to own and operate conventional gasoline vehicles. These can be used regardless of a power outage at the garage. While this option is viable during the fleet transition, this would no longer be viable once the fleet is fully electrified. A reserve bus fleet can provide a greater sense of resiliency and allow for increased transit operations during an outage, there are significant costs and space requirements associated with purchasing and maintaining a reserve fleet.

ON-SITE POWER GENERATION

A common option for ensuring power reliability is to have on-site power generation available on-site during an outage. When the power goes out, the generation system is used to power key parts of the facility until the connection to the grid power is restored. Below are some on-site power generation technologies that could be used to improve site resiliency:

1. **Internal Combustion Engine (ICE) Generators**: ICE generators provide backup power during grid failures. They are commonly used for critical facilities such as hospitals, data centers, and emergency response centers. ICE generators can use a variety of readily available fuels including gasoline, diesel, or natural gas.
2. **Solar Photovoltaic (PV):** Solar panels convert sunlight into electricity. When combined with battery energy storage system, they offer reliable power during daylight hours and can recharge batteries for nighttime use.

SOLAR PHOTOVOLTAICS (PV)

Solar PV provides a clean and scalable choice for energy generation. Over the past decade solar PV has become more reliable and lifetime maintenance requirements have reduced, but it also requires a large area/footprint to achieve large power output and is subject to fluctuations in solar irradiance.

Solar PV is typically not capable of offsetting the entire bus charging energy demand; however, PV can offset a portion of overall demand resulting in a "net load" that is lower than scenarios without PV. The overall impact of solar PV is also dependent on the bus charging schedule. A solar installation will have a greater impact if more of the charging occurs during peak solar generation hours. With the addition of net-metering or on-site energy storage, solar energy can be utilized even if the bus charging load is less than PV output during some daylight hours.

Concurrent Solar Feasibility Analysis Project

In parallel with this Study, JL Richards is currently working with the City on the design and construction of a solar array to offset the building's power load and reduce costs. The facility's annual consumption is approximately 245 MWh, and the system is being designed to generate approximately 230 MWh of energy annually. This system will be comprised of an array of 600W panels totaling and installed capacity 270 kW DC. The size of the array was determined based on the structural integrity of the existing building, covering most of the indoor bus parking bays.

As part of a future study, the City could perform an additional analysis to understand the potential benefits and feasibility of adding solar to the roof of the bus maintenance area. A full structural analysis of this portion of the existing building would be necessary, which may include destructive testing, to determine integrity and ability to

hold any additional weight. If feasible, there is potential to offset some of the charging demand with extending solar panel coverage to the maintenance area of the garage.

Figure 27 below indicates the area currently being studied by JL Richards, in green, and the potential additional area for consideration of an expanded solar array as part of a future feasibility study and structural analysis, in blue.



Figure 27. Solar Array Phased Conceptual Layout

BATTERY ENERGY STORAGE SYSTEMS (BESS)

A Battery Energy Storage System (BESS) captures energy from various sources and stores it in rechargeable batteries for later use. They are often combined with renewable energy sources, such as solar panels. BESS accumulates excess energy during off-peak times and releases it when needed during peak demand. It can also function as a short-term backup power during outages and align renewable energy generation with consumption peaks.

The downsides to BESS are the up-front capital costs of purchasing BESS, its useable life, and the cost of replacement. BESS also requires ongoing maintenance, and there are some efficiency losses between energy stored and energy that is able to be taken out of the system.

For transit buses, BESS systems are often utilized for shifting loads to help reduce demand charges and total energy costs associated with large charging loads during peak rate hours (for example, shifting daytime charging to the evening to take advantage of lower overnight utility rates).

BESS is also considered at sites installing solar panels as it can allow energy to be stored in the batteries for later use. Agencies that have access to net-metering may not require BESS since the grid effectively can act as that storage mechanism. PUC offers solar net-metering, so a BESS installation at the site is not recommended; net-metering agreement with the utility would achieve many of the same benefits without the additional capital expenditures.

ENERGY MANAGEMENT SYSTEM

The City's electricity consumption will significantly increase because of this transition. Energy management systems have the capability to manage when vehicles are charged and limit output to reduce energy costs. Manufacturers are now offering energy management systems with the capability to manage utility loads, such as EV charging stations, or incorporate other distributed energy resources at the appropriate times to help reduce those costs. The City should consider an energy management system with the ability to control both charging stations and distributed energy systems to reduce electricity costs and allow flexibility in the future.

RESILIENCE RECOMMENDATION

In addition to the current design and construction project for the installation of a solar array to offset the building's utility load, the City will evaluate the possibility of expanding the solar array in the future to offset a portion of the utility load for vehicle charging. When considering solar expansion, the City should also include a full structural analysis in the detailed design phase of the future project to ensure the facility can safely support the additional weight of the solar array. As part of this Study, the implementation of BESS was considered and ultimately ruled out; the City will instead look to utilize charge and energy management systems to reduce peak load.

OTHER CONSIDERATIONS

CHARGE MANAGEMENT SYSTEMS

Manufacturers typically offer a proprietary system with their equipment that requires an annual subscription and can require internet connection/cell connection as well as a computer with internet access to access any dashboards through a web browser. These systems enable the operator to remotely know the status of a charging session, log error codes, and reset equipment, and can usually be included in procurement of the chargers.

Manufacturers also use these connections to their equipment to troubleshoot issues remotely and push software updates that may be required to resolve issues or upgrade functionality. The information available and capability of charge management systems varies by manufacturer, so it is important to understand the differences of what's being offered and if it meets the organization's needs.

Most charging station manufacturers design their equipment to be compatible with Open Charge Point Protocol (OCPP) which allows for third party software to be able to monitor and manage infrastructure as well. One of the advantages of third-party software providers is that they are typically able to manage multiple equipment vendors in a single platform which may be desirable in a situation where the en-route charger is not the same manufacturer as the depot chargers. Some also offer additional functionality beyond charge management and provide information on dispatching and on-board telematics systems.

ENERGY MANAGEMENT SYSTEMS

With electricity becoming the new fuel for the fleet, electrical energy consumption will significantly increase, and transit agencies will become much more sensitive to changes in electricity rates and tariff structures. Having the

ability to manage when vehicles are charged and match charging hours with a given electricity tariff can significantly reduce energy costs. Manufacturers are now offering energy management systems to allow for the capability to manage electrical loads, such as EV charging stations and/or incorporate other distributed energy resources at the appropriate times to help reduce those costs. Having an energy management system with the ability to control both charging stations and distributed energy systems in a coordinated way to reduce electricity costs will allow flexibility in the future.

DIGITAL YARD MANAGEMENT SOLUTIONS

With the added complexity of vehicle charging at the garage, knowing which vehicles are ready for service will become more difficult as the time to charge a bus will depend on how much energy it needs. Implementing a digital yard management system can help staff know which buses are ready or not ready for service. Tools are now available that allow staff to know the real time location and status of vehicles in the yard. Some solutions can also help by providing parking information for the vehicle depending on the status and state of charge (SOC) of the vehicle. For example, a digital sign at the entrance of the facility could let drivers know based on vehicle information to park vehicles that are required to be held for scheduled maintenance in one area, vehicles with high SOC that can go back into service in another area and vehicles with low SOC that need more time to charge in a different area. This tool could also be shared with operations to let them know where vehicles are parked in the yard, whether a given vehicle is ready for service and/or if a substitution needs to be made.

BUILDING CODE AND FIRE SAFETY

Introducing BEBs into a facility introduces new risks. Regulatory authorities are still working to determine if additional requirements will be needed. The biggest change with the introduction of BEBs and charging infrastructure is the introduction of high voltage electrical equipment, as well as the possibility of lithium-ion battery fires from vehicles stored inside facilities.

Each province and territory in Canada have their own building code, which may adopt the National Building Code of Canada (NBCC) or modify it to suit local requirements. These codes may include specific provisions related to fire safety in buildings that house BEBs or other hazardous materials. While the NBCC does not specifically address battery electric vehicles currently, it sets standards for fire safety, electrical systems, ventilation, and other aspects that would apply to any building.

The Canadian Electric Code (CEC) is a national standard for electrical installations in Canada. It provides requirements for the safe installation and use of electrical equipment, including charging stations for BEBs. Electrical codes are already in place that dictate measures required for installation of high voltage electrical equipment and their required safety devices. Electrical designs will need to be done by qualified professionals and will be reviewed through the building permit process to ensure the designs meet relevant requirements.

Given the novelty of BEB technology, fire safety standards and some codes have not been updated to reflect this. Battery electric vehicle fires are statistically less common than internal combustion vehicles but behave differently than traditional fires. For example, if thermal runaway occurs in a battery pack, the fire can be difficult to extinguish and may take hours to put out.[13]

The City of Sault Ste. Marie should consider several fire safety measures:

[13] Why do e-buses catch fire? (evfiresafe.com)

- Developing a fire safety plan with the local fire department that addresses battery electric fire hazards.
- Perform a facility fire safety risk assessment to evaluate aspects such as:
  - Rating of the building fire suppression system in vehicle storage areas.
  - Availability of water for the fire department to be able to extinguish fires.
  - Emergency power shut offs for charging equipment.
  - Manual HVAC controls to manage exhaust smoke and fumes from a vehicle fire.
- Have an ongoing dialogue with first responders after implementation so that first responders are familiar with the facility, vehicles, and tools available to deal with fires.

The City should engage with insurance underwriters to make sure that building and/or fleet losses resulting from BEB fires are covered under the policy. Insurance underwriters may also have recommendations or additional requirements for how risks could be mitigated that are not captured by current building codes. The exact impact the introduction of BEBs to a facility may have insurance premiums, if any, should be noted as a "known unknown" since it cannot be quantified at this time.

APPENDIX C: BUDGET & FINANCIAL PLAN

This appendix breaks down all details of the financial analysis, including assumptions, model results, and supplementary tables for cost breakdowns over the whole analysis period.

KEY COST ASSUMPTIONS

The analysis relies on several assumptions like bus operating statistics and purchasing schedules for the Baseline and BEB Scenarios.

The analysis presents all dollar values in net present value (NPV) terms, unless otherwise noted. NPV analysis accounts for the "time value of money," the principle that a dollar today is worth more than a dollar tomorrow. NPV is used to present costs incurred over the 2025-2050 study period on a consistent basis. Year of expenditure (YOE) costs are shown to reflect anticipated actual costs in a future year. YOE costs are discounted to 2025-dollar terms by applying a nominal discount factor of 8%.

CAPITAL COST ASSUMPTIONS

Table 30 presents the unit cost assumptions for buses and BEB charging equipment that are common to both scenarios. Further details on these assumptions are included below.

Table 30. Bus and BEB Infrastructure Capital Unit Cost Assumptions (2025$)

Bus Fleet Capital Assumptions	
Diesel Bus Cost	$910,000
Gasoline Parabus Cost	$169,000
BEB Fleet Capital Assumptions	
Battery Electric Bus Cost (250 kWh)	$558,000
Battery Electric Bus Cost (525 kWh)	$1,600,000
Battery Electric Bus Cost (700 kWh)	$2,133,000

Planned costs between 2025 to 2050: The City is planning to have BEBs enter revenue service beginning in 2027. These costs were included in the BEB Scenario and reflect vehicle and BEB equipment cost estimates completed to date.

- **Annual Cost Growth Assumptions:** Capital cost estimates are in 2025 dollars and were escalated by a base 3 percent annual inflation assumption. The annual inflation assumption was consistent among both scenarios.
- **Bus Unit Costs:** Bus costs reflect estimated replacement vehicle costs for the most recent vehicles procured in the City's fleet, escalated to 2025$. The BEB cost estimate was based on the current procurement process for similar municipalities within Ontario for the initial BEB purchase of a 525 kWh buses and supplier information on 150-kWh cutaway battery electric vehicles. The 525-kWh bus price was escalated by the relative size of the battery capacity to estimate the cost of the 700-kWh, while the same process was employed for the150-kWh cutaway vehicle for the corresponding 250-kWh vehicle.
- **Bus Rehabilitation Costs:** Consistent with the City's existing operating data, this analysis assumed diesel buses will have a 14-year useful life, and BEBs will have a 13-year useful life. Given the recent and on-going implementation and evolution of BEB propulsion systems, there is limited information on mid-life rehabilitation requirements for these technologies. The analysis assumed there would need to be battery

replacements for the BEBs after 8 years in service. The cost associated with the battery replacement is included in the purchase price of the BEB based on a recent Metrolinx RFP.

- **BEB Charging Equipment and Installation:** Cost estimates for in-depot dispensers and the installation of the charging equipment reflect recent costs from OEMs. Additionally, since there is no long-term data and analysis on the lifecycle of BEB chargers, the analysis assumed the charging equipment is purchased once.

Infrastructure cost assumptions are shown in **Table 31** below. The costs shown include a 30% contingency and 4% percent engineering cost. The implementation year was assumed based on the deployment of BEBs in the conventional fleet.

Table 31. Infrastructure Phasing Assumptions

Phase	Cost (2025$)	Key Equipment
Phases 1 & 2	$4,087,000	• One 200kW DCFC (phase 1) • One 19.6kW Level 2 charger (phase 1) • One 1.5MVA MV transformer (phase 2) • One 600V switchboard (phase 2) • One 480V switchboard (phase 2) • One 208V switchboard (phase 2) • Four 200kW DCFC (phase 2) • Ten 24kW DCFC (phase 2) • Five 19.6kW Level 2 chargers (phase 2) • One Pre-engineered steel enclosure (phase 1 & 2) • Optional Storm Water Management system (phase 1 & 2) • Miscellaneous civil items and earthwork (phase 1 & 2) • Switchboard main conductor, and charger conductor (phase 1 & 2)
Phase 3	$6,192,000	• Two 1.5MVA MV transformers • Two 480V switchboards • Ten 200kW DCFC • Two Pre-engineered steel enclosures • Miscellaneous civil items and earthwork • Switchboard main conductor, and charger conductor

Tables in the Baseline and BEB Scenario sections summarize the annual costs under each scenario.

O&M COST ASSUMPTIONS

Details on assumptions used to estimate O&M costs, fuel and electricity costs include the following:

- **Diesel Bus Operations and Maintenance:** The maintenance cost per kilometre for diesel buses was calculated by inflating the City's 2022 CUTA data on vehicle maintenance costs to 2025 dollars and dividing it by the total kilometres travelled. A literature review of maintenance costs for BEBs identified a range of 10%-30% cost savings relative to diesel, primarily due to fewer part replacements and simpler drivetrain maintenance. For BEB annual maintenance costs, a 10% cost savings assumption was applied in the analysis, to remain conservative. The operating cost per hour was based on Sault Ste. Marie's 2022 CUTA statistics. The total cost of operations was inflated to 2025 dollars, then divided by total vehicle hours. This cost was applied to total estimated operating hours for diesels and BEBs throughout the transition plan.



- **Gasoline Bus Operations and Maintenance:** The maintenance cost per kilometre for gasoline paratransit buses was calculated by inflating City's 2022 CUTA data on vehicle maintenance costs to 2025 dollars and dividing it by the total kilometres travelled. A literature review of maintenance costs for BEBs identified a range of 10%-30% cost savings relative to diesel, primarily due to fewer part replacements and simpler drivetrain maintenance. For BEB annual maintenance costs, a 10% cost savings assumption was applied in the analysis, to remain conservative. The operating cost per hour was based on Sault Ste. Marie's 2022 CUTA statistics. The total cost of operations was inflated to 2025 dollars, then divided by total vehicle hours. This cost was applied to total estimated operating hours for gasoline vehicles and BEBs throughout the transition plan.

- **Annual Growth Rate for Bus O&M, and Maintenance of EV Charging Infrastructure:** Annual O&M costs in this analysis were escalated by 3 percent to present them in YOE dollars.

Similar to capital costs, for both scenarios, annual O&M costs that will be incurred between 2025 and 2050 reflect the annual hours and kilometres of service by bus type shown in **Table 32** as well as the equipment and infrastructure costs required.

Table 32. Annual Operating and Maintenance Cost Assumptions (2025$)

O&M Cost Assumptions	Baseline	BEB
Operating Costs – Diesel Buses ($/hr)	$81.05	$81.05
Operating Costs – Paratransit Buses ($/km)	$4.57	$4.57
Maintenance Cost – Diesel Buses ($/km)	$1.35	$1.22
Maintenance Cost – Paratransit Buses ($/km)	$0.30	$0.27
BEB Maintenance Cost Efficiency Factor	-	10%
Dispenser Maintenance Cost ($/year)	-	$1,986
Average Useful Life of New Bus (years)	14	13
Spare Bus Ratio (Peak Fleet/Total Fleet)	37%	32%
Daily Energy Usage for Paratransit Vehicles (kWh)	-	143
Paratransit Average Daily Kilometres Driven	220	220
Paratransit Average Daily Hours Utilized	5	5

FUEL & ELECTRICITY COST ASSUMPTIONS

Estimated annual diesel fuel and electricity reflect a combination of growth rate assumptions. Additionally, the following assumptions and sources were used to estimate projected change in cost of diesel, gasoline, and electricity.

- **Diesel Fuel Costs:** The analysis assumed diesel fuel costs in 2025 are $1.70 per litre. This assumption was based on the average wholesale price for diesel fuel in Sault Ste. Marie for 2024. The wholesale price had provincial and federal taxes layered on, including the unrecoverable net HST. Wholesale diesel fuel costs were assumed to escalate based on forecasted real changes in diesel estimated in the US Energy Information Administration's Annual Energy Outlook 2023. The carbon tax was assumed to escalate in line with the latest federal carbon pricing plan to 2030, while other provincial and federal taxes were assumed to remain constant for the duration of the analysis. Prices were escalated at a 3% annual growth rate to be converted

to YOE dollars. All future BEBs were assumed to have diesel heaters to ensure electric power can focus on maintaining maximum driving range. The average fuel efficiency of diesel heaters was obtained based on industry experience to estimate the diesel usage per kilometer travelled.

- **Gasoline Fuel Costs:** A similar approach was undertaken to derive gasoline fuel costs. The gasoline fuel cost of $1.79 per litre was based on the average wholesale price for gasoline fuel in Sault Ste. Marie for 2024. Similar to the calculation of diesel fuel costs, provincial and federal taxes, carbon tax and the unrecoverable net HST have also been layered on top of the wholesale gasoline prices. Lastly, prices were escalated at a 3% annual growth rate to be converted to YOE dollars.

- **Electricity Costs:** There are two types of electricity costs that were included in the analysis, a per kilowatt-hour (kWh) usage fee and a per kilowatt (kW) demand charge. The $/kWh and $/kW values used in the analysis were obtained from PUC's published rates and the City's electricity invoice from February 1, 2024 – March 1, 2024. The dollar per kWh ($/kWh) usage fee was based on the utility bill received and analysis for Class B customer rates in Ontario from 2023. Prices were escalated by 3 percent annually to be converted to YOE dollars. The analysis assumed a 5% efficiency loss between chargers and BEBs.

- **Fuel Efficiency:** Litres per 100 kilometres (L/100km) was calculated as a weighted average of the fleet fuel efficiency based on data provided by the City for the entire fleet. Vehicles were separated by fuel type.

Table 33. Fuel & Electricity Cost Assumptions (2025$)

Fuel & Electricity Cost Assumptions	Diesel	BEB
Charger Efficiency	-	95%
Diesel Bus Fuel Efficiency (L/100 km)	50.1	-
Gasoline Bus Fuel Efficinecy (L/100 km)	25.3	-
Diesel Heater Efficiency (L/km)	-	0.03
2025 Cost of Diesel Fuel ($/L)	$1.70	-
2025 Cost of Gasoline ($/L)	$1.79	
2025 Cost of Electricity Usage ($/kWh)	-	$0.106
2025 Demand Tariffs ($/kW)	-	$13.53

BASELINE SCENARIO

The Baseline Scenario is defined as where there is no transition to electric vehicles over the study period. The current diesel fleet is replaced by new diesel buses on an as-needed basis.

CAPITAL COST ESTIMATES

Under the Baseline Scenario, the fleet mix remains entirely diesel for the duration of the study period. The fleet replacement schedule developed with Sault Ste. Marie was used to determine the capital purchases needed each year. **Table 34** illustrates the annual capital purchase assumptions for diesel buses based on the fleet retirement schedule. **Table 35** displays the capital costs incurred between 2025 and 2050. Over the 2025 to 2050 period, total capital costs for the Baseline Scenario were estimated to be $72.5 million in YOE dollar terms ($26.3 million in discounted 2025-dollar terms). An excerpt from 2025 to 2050 is shown below.

Table 34. Periodic Annual Capital Purchases / Infrastructure Implementation Assumptions - Baseline Scenario

	2025 – 2030	2031 – 2040	2041 – 2050
Diesel Bus	7	26	19
Peak Service	6	18	14
Spares	1	8	5
BEBs	-	-	-

Table 35 presents the annual costs estimates based on the unit cost and growth rate assumptions and the annual fleet needs are shown in **Table 34**. The values are in year of expenditure (YOE) dollars.

Table 35. Periodic Annual Capital Cost Estimates – Baseline Scenario (YOE$, Millions)

	2025 – 2030	2031 – 2040	2041 – 2050
Diesel Bus	$6.8	$32.6	$33.1
BEBs	-	-	-
Total	**$6.8**	**$32.6**	**$33.1**

O&M COST ESTIMATES

Under the Baseline Scenario, as shown in **Table 36** the total of annual hours and miles operated by diesel buses increases from 2025 service levels based on planned service expansion.

Table 36. Annual Service Levels – Baseline Scenario

	2025	2030	2035	2040	2045	2050
Kilometres Travelled	2,000,757	2,000,757	2,000,757	2,000,757	2,000,757	2,000,757
Hours of Operation	81,958	81,958	81,958	81,958	81,958	81,958
Litres of Fuel Consumed	1,001,525	1,001,525	1,001,525	1,001,525	1,001,525	1,001,525

The annual operating and vehicle maintenance costs between 2025 and 2050 were calculated by multiplying the kilometres travelled by diesel buses by the estimated maintenance cost per kilometre and multiplying the hours of operation by the estimated hourly operating cost. Under the Baseline Scenario, the estimated total operating and maintenance costs were projected to be $360.5 million in YOE dollar terms ($143.1 million in discounted 2025-dollar terms).

Table 37. Annual O&M Costs, Selected years – Baseline Scenario (YOE$, millions)

	2025	2030	2035	2040	2045	2050
Annual Maintenance Cost	$2.7	$3.1	$3.6	$4.2	$4.9	$5.7
Annual Operating Cost	$6.6	$7.7	$8.9	$10.3	$12.0	$13.9
Total	**$9.4**	**$10.8**	**$12.6**	**$14.6**	**$16.9**	**$19.6**



DIESEL FUEL COST ESTIMATES

Under the Baseline Scenario, the only fuel required to operate the fleet is diesel. The annual diesel fuel costs were calculated based on the annual kilometres travelled included in **Table 36** above, the average fuel economy, and the cost of diesel. The estimated diesel fuel consumed by buses is calculated by multiplying the average fuel economy from Sault Ste. Marie's fleet data and the total kilometres travelled. The litres of fuel were then multiplied by the average price per litre of diesel detailed above. The diesel cost calculation is shown in **Table 38** below. Under the Baseline Scenario, the estimated total fuel costs were projected to be $70.3 million in YOE dollar terms ($27.3 million in discounted 2025-dollar terms).

Table 38. Annual Diesel Costs – Baseline Scenario (YOE$)

	2025	2030	2035	2040	2045	2050
Annual Cost (millions)	$1.7	$2.0	$2.4	$2.9	$3.4	$4.0

PARATRANSIT COST ESTIMATE

City of Sault Ste. Marie currently operates a paratransit service fleet with gasoline buses. Under the Baseline Scenario, it was assumed there is no transition to electric vehicles over the study period. The current paratransit fleet will be replaced by new gasoline buses on an as-needed basis. Capital purchases for the paratransit fleet was based on the projected retirement of existing vehicles and the future service expansion plan.

Table 39 summarizes the capital purchase plan of paratransit vehicles for selected years.

Table 39. Periodic Paratransit Capital Purchases

	2025 - 2030	2031 - 2040	2041 - 2050
Gasoline Bus	7	10	14

Table 40 displays the costs associated with the purchase schedule of paratransit BEB vehicles in.

Table 40. Periodic Paratransit Capital Cost Estimates (YOE$, Millions)

	2025 - 2030	2031 - 2040	2041 - 2050
Gasoline Bus	$1.3	$2.3	$4.4

Table 41 contains the annual maintenance costs for the paratransit vehicles.

Table 41. Paratransit Annual Operating and Maintenance Costs, Selected years (YOE$, Millions)

	2025	2030	2035	2040	2045	2050
Annual Operating	$3.7	$4.3	$4.9	$5.7	$6.6	$7.7
Annual Maintenance Cost	$0.2	$0.3	$0.3	$0.4	$0.4	$0.5

Table 42 summarizes the annual gasoline costs for the baseline scenario for selected years over the 2025 to 2050 period.

Table 42. Paratransit Annual Gasoline Costs (YOE$, Millions)

	2025	2030	2035	2040	2045	2050
Annual Cost	$0.36	$0.42	$0.49	$0.58	$0.68	$0.81

SUMMARY

Under the Baseline Scenario, the total cost of implementation was calculated as $265.0 million in discounted 2025 dollars. The total capital costs were $29.2 million. Total lifecycle O&M costs of $235.8 million include operations, maintenance, and propulsion costs. O&M made up the largest fraction of total costs with $203.0 million in costs. The costs are detailed in **Table 43** below.

Table 43. Baseline Scenario Summary, (Discounted 2025$, Millions)

Net Present Value, 2023$	Baseline
Lifecycle Capital Costs	**$29.2**
Diesel Buses	$26.3
Gasoline Parabuses	$2.9
Related Infrastructure	-
Lifecycle O&M	**$170.4**
Operations & Maintenance	$143.1
Propulsion	$27.3
Non-Revenue Lifecycle O&M	**$65.4**
Operations & Maintenance	$59.9
Propulsion	$5.5
Total	**$265.0**

BEB SCENARIO – MIXED BATTERY FLEET

This scenario examines the impact of transitioning to BEBs with a mixture of 525 kWh, 700 kWh, and 250 kWh battery sizes, and depot chargers. This section contains the assumptions and methodology considered.

CAPITAL COST ESTIMATES

The focus for the Mixed Battery Fleet BEB Scenario is the financial impact of the changes in fleet mix and associated capital infrastructure and service plans over the 2025 to 2050 period. **Figure 28** and **Figure 29** provide a graphical representation of the incremental replacement of all diesel buses with BEBs over this period in terms of the fleet mix and annual levels of service.



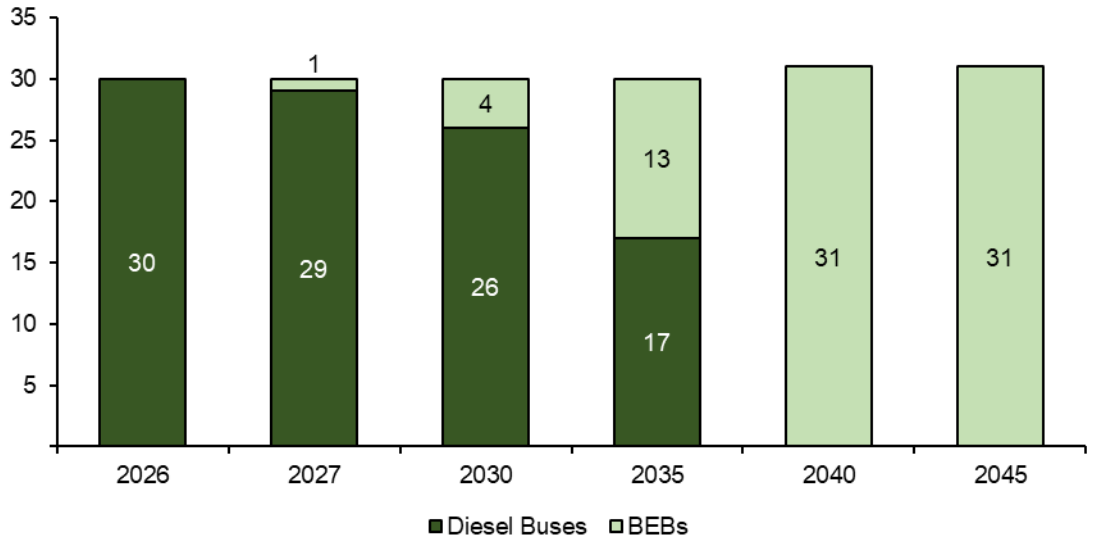


Figure 28. Annual Fleet Mix Assumptions, Selected Years – BEB Scenario

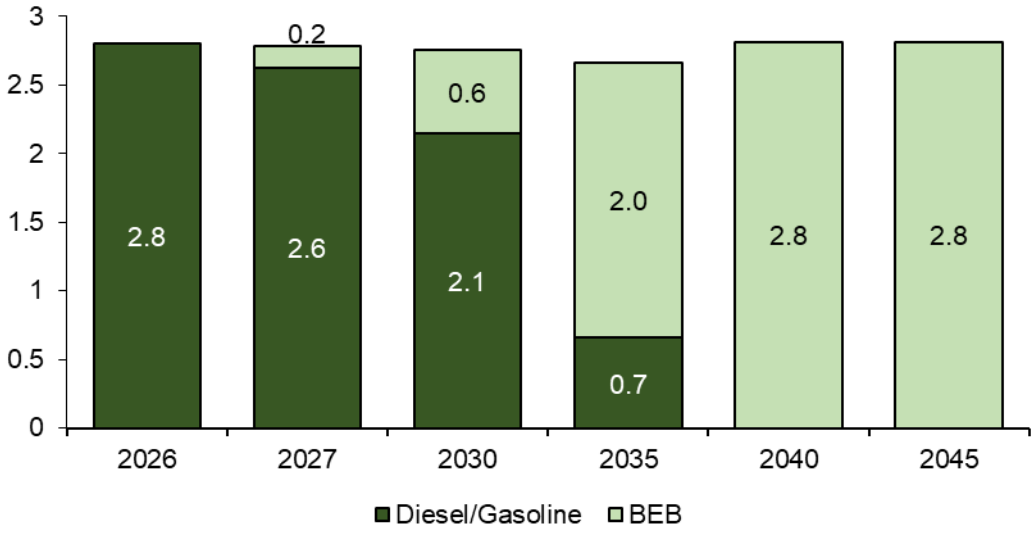


Figure 29. Annual Kilometres of Service by Bus Type, Selected Years – BEB Scenario (Millions of Kilometres)

Table 44 summarizes the planned capital purchases that will occur between 2025 and 2050 and indicates most capital costs will be associated with on-going replacement of diesel buses, and the acquisition.

Table 44. Capital Purchase Assumptions – BEB Scenario

	2025 - 2030	2031 - 2040	2041 - 2050
Diesel Bus	2	-	-
Battery Electric Bus	6	28	25
In-Depot Charger	12	3	-

BEBs were assumed to be purchased two years prior to entering service, and the purchase schedule of in-depot chargers, which were also assumed to be purchased two years prior to entering service, were aligned with the service schedule of BEBs.

Table 45 presents the cost estimates for divisions of the study period based on the unit cost, growth rate assumptions and the annual capital needs.

Table 45. Periodic Capital Cost Estimates – BEB Scenario (YOE$, Millions)

	2025 - 2030	2031 - 2040	2041 - 2050
Diesel Bus	$1.8	-	-
Battery Electric Bus	$13.3	$75.5	$93.4
Additional Infrastructure	$4.6	$8.1	-
Total	**$19.7**	**$83.6**	**$93.4**

Figure 30 below shows the implementation of BEBs in line with the number of dispensers in service based on the three-stage dispenser phasing plan. This phasing was determined based on additional infrastructure requirements for installing new dispenser equipment and the planned acquisition of BEBs.

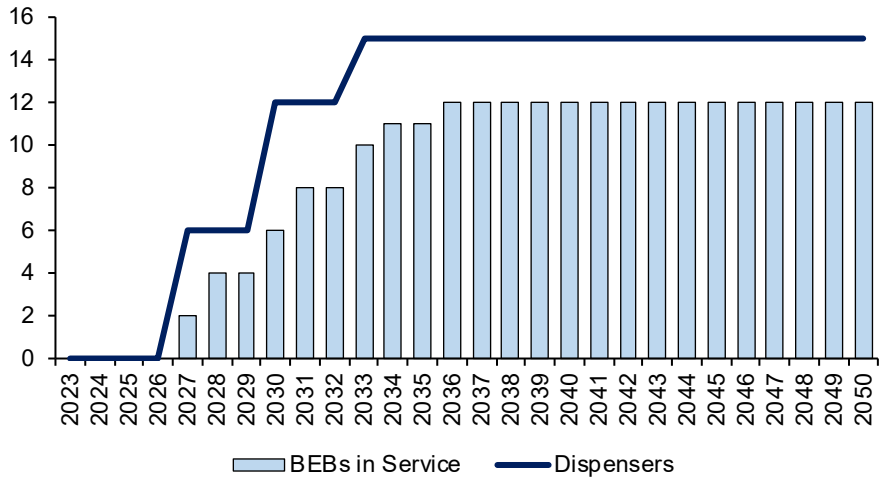


Figure 30. Peak Service BEBs & Dispensers in Service – BEB Scenario

Over the 2025 to 2050 period, total capital costs for the BEB Scenario were estimated to be $234.2 million in YOE dollar terms ($78.0 million in discounted 2025-dollar terms). As shown on the previous figures and tables, the bulk

of the BEB fleet transition would occur between 2030 and 2040, with the remaining diesel buses in service replaced by BEBs by 2038. To accommodate the BEB fleet, a total of fifteen (15) 150 kW in-depot dispensers will be acquired between 2025 and 2031.

O&M COST ESTIMATES

Figure 31 summarizes the change in annual O&M cost allocation among the fleet mix, including paratransit operations, under the BEB Scenario.

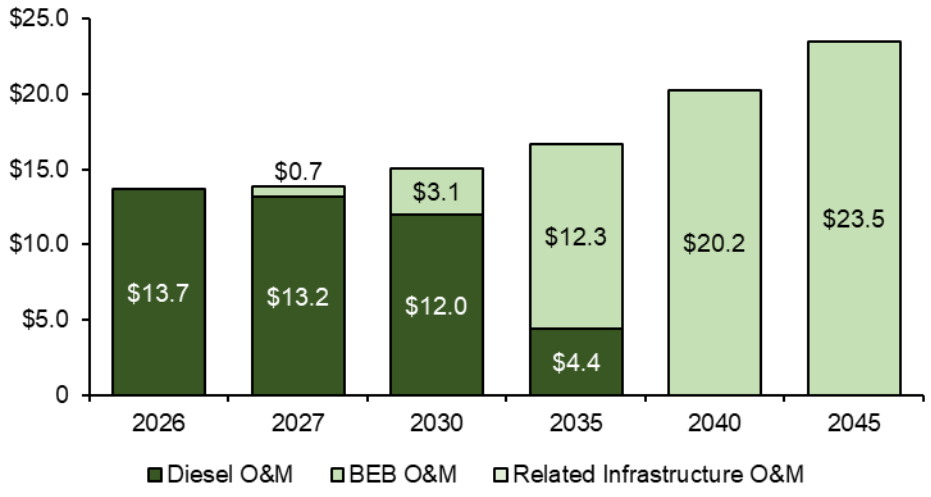


Figure 31. Annual O&M Costs by Bus Type – BEB Scenario (YOE$, Millions)

In the model, blocks were converted from diesel to electric buses using a two-step prioritization method. Blocks were prioritized first if they can be converted on a one-to-one basis (diesel to BEB) without the need for enroute charging infrastructure. After the initial conversion, BEBs were reprioritized based on blocks that can be converted on a one-for-one basis with the greatest total kilometers travelled.

Table 46 summarizes the incremental transition from diesel to BEBs and the associated change in the allocation of annual hours and kilometres of service among the vehicle types.

Table 46. Operational Statistics Travelled by Bus Type – BEB Scenario

	2025	2030	2035	2040	2045	2050
Diesel						
Kilometres	2,000,757	1,426,281	417,386	-	-	-
Hours	81,958	60,095	19,025	-	-	-
BEB						
Kilometres	-	522,333	1,439,669	2,000,694	2,000,694	2,000,694
Hours	-	20,043	57,302	82,167	82,167	82,167

Table 47 summarizes the annual vehicle maintenance costs, incremental labor costs, mid-life rehabilitation costs, and the annual EV chargers' maintenance costs between 2025 and 2050. As noted above, by 2040 the entire fleet has been transitioned to BEBs.

Table 47. Annual Operating and Maintenance Cost Estimates – BEB Scenario (YOE$, Millions)

	2025	2030	2035	2040	2045	2050
Diesel	$9.4	$7.9	$2.8	-	-	-
BEB	-	$2.6	$8.6	$14.2	$16.4	$19.1
Total	**$9.4**	**$10.5**	**$11.4**	**$14.2**	**$16.4**	**$19.1**

Under the Mixed Battery Fleet Scenario, it was estimated that operating and maintenance costs will total $351.0 million in YOE dollar terms ($139.5 million in discounted 2025-dollar terms), and reflect a combination of $95.9 million for vehicle maintenance and $255.1 million in operating costs.

DIESEL FUEL AND ELECTRICITY ESTIMATES

Under the BEB Scenario, **Table 48** shows the annual usage of diesel fuel and electricity for selected years between 2025 and 2050 period, which was then multiplied by the unit rate to derive the annual cost estimate, as shown in **Table 49**. These costs were estimated to be $15.2 million for diesel and $9.1 million for electricity in YOE dollar terms ($11.1 million and $2.7 million respectively in discounted 2025-dollar terms).

Table 48. Fuel and Electricity Cost Drivers – BEB Scenario

	2025	2030	2035	2040	2045	2050
kWh Usage	-	623,701	1,867,865	2,645,516	2,645,516	2,645,516
Litres of Fuel Consumed	1,001,525	714,137	209,425	688	688	688

Table 49. Annual Fuel and Electricity Cost Estimates – BEB Scenario (YOE$, Millions)

	2025	2030	2035	2040	2045	2050
Annual Diesel Fuel Costs	$1.7	$1.5	$0.5	-	-	-
Annual Electricity Costs	-	$0.1	$0.3	$0.5	$0.6	$0.7
Total	**$1.7**	**$1.5**	**$0.8**	**$0.5**	**$0.6**	**$0.7**

Electricity and fuel costs change substantially over time under the BEB Scenario. This is illustrated in **Figure 32** below, which also include costs from paratransit operations.

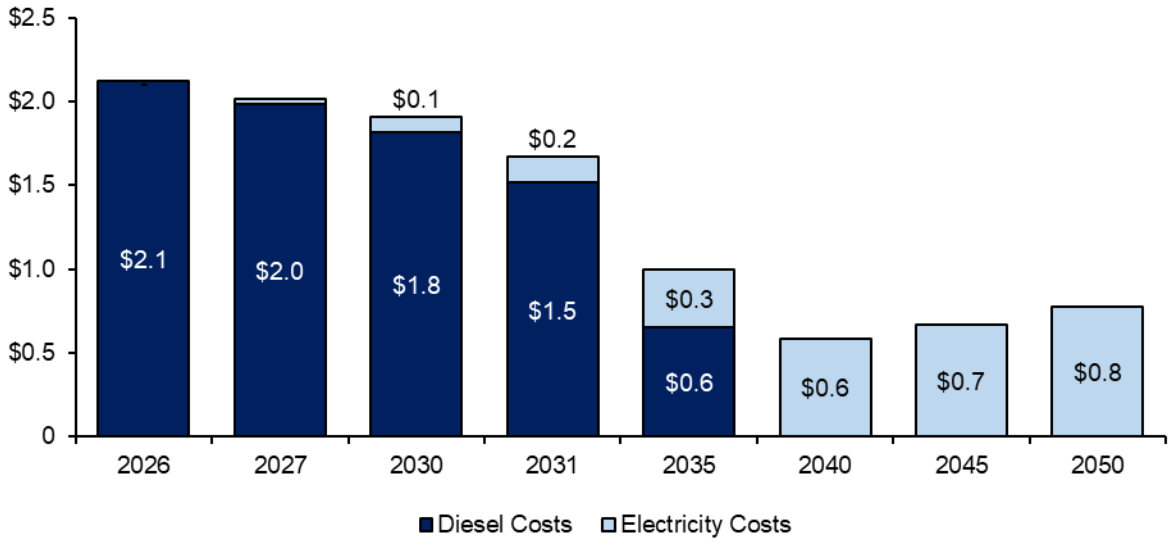


Figure 32. Electricity and Diesel Costs, Selected Years, (YOE$, Millions)

PARATRANSIT OPERATIONS

Sault Ste. Marie operates a paratransit service fleet along with its conventional fleet. Capital purchases for the paratransit fleet based on the fleet replacement schedule of existing vehicles and the planned introduction of new vehicles to the fleet are shown in **Table 50**. Chargers for paratransit vehicles are included with the phased infrastructure plan outlined in **Table 31**.

Table 50. Paratransit Capital Purchases, Selected Years – BEB Scenario

	2025 - 2030	2031 – 2040	2041 - 2050
Gasoline Bus	-	-	-
Battery Electric Bus	7	10	14

The table below displays the costs associated with the purchase schedule of paratransit BEB vehicles in **Table 51**.

Table 51. Paratransit Capital Cost Estimates, Selected years – BEB Scenario (YOE$, Millions)

	2025 - 2030	2031 - 2040	2041 - 2050
Gasoline Bus	-	-	-
Battery Electric Bus	$1.6	$2.8	$5.2
Total	**$1.6**	**$2.8**	**$5.2**

Table 52 contains the annual maintenance costs for the paratransit vehicles indicating the planned introduction of BEBs.

Table 52. Paratransit Annual Operating and Maintenance Costs, Selected years – BEB Scenario (YOE$, Millions)

	2025	2030	2035	2040	2045	2050
Gasoline Bus	3,912,480	$4,082,073	$1,577,414	-	-	-
Battery Electric Bus	-	$450,742	$3,657,733	$6,057,593	$7,022,411	$8,140,899
Total	**$77,680**	**$109,881**	**$127,382**	**$132,904**	**$154,072**	**$178,612**

Table 53 summarizes the fuel and electricity cost estimates for the paratransit BEB scenario for selected years over the 2025 to 2050 period.

Table 53. Fuel and Electricity Cost Drivers and Annual Cost Estimates – BEB Scenario (YOE$)

	2025	2030	2035	2040	2045	2050
Annual Fuel Costs	$363,740	$356,506	$140,325	-	-	-
Annual Electricity Costs	-	$6,640	$53,819	$89,738	$103,364	$118,764
Total	**$54,243**	**$72,557**	**$98,124**	**$3,012**	**$3,492**	**$4,048**

SUMMARY

Under the Mixed Battery Fleet Scenario, the total cost of implementation was estimated to be $293.6 million in discounted 2025 dollars. The total capital costs are $78.0 million. Total lifecycle O&M costs of $215.6 million include operations, maintenance, and propulsion costs. O&M makes up the largest fraction of total costs with over $199.1 million in costs. Overall, the transition would cost an additional $28.6 million dollars relative to maintaining a diesel fleet.



Table 54. Mixed Battery Fleet Scenario Summary, (Discounted 2025$, Millions)

Net Present Value, 2023$	BEB – Mixed Battery
Lifecycle Capital Costs	**$78.0**
Buses	$67.0
Non-Revenue	$3.5
Related Infrastructure	$7.4
Lifecycle O&M	**$153.3**
Operations & Maintenance	$139.5
Propulsion	$13.8
Non-Revenue Lifecycle O&M	**$62.3**
Operations & Maintenance	$59.6
Propulsion	$2.7
Total	**$293.6**

LIFECYCLE COST COMPARISON

This section provides a comparison of the capital, O&M, and fuel/electricity cost estimates between the two scenarios over the entire 2025-2050 period. All values are presented in NPV terms, unless otherwise noted.

FIXED ROUTE TRANSIT FLEET

Capital Cost Comparison

Table 55 provides a comparison of total capital costs between the two scenarios. As shown in the table, the BEB Scenario is more than twice as expensive due primarily to the difference in vehicle costs as well as the additional equipment and infrastructure investments that would be required for BEB implementation.

Table 55. Conventional Fleet Capital Cost Comparison (Discounted 2025$, Millions)

	Baseline	BEB – Mixed Battery	Variance
Diesel Buses	$26.3	$1.8	-$24.5
BEBs	-	$65.2	$65.2
Total Fleet Purchases	**$26.3**	**$67.0**	**$40.8**
Additional Infrastructure	-	$7.4	$7.4
Total	**$26.3**	**$74.5**	**$48.2**

Operations and Maintenance Cost Comparison

Table 56 provides a comparison of total operating and maintenance cost estimates over the 2025 to 2050 period based on the assumptions described in the prior sections. As mentioned earlier the primary unknown for O&M costs is vehicle maintenance costs for BEBs. The technology is still relatively new and long-term detailed analysis of vehicle maintenance costs is not presently available.



Table 56. Conventional Fleet O&M Cost Comparison (Discounted 2025$, Millions)

	Baseline	BEB – Mixed Battery	Variance
Diesel O&M Costs	$143.1	$61.1	-$46.5
BEB O&M Costs	-	$78.5	$44.3
BEB Charger Maintenance Costs	-	-	$0.6
Total	**$143.1**	**$139.5**	**-$3.6**

Fuel and Electricity Costs Comparison

Finally, **Table 57** provides a comparison of total costs for diesel fuel and electricity over the 2025 to 2050 period. Based on the assumptions in this analysis, BEB would have lower fuel and electricity costs on a discounted basis.

Table 57. Conventional Fleet Fuel and Electricity Cost Comparison (Discounted 2025$, Millions)

	Baseline	BEB – Mixed Battery	Variance
Diesel Costs	$27.3	$11.1	-$16.2
Electricity Costs	-	$2.7	$2.7
Total Costs	**$27.3**	**$13.8**	**-$13.6**

PARATRANSIT OPERATIONS COMPARISION

Table 58 provides a comparison of total capital costs between the two scenarios. As shown in the table, the BEB Scenario is almost twice as expensive as the Baseline Scenario.

Table 58. Paratransit Fleet Capital Cost Comparison (Discounted 2025$, Millions)

	Baseline	BEB – Mixed Battery	Variance
Gasoline Buses	$2.9	-	-$2.9
BEBs	-	$3.5	$3.5
Total	**$2.9**	**$3.5**	**$0.6**

Table 59 provides a comparison of total operating and maintenance cost estimates over the 2025 to 2050 period based on the assumptions described in the prior sections.

Table 59. Paratransit Fleet O&M Cost Comparison (Discounted 2025$, Millions)

	Baseline	BEB – Mixed Battery	Variance
Gasoline Buses	$59.9	$24.0	-$35.9
BEBs	-	$35.7	$35.7
Total	**$59.9**	**$59.6**	**-$0.3**

Finally, **Table 60** provides a comparison of total costs for gasoline and electricity over the 2025 to 2050 period. Based on the assumptions in this analysis, BEB would have lower fuel and electricity costs on a discounted basis.



Table 60. Paratransit Fleet Fuel and Electricity Cost Comparison (Discounted 2025$, Millions)

	Baseline	BEB – Mixed Battery	Variance
Gasoline Costs	$5.5	$2.1	-$3.4
Electricity Costs	-	$0.5	$0.5
Total Costs	**$5.5**	**$2.7**	**-$2.8**

NET PRESENT VALUE ANALYSIS

An NPV analysis was conducted to compare the BEB Scenario (for both fixed route and paratransit fleets) to the Baseline Scenario. Costs over the 2025 to 2050 period are presented in 2025 dollars, discounted at 8%. The analysis evaluates the direct cost impacts to the City of Sault Ste. Marie to understand the additional costs of implementing a BEB transition plan relative to operating business-as-usual.

The analysis only looks at direct cost impacts to Sault Ste. Marie and does not attempt to monetize public benefits to society.

Additionally, the analysis assumes that capital costs will not be offset by grant or incentive funding. Including additional funding sources, such as ICIP or ZETF, may affect the results of the analysis. However, since these funds have not been applied for or secured by Sault Ste. Marie, they are not included in this analysis.

The transition to BEBs is anticipated to cost $28.6 million (discounted 2025 dollars) more than maintaining a fully diesel fleet relative to the Mixed Battery Fleet scenario. The result shows that the higher capital costs of acquiring BEBs will not be offset by O&M and propulsion cost savings relative to the Baseline Scenario.

Table 61. Overall Lifecycle Cost Comparison (Discounted 2025$, Millions)

Net Present Value, 2023$	Baseline	BEB – Mixed Battery	Variance
Lifecycle Capital Costs	**$29.2**	**$77.4**	**$48.2**
Buses	$26.3	$67.0	$40.8
Non-Revenue	$2.9	$3.5	$0.6
Related Infrastructure	-	$7.4	$7.4
Lifecycle O&M	**$170.4**	**$153.3**	**-$17.1**
Operations & Maintenance	$143.1	$139.5	-$3.6
Propulsion	$27.3	$13.8	-$13.6
Non-Revenue Lifecycle O&M	**$65.4**	**$62.3**	**-$3.1**
Operations & Maintenance	$59.9	$59.6	-$0.3
Propulsion	$5.5	$2.7	-$2.8
Total	**$265.0**	**$293.6**	**$28.6**

INFRASTRUCTURE FINANCING OPTIONS

There are several funding and financing opportunities available to the City of Sault Ste. Marie to secure funding for its zero-emission vehicle (ZEV) fleet transition. The two primary funding sources are the Investing in Canada Infrastructure Program (ICIP) [14], and the Zero Emission Transit Fund (ZETF) [15].

The ICIP is administered by Infrastructure Canada and has invested $131 billion in over 85,000 projects. This program has already funded several other municipalities' transit fleet buses, including conventional transit and other mobility services. The federal government will invest up to 40% for most municipal public transit costs, though this may increase up to 50% for rehabilitation projects. Funding allocated to Infrastructure Canada is divided among the provinces who distribute funding by municipality.

The ZETF is administered by the Canadian Infrastructure Bank, and targets projects that enable or implement transit fleet electrification. The ZETF offers flexible financing solutions, including grants and loans to applicants. ZETF funding decisions are determined by project viability, estimated operational savings, and estimated GHG emission reduction. Over $2.75 billion in funding has been distributed through the ZETF program to numerous municipal transit agencies.

Funding from either program may be used to offset planning, capital, and some operating costs associated with transitioning diesel fleets to BEBs or alternative fuel technologies. As this funding has not been secured by the City of Sault Ste. Marie, it is not included in this analysis.

In addition to government support for capital funding, transit agencies that operate BEBs in Ontario can take advantage of the Canadian Low Carbon Fuel Standard (LCFS) by generating credits for the low-carbon electricity they use to charge their buses. [16] The LCFS is a performance-based regulation that sets carbon intensity reduction targets for fuel suppliers. Fuel suppliers that exceed their targets can generate credits that can be sold to other suppliers who are unable to meet their targets. Transit agencies that operate electric buses can generate credits by voluntarily reporting the amount of low-carbon electricity they use to charge their buses. These credits can be sold to fuel suppliers who are unable to meet their targets, generating additional revenue for transit agencies. The value of these credits is determined based on market forces and is affected by the supply and demand of credits. As the value of these credits are not yet known, the value they would generate are not included in the current financial analysis.

[14] https://www.infrastructure.gc.ca/plan/icp-pic-INFC-eng.html?wbdisable=true

[15] https://www.infrastructure.gc.ca/zero-emissions-trans-zero-emissions/zetf-applicant-guide-demandeur-ftcze-eng.html

[16] https://www.canada.ca/en/environment-climate-change/services/managing-pollution/energy-production/fuel-regulations/clean-fuel-regulations/regulatory-design.html#toc1

APPENDIX D: GHG EMISSIONS ANALYSIS

Greenhouse gas (GHG) emission reductions is an additional benefit of transitioning from diesel buses to BEBs. Supplementary calculations were completed to quantify the impacts of BEB operations on GHG emissions relative to the Baseline Scenario.

ASSUMPTIONS AND METHODOLOGY

The analysis quantified GHG impacts based on estimates of diesel fuel and electricity usage by conventional transit buses over the 2025-2050 period. The following assumptions were used to quantify emissions based on litres of fuel and kWh of electricity consumed.

The emission rate for diesel fuel is 2.681 kilograms (kgs) of carbon dioxide (CO_2) per litre of fuel. This value was obtained from the Canadian National Inventory Report, 2023.[17] The emission rate was multiplied by the annual litres of fuel consumed to calculate the annual kgs of CO_2 emitted. To quantify the impact of electricity usage on GHG emissions, the total kWh of electricity used per year was multiplied by the corresponding Electricity Emission Intensity factor for Ontario from 2025 to 2050. This factor represents the kg of CO_2 per kWh based on the average electricity grid mix for the province. The intensity factor declines over time due to anticipated introduction of new renewable power generation sources. The Electricity Emission Intensity Factor was obtained from the Average Grid Electricity Emission Intensities table in the ZETF GHG+ Guidance Modules, Annex C. For 2025, this value is 0.04 kgs of CO_2/kWh.

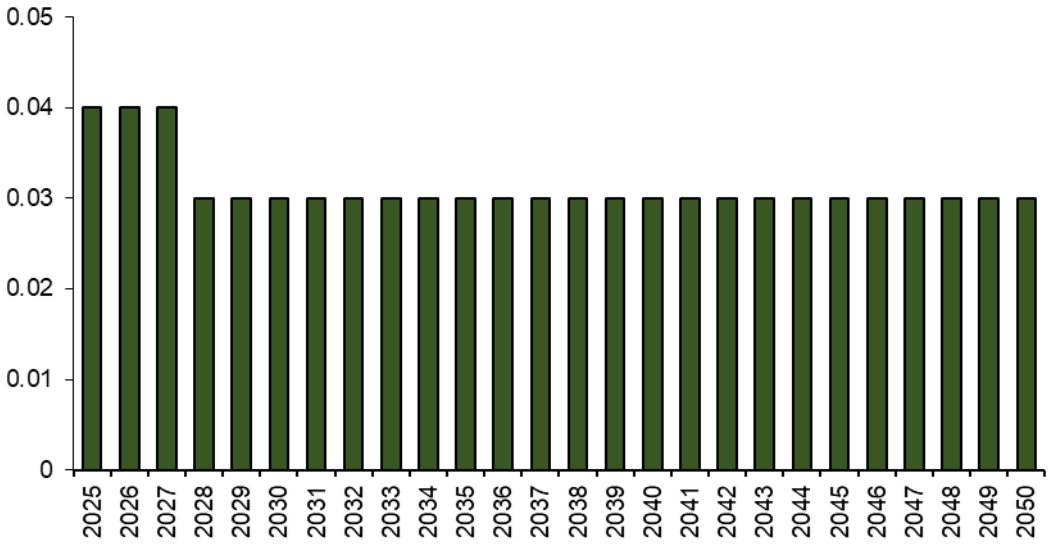


Figure 33. Emission Intensity Factors for Ontario, 2025-2050, kgs CO2/kWh

GHG EMISSION REDUCTION IMPACTS

Based on the assumptions above, the GHG emissions from BEB operations are summarized in **Table 62** below. Over the study period, BEBs will reduce emissions by approximately 47,600 tonnes.

[17] Canada's official greenhouse gas inventory - Canada.ca

Table 62. GHG Emissions, Baseline and BEB Scenarios, Selected Years and Total, Tonnes

	2025 Snapshot	2030 Snapshot	2040 Snapshot	Cumulative Total
Baseline Scenario	**3,149**	**3,149**	**3,149**	**80,939**
Diesel Buses	2,685	2,685	2,685	69,812
Gasoline Parabuses	464	464	464	11,127
BEBs	-	-	-	-
BEB Transition Scenario	**3,149**	**2,352**	**97**	**25,855**
Diesel Buses	2,685	1,914	-	20,769
Gasoline Parabuses	464	417	0	3,338
BEBs	-	21	95	1,714
+Diesel Auxiliary Heating	-	0	2	33
Percent Reduction in Transition to BEB	**0%**	**25%**	**97%**	**68%**

This reduction is due to the dramatically lower operating emissions of BEBs relative to diesel buses**. Figure 34** below shows the annual GHG emissions from operations as the fleet mix changes in the BEB Scenario. There is a substantial decline from approximately 3,100 tonnes of GHGs per year in 2025 to just below 100 tonnes per year in the BEB Scenario.

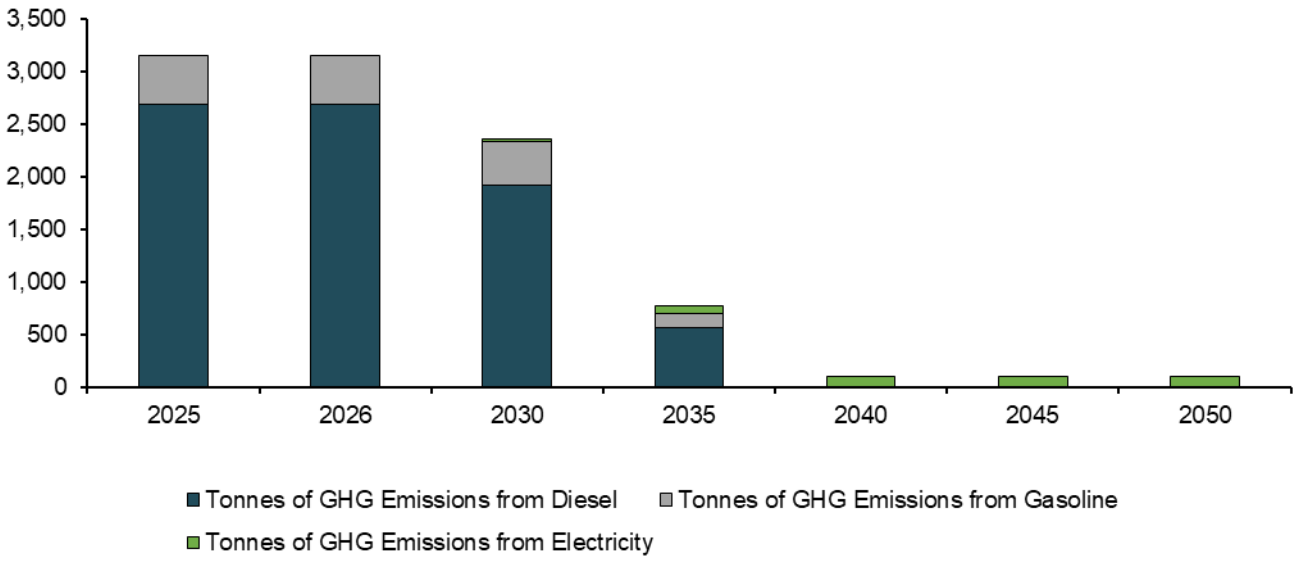


Figure 34. Annual GHG Emissions, BEB Scenario, Tonnes

The cumulative reduction in GHG emissions is shown in **Figure 35** below. The annual reduced emissions grow substantially over time as the diesel fleet is converted to BEBs. By the end of the transition to BEBs, emissions are reduced by approximately 95%.

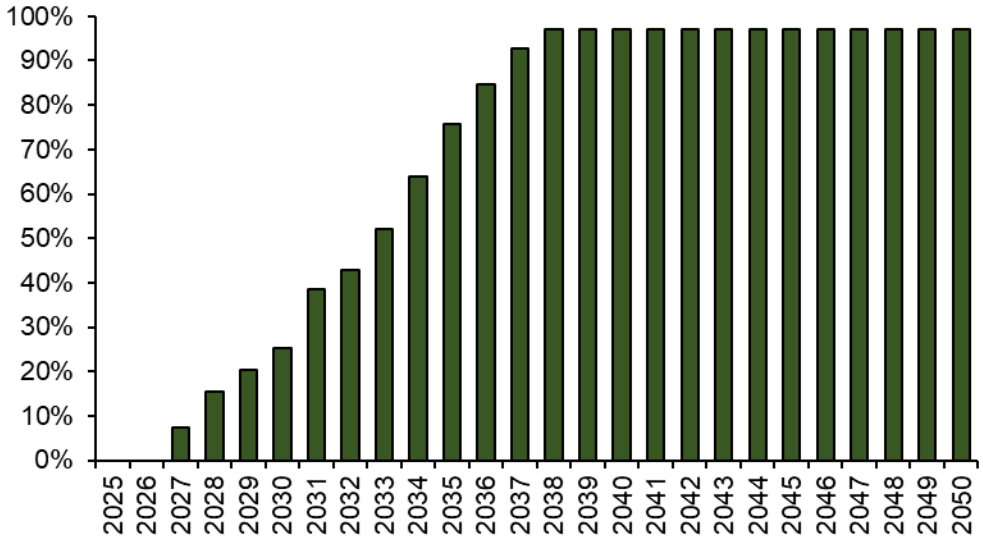


Figure 35. Cumulative Percentage GHG Reductions from Baseline in BEB Transition Scenario

APPENDIX E: OPTA WS1B CURRICULUM

WS1B-1: ZEB Safety

EV Systems Electrical: Arc Flash & High Voltage Work – LOTO, SOPs, etc.

- Developing and overseeing industry guidelines related to working around all high voltage (HV) components.
- Perform a hazardous/arc flash risk assessment on high voltage work.
- Create SOPs on specific procedures when conducting HV work
- Electrical hazards & employee protection strategies
- Regulations & Standards (NFPA 70E / CSA Z462-21)
- Understand the approach distances and determining factors for shock and arc boundaries
- PPE and tools for shock protection
    - Voltage rated (VR) gloves
    - Hard hats (Class E)
    - EH & DI footwear
    - insulated tools
    - insulated barriers
    - VR garments)
- Understanding and implement Lockout/Tagout (LOTO) procedures
- Vehicle rooftop safety

BEB Thermal Events: Theory, Risk, & Mitigation

- Definition of thermal runaway.
- Determine the temperature trigger point set in the OEM software
- Know the main causes of a thermal event
- Determine the type of risks involved when a thermal event has occurred
- How to deal with a thermal runaway event on property or on route – employee & public safety
- Involve First Responders – quick reference guides, annual facility walk-throughs and offer first responder training on your BEB bus technology
- How do we park the BEB inside your facility
- After a BEB bus fire determine who, when & where should the unit be staged

BEB Electromagnetic Interface (EMI): Theory, Risk & Mitigation

- Definition of EMI
- How to identify different types of hazards & risks with EMI
- Who would be affected with EMI (operators or maintenance technicians)

WS1B-2: ZEB Training

Operator BEB Training Considerations & Guidelines

- What type of training do the operators require to safely operate a ZEB
- Quick reference guides to follow and understand with starting procedures, instrumentation and controls, dashboard signs, and the LCD screen indicators
- Operator vehicle Inspection/circle check
- Driver's area safety checks
- Charging en-route – loading & unloading passengers
- Emergency vehicle evacuation & shutdown
- Vehicle operation
- Operator safety Information

Maintenance BEB Training Considerations & Guidelines

- What type of HV training is involved for all maintenance staff (forepersons/supervisors & managers)
- HV certification training for authorized technicians (BEB)
- HV and low voltage basic, intermediate and advanced electricity
- HV and low voltage electrical systems of the vehicle
- Shop safety practices and procedures
- First aid including CPR and the use of the shop defibrillator (AED)
- Quickest method of shutting down HV
- HV and arc flash safety

ZEB Academia & Certifications/Endorsements (OPTA Maintenance Committee; eMobility Training Subcommittee reporting in; STO)

- OEM – HV Safety training
- OEM - HV certification training
- Skilled Trades Programs

WS1B-3: ZEB Maintenance

BEB PM Program Elements

- Visually inspecting and maintaining:
  - Inverters
  - On-board chargers
  - High voltage cabling & connections
  - Overhead charging rails – cleaning and measuring (special grease)
  - Battery casing & batteries rack inspection
  - Plug in charging ports – connector lock function, rubber plugs
  - Traction motor (special grease)
  - Cooling and heating
- Weekly, monthly, quarterly, six month and yearly maintenance

BEB Maintenance-Specific KPIs and Comparative Analysis (Feeds WS1C)

- Energy Consumed Driving + Energy Idled - Energy Regenerated/Distance Driven

HV System Inspection Requirements (MTO NSCS11B)

- Scheduled semi or annual inspections on all HV BEB
- Standard/guidelines on what a qualified technician will need to complete on an BEB inspection

APPENDIX F: SITE PLAN & SINGLE LINE DIAGRAM



1 EV100 EXTERIOR BUS PARKING - GROUND FLOOR EVSE LAYOUT
1/16" = 1'-0"

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ISSUE	DATE	DESCRIPTION

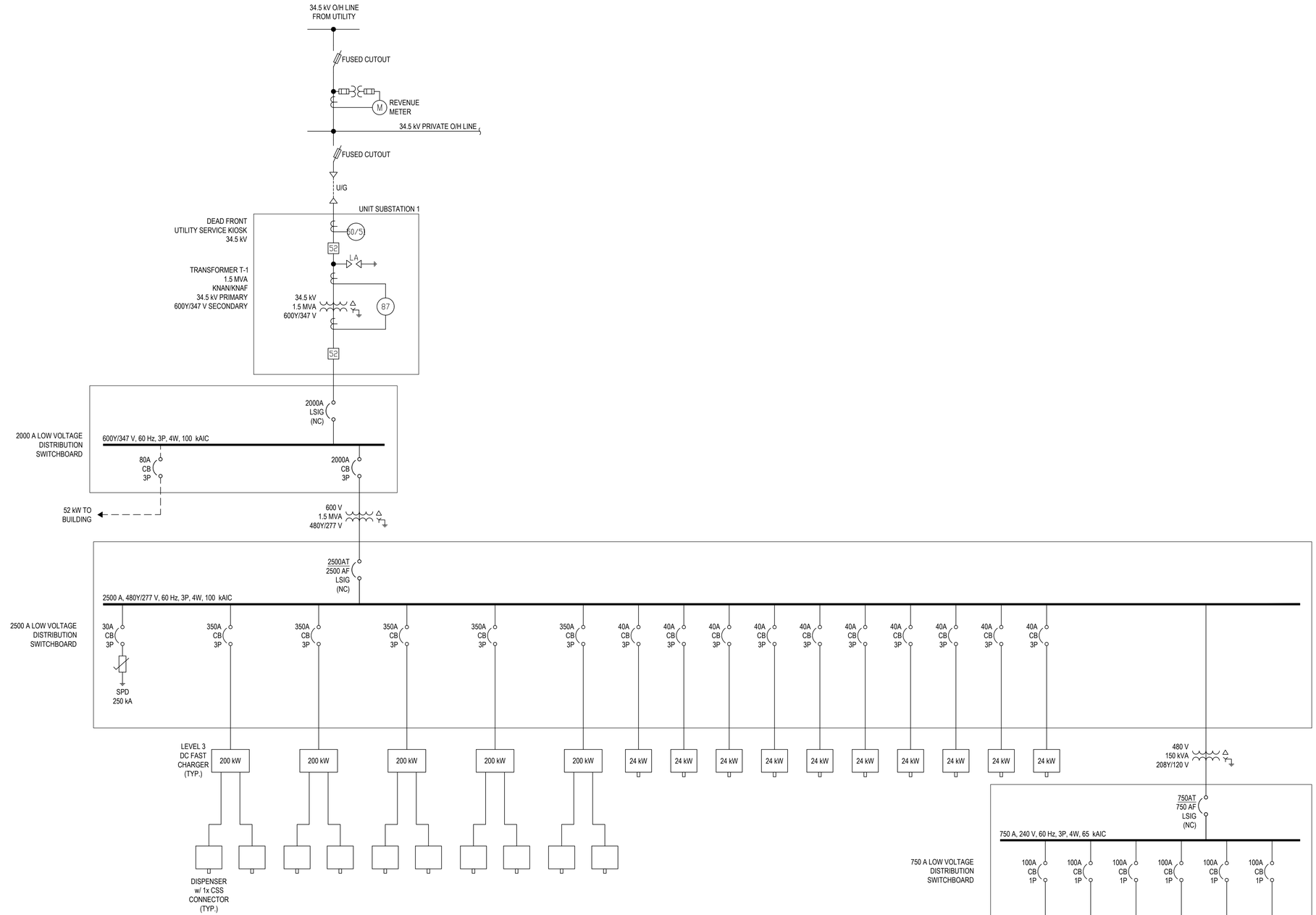
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ARCHITECTURE	XXX
EQUIPMMENT	XXX
CIVIL	XXX
STRUCTURAL	XXX
MEP+FP	XXX
SURVEY	XXX
PROJECT NUMBER	10398201

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

TRANSIT MAINTENANCE FACILITY

FILENAME | EVSE LAYOUT
SCALE | 1/16" = 1' - 0"

SHEET
EV100



1 EV101 ONE-LINE DIAGRAM - PHASE 2

NTS

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ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	JONATHAN CHAI
ARCHITECTURE	XXX
EQUIPMMENT	XXX
CIVIL	XXX
STRUCTURAL	XXX
MEP+FP	XXX
SURVEY	XXX
PROJECT NUMBER	10398201

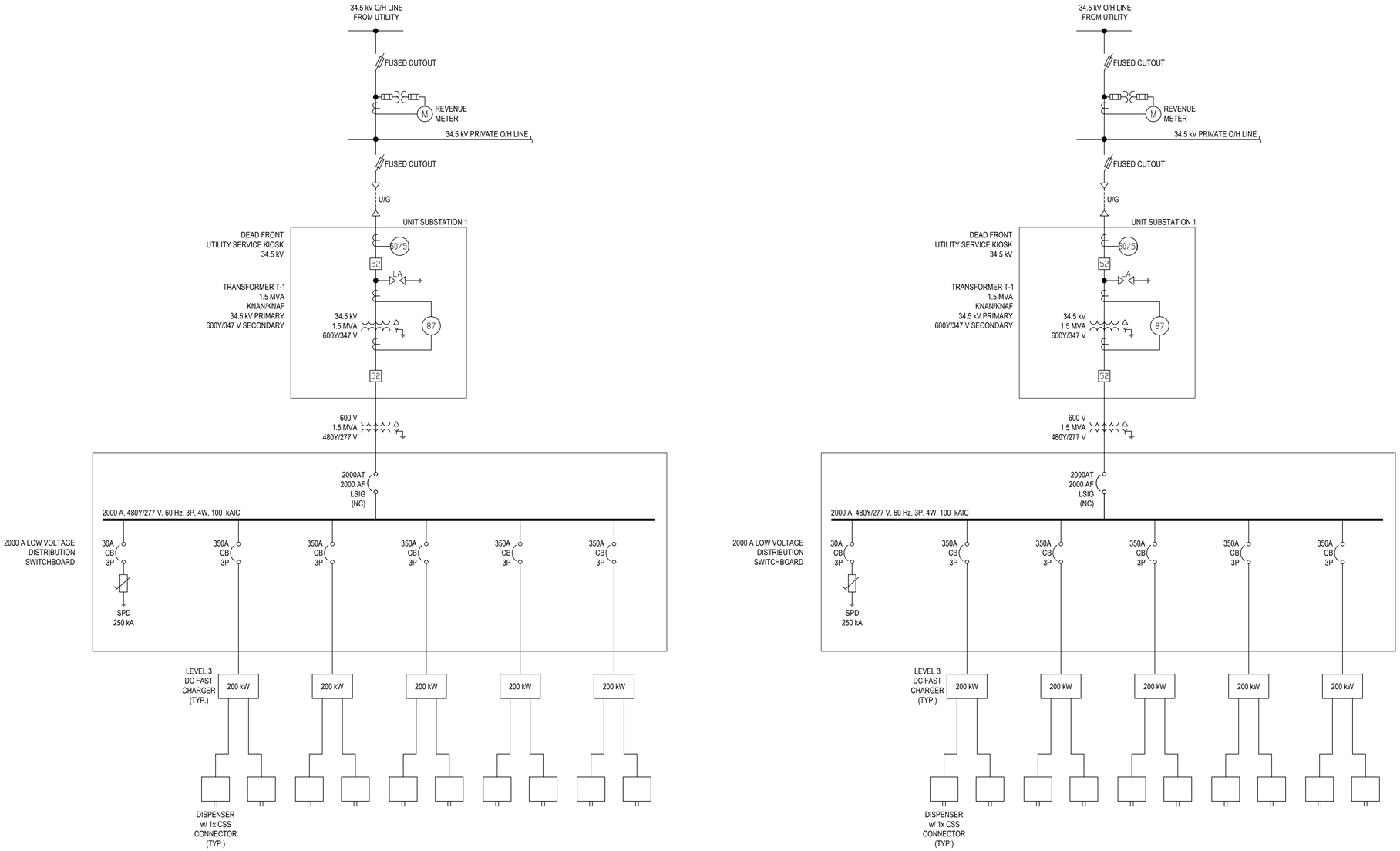
**PRELIMINARY
NOT FOR
CONSTRUCTION OR
RECORDING**

City of Sault Ste. Marie

TRANSIT MAINTENANCE FACILITY

FILENAME: ONE-LINE DRAWING - PHASE 2
SCALE: NTS

SHEET
EV101



1 EV102 ONE-LINE DIAGRAM - PHASE 3

NTS

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9/22/2024 7:02 PM

ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	JONATHAN CHAI
ARCHITECTURE	XXX
EQUIPMMENT	XXX
CIVIL	XXX
STRUCTURAL	XXX
MEP+FP	XXX
SURVEY	XXX
PROJECT NUMBER	10398201

**PRELIMINARY
NOT FOR
CONSTRUCTION OR
RECORDING**

City of Sault Ste. Marie

TRANSIT MAINTENANCE FACILITY

FILENAME: ONE-LINE DRAWING - PHASE 3
SCALE: NTS

SHEET
EV102

The Corporation of the
City of Sault Ste. Marie

C O U N C I L R E P O R T

July 14, 2025

TO:	Mayor Matthew Shoemaker and Members of City Council
AUTHOR:	Joe Turpin, Manager of Business Attraction, Economic Development
DEPARTMENT:	Community Development and Enterprise Services
RE:	Municipal Support Resolution – Proposed Wind Farm Project

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Purpose

The purpose of this report is to seek Council support for EDF Power Solutions Development Inc.'s (EDF) proposed wind farm in the form of a Municipal Support Resolution (MSR).

Background

EDF is proposing to construct and operate a long-term energy project (wind farm) partially located on City of Sault Ste. Marie municipal land under the Long-Term 2 Energy Supply Request for Proposals (LT2) issued by the Independent Electricity System Operator (IESO). The Economic Development Team has been working with EDF since December 2023.

Analysis

EDF has over 100 employees in Canada and started developing and operating energy projects in Canada in 2008. Their parent company is based in France. Company Website: https://www.edf-re.com/ca/ EDF is looking to submit a bid to the IESO LT2 RFP process in October 2025. IESO is expected to announce successful projects in Q1 of 2026. If successful, the wind assets are expected to be operational by 2030.

The project size is expected to be 100 to 200MW, with EDF hoping to be closer to 200MW. Each wind turbine is expected to generate 5MW of energy so there are expected to be 40 wind towers. For reference, the Prince Wind Farm is 189MW and has 126 wind towers.

EDF has secured land for the project near the existing Prince Wind farm. The project may be located across three municipal jurisdictions. It is estimated that 50% of the wind turbines will be within Sault Ste. Marie City limits. EDF has installed a meteorological tower to evaluate wind performance.

Comments from City Planning: On a very preliminary basis, it would appear that the wind turbines will be located in the Precambrian Uplands area of the City. Based upon current Official Plan land use policies and Zoning regulations, it appears that an Official Plan Amendment and rezoning will be required. It is worth noting that Council providing EDF with an MSR does not in any way suggest approval of any future *Planning Act* applications or other regulatory approvals which may be required. The MSR simply allows EDF to proceed with an application to the IESO. EDF is aware of the likely need for *Planning Act* approvals should their application to the IESO be approved.

The project information below assumes a 200MW wind project:

- Investment Size – Estimated at $580 million.
- Impact on Employment:
  - Construction Phase (lasting 18-24 months): There are an estimated 100 construction jobs, which would peak at 200. This would have an estimated direct and indirect economic impact of $26 million.
  - Ongoing Jobs: There are estimated to be four ongoing jobs plus relevant contracts with local companies to maintain the site. Estimated direct and indirect economic impact of $20,000 per annum.
- Municipal Agreement – EDF and the City would enter into a legally binding agreement that would outline community benefit payments to the City starting in 2030 and ongoing annually for 20 years.
  - Annual payment of $3,000 per MW per turbine in City limits. Estimated to be $300,000 (estimated 50% of project or 100MW).
- Community Based Fund – Starting in 2030, annual funds of $25,000 that community-based organizations can apply to receive funding.
- Increase in Property Taxes – Positive impact to property tax will be estimated once location of towers are finalized.
- Property Owners
  - Will benefit from lease payments.
  - Neighbouring properties will also receive financial benefit even if wind turbines are not located on their property.
- To demonstrate community support, EDF has a desire to provide community funding to local organizations during the lead up to the 2030 in-service date.

This wind project would continue to position the City as the Alternative Energy Capital of North America. The additional local renewable power generation would also assist in attracting companies requiring large amounts of renewable power.

Financial Implications

As outlined above, the total estimated annual financial impact to the City starting in 2030 could be up to $345,000.

There are no immediate financial implications from Council signing this municipal support resolution.

Strategic Plan / Policy Impact / Climate Impact
As a municipality committed to achieving net-zero emissions by 2050, EDF's application to develop a wind farm will contribute clean, renewable energy to Ontario's grid. Further, this will continue to support the City's use of renewable electricity and would also move the City closer to its environmental and sustainability goals.

Recommendation
It is therefore recommended that Council take the following action:

Resolved that the report of the Manager of Business Attraction, Economic Development dated July 14, 2025 concerning the proposed wind farm project be received and that Council approve the municipal support resolution as outlined below:

Whereas the Independent Electricity System Operator (IESO) expects to issue the Long-Term 2 Request for Proposal (LT2 RFP) to competitively procure 1,500 MW of non-emitting energy-producing resources; and

Whereas the LT2 RFP requires proponents to show evidence of having obtained support in the form of a municipal support resolution from each local municipality in whose jurisdiction the Long-Term energy-producing project is proposed to be located; and

Whereas one or more of these energy-producing systems may be constructed and operated within City of Sault Ste Marie municipal boundaries by EDF Power Solutions Development Inc. or any of its affiliates or subsidiaries formed for the purposes of this LT2 RFP, as applicable (the "Proponent"); and

Whereas new non-emitting supply is expected to be cost competitive, clean and renewable such as wind and solar generation.

Now Therefore Be It Resolved that:

1. The Council of the City of Sault Ste. Marie supports the EDF submission of a Proposal for the Long-Term Energy Project located on the Municipal Project Lands;
2. This resolution's sole purpose is to satisfy the mandatory requirements of Section 4.2(b)(iii) of the LT2(e-1) RFP and may not be used for the purpose of any other form of approval in relation to the Proposal or Long-Term Energy Project or for any other purpose;
3. That this municipal support resolution does not supersede any applicable permits or approvals under applicable laws and regulations that may be required for a Project;
4. That the Proponent must engage with relevant City of Sault Ste. Marie staff to meet all *Planning Act* approvals, permits, and requirements; and
5. Relevant City of Sault Ste. Marie staff be directed to work with the Proponent to complete and execute any additional resolution(s) required

by the IESO under the LT2 RFP to evidence support from the City of Sault Ste. Marie for the Project and necessary work/forms required by the IESO or Hydro One for the submission of the Project.

The relevant By-Law 2025-115 is listed under Agenda item 12 and will be read with all by-laws under that item.

Respectfully submitted,

Joe Turpin
Manager, Business Attraction
705-989-5192
j.turpin@cityssm.on.ca

The Corporation of the
City of Sault Ste. Marie

C O U N C I L R E P O R T

July 14, 2025

TO:	Mayor Matthew Shoemaker and Members of City Council
AUTHOR:	Nicholas Cicchini, Junior Planner
DEPARTMENT:	Community Development and Enterprise Services
RE:	A-6-25-Z 99 Melville Road

PURPOSE

The purpose of this report is to obtain Council approval of a rezoning application to permit a 12-unit rooming house on 99 Melville Road within a former church.

PROPOSED CHANGE

Rezone 99 Melville from Gentle Density Residential Zone (R2) to Low Density Residential Zone (R3).

Subject Property:

- Location: The subject property is located on the west side of Melville Road, approximately 230 metres (m) southeast of the Trunk Road and Dacey Road intersection.
- Approximate Size: The subject property has approximately 34.4m of frontage along Melville Road, a depth of 57.2m, and a total area of 0.2 Ha.
- Present Use: Illegal rooming house.
- Owner: Mangesh Shende

BACKGROUND

The previous use of the subject property was permitted as a Place of Worship. Building Division records indicate that the owner/applicant converted the existing building into a 12-unit rooming house without the benefit of building permits or zoning approvals. The unauthorized use of the property as a rooming house has also been the subject of neighbour complaints.

The applicant filed a rezoning application to legalize the rooming house; however, at its June 2, 2025, meeting, Planning staff recommended (and Council approved) that the application be deferred to July 14, 2025, in order for the applicant to host another neighbourhood information session.

The reason for this deferral was that it came to staff's attention that public notices for the applicant's neighbourhood meeting may not have been received in a timely manner, with one neighbour in particular noting that notice was hand delivered just one day prior to the neighbourhood meeting. Planning staff mailed out the notice

for the second neighbourhood information session on behalf of the applicant to ensure proper procedure.

The corresponding Council resolution is as follows:
Resolved that the report of the Junior Planner dated June 02, 2025, concerning Planning Act application A-6-25-Z be received and that Council postpone this application to July 14, 2025

ANALYSIS

Conformity with Official Plan, 1996 (OP)

The subject property is designated as Residential within Land Use Schedule C of the Official Plan.

Residential land use policies support 'complete' neighbourhoods that include a range of services, amenities, and housing types that are compatible with residential uses. Rooming houses are a much-needed type of housing that contributes to both the City's housing stock and diversity.

Policy R.1 states that "*a mixture of housing types and diversity of ownership and tenure forms shall be encouraged in new development*." Rooming houses, which are typically rent tenure, contribute to the mix and diversity of the housing stock, which aid in addressing affordability goals.

Policy R.3 states that "*medium density residential dwellings may be integrated into low density areas subject to rezoning*." This proposal falls within the medium-density range. The large lot size and the site alterations being recommended by Planning staff as conditions of approval will support compatibility with the surrounding neighbourhood. Further discussion on integration is provided under the 'Comments' section of this report.

Policy R.4 permits small-scale intensification in all residential areas unless there are infrastructure limitations or significant physical constraints. No such constraints exist for this property.

Policy R.5 identifies rooming, boarding, and lodging houses as examples of small-scale residential intensification. The proposed conversion of the existing building is therefore explicitly supported by the OP.

The OP's Housing policies further state:
HO.1 – "*Opportunities for a full range of housing types shall be provided to meet the present and expected needs of the community*."

HO.2 – "*Innovative and alternative residential development standards supporting affordable housing and compact urban form shall be encouraged…"*

Therefore, this application is consistent with the Official Plan as it contributes to housing diversity and affordability, represents a form of small-scale intensification and adaptive reuse, and can be appropriately integrated into the existing neighbourhood context.

The Official Plan's Affordable Housing policies encourage and support the provision of affordable housing throughout the community. It seeks to implement this through supporting a mixture of housing types, including infill development, residential intensification and higher residential densities (2.5(b)); supporting increased zoning flexibility to permit a wider variety of dwelling units in more zones (2.5(c)); and supporting innovative housing design, such as smaller and alternative development standards such as reduced lot frontages, setbacks and parking requirements (2.5(d)).

Conformity with Provincial Planning Statement, 2024 (PPS)
The PPS 2024 was amended in October 2024 with a refreshed focus on intensification to implement its updated vision of "*building more homes for all Ontarians' to achieve its goal of getting at least 1.5 million homes built by 2031"*.

Its Housing policies (Section 2.2) provide direction to planning authorities to ensure an adequate and diverse range of housing options and densities to meet the needs of current and future residents. Its primary intent is to address housing affordability and inclusion by accommodating a broader spectrum of housing throughout the community. Further, it prioritizes development within already municipally serviced areas of the City to foster sustainable development that maximizes land and resources efficiency.

Therefore, this proposal is consistent with the PPS.

Conformity with Growth Plan for Northern Ontario 2011
The proposed development provides alternative living standards that are associated with affordable housing. The development represents a form of adaptive reuse of an existing property that is well served by municipal infrastructure, inclusive of public transit. Therefore, this application does not conflict with the Growth Plan for Northern Ontario.

COMMENTS
The subject property is located in a predominantly single-detached neighborhood, with the former Conseil Scolaire Catholique Elementary School located directly behind. This former school site is currently being converted to accommodate 67 dwelling units.

This application proposes to legalize the conversion of a former place of worship into a 12-unit rooming house, inclusive of three shared washrooms, two kitchens, and laundry facilities. The subject property is currently zoned Gentle Density

Residential (R2), which does not permit rooming houses. The applicant has requested a rezoning to Low Density Residential (R3), where rooming houses are a permitted use. While Planning staff support the principle of permitting a rooming house on this site, it is recommended that the R2 zoning be maintained, and a site-specific special exception be added to allow a rooming house with a maximum of 12 units. This approach supports the applicant's intent while preserving the existing zoning framework and maintaining development predictability for the surrounding area.

In response to neighbourhood concerns with respect to overspill parking, the applicant has increased on-site parking from 8 to 12 spaces, with the 4 additional spaces identified in red on the attached site plan. This is a parking ratio of 1 space per rooming house unit – the same ratio applied to conventional housing types. The zoning by-law, which prescribes an occupant-based parking ratio, requires 3 parking spaces. Therefore, this proposal exceeds the minimum parking requirement for rooming homes.

Given the minimal number of required parking spaces, there are no barrier-free parking requirements associated with the use, and it is noted that the building is not accessible, as there are a number of stairs required to access either floor.

The provision of 12 parking spaces is sufficient. Rooming houses generally serve tenants with lower rates of vehicle ownership. These residents often rely on alternative modes of transportation such as public transit, walking, and cycling; however, it is acknowledged that due to current housing supply pressures, rooming houses are increasingly being relied on by a broader demographic, including those in higher income brackets who may be more likely to own personal vehicles.

There is existing fencing and hedges along parts of both of the side lot lines. The applicant will be required to maintain a continuous hedgerow of evergreens, bushes or shrubs, which shall reach at least 1.8m above established grade upon maturity. The hedge provides sufficient buffering of the parking area and backyard from neighbours. Site Plan Control will be used to ensure that buffering and any other technical matters are appropriately addressed by municipal staff.

The existing building is setback from Melville Road and in line with the surrounding homes. Parking is located along the eastern interior side yard. No parking spaces will be located in the required front yard (i.e. the first 7.5 metres from the front lot line). Planning staff do not anticipate any adverse effects to the streetscape with the location of the required parking in the interior side yard.

Overall, this application represents the adaptive reuse of an existing former place of worship. This aligns with planning goals that seek to direct growth and development through infill development within the already serviced and urban parts of the city. The subject property is also larger than most surrounding

residential parcels, which provides ample opportunity and flexibility to accommodate parking, landscaping and provide amenity space for tenants. No major site alterations are proposed and therefore, the physical character of the neighborhood will be maintained.

Equitable Housing and Legal Considerations
Rooming houses are defined in the Zoning By-law as "*Establishments primarily engaged in providing temporary or longer-term accommodation, which for the period of occupancy, may serve as a principal residence.*" Rooming houses are homes in which private rooms are rented as opposed to an entire house/apartment dwelling. They typically consist of private rooms with shared facilities such as kitchens, bathrooms, and common areas.

There is a distinction between a rooming house and merely a group of friends/co-workers, etc. renting a home. Below are some examples of established criteria that have been used to distinguish a group-rented home from a rooming house:

- All tenants in the dwelling unit know each other in advance of signing their lease;
- No keyed locks on any bedroom doors;
- The tenants enter into a group lease and pay the rent as a group; and
- The tenants are responsible for cleaning the entire home.

Rooming houses are one of the most affordable living accommodations available, thus they not only play a critical role in the housing market but also represent the only housing option available to low-income individuals who are faced with precarious shelter situations or homelessness. They have also increasingly been used to meet short-term accommodation needs, such as the case with students and working professionals who may intend to locate in the city temporarily.

By-laws and policies that regulate rooming houses require careful consideration to ensure that they are based on legitimate land use planning grounds and that they do not amount to "people zoning". This term refers to the prohibition of certain uses based solely on the expected tenant demographics, rather than evaluating proposals against established planning criteria such as building specifications, density, infrastructure provision, traffic impact, etc. As rooming houses often cater to individuals with lower incomes, attempts to restrict their development without a valid land use planning rationale could amount to "people zoning", which could disproportionally impact vulnerable individuals from accessing housing. This could be in contravention of the *Human Rights Code*.

There are a number of examples across Ontario where municipalities have passed by-laws to restrict alternative housing developments by outright prohibition, minimum distance separations, caps, and quotas, only to have them turned down by both the Ontario Land Tribunal and the Human Rights Tribunal of Ontario. Such

by-laws were found to have prevented equal housing opportunity and disproportionally impacted class-protected individuals.

Applications to Legalizing a Use
This application is the result of a complaint brought to the attention of the City's Building Division. In such cases, the property owner must either discontinue the use and bring the property back into compliance with the Zoning By-law and other applicable regulations, such as the *Ontario Building Code* (OBC), or apply to rezone the property to permit the use. It is important to note that even if the zoning is amended, compliance with current OBC standards will still be required.

Planning Act applications provide a formal opportunity for the public and those involved in the decision-making process to express concerns with the approval of developments that have knowingly occurred without approval. Under the *Planning Act*, the role of planning staff is to evaluate applications based on land use planning principles rather than to penalize such applicants.

CONSULTATION
For the initial Council meeting scheduled for June 2, 2025, public notices were mailed to all neighbouring properties within 120m (400') of the subject property on Wednesday, May 7, 2025. The notice that was mailed to property owners is attached to this report. The notice was also advertised on the City website on Wednesday, May 7, 2025 and in the Sault Star on Saturday, May 10, 2025.

A follow-up public notice from the City for the deferred Council date of July 14, 2025, was not required, as the new date was announced during the Council meeting and no changes were made to the application materials. This approach is consistent with the requirements of the *Planning Act* and the City's procedures. The applicant-hosted public meeting notice, which was mailed to neighbouring property owners, did, however, reference the new Council date as a courtesy.

Applicant-Hosted Meeting and Public Comments
The applicant hosted a neighbourhood meeting on Wednesday, April 23, 2025 and again on July 2, 2025, at the request of Planning staff. Both meetings were held on the subject property. No members of the public attended the first neighbourhood meeting, and only one person attended the second. This individual attended to learn more about the proposal and did not express a position on it. Planning staff attended both meetings.

Four residents submitted objections to the proposal. Their comments are attached to this report. Concerns raised include tenants parking on neighbouring driveways due to a lack of on-site snow clearing, increased on-street parking, poor site maintenance (e.g., refuse on and around the property), frequent loud gatherings in the backyard, and perceived impacts on surrounding property values.

The City's Property Standards By-law and Noise By-law provide mechanisms to address concerns related to snow not being cleared from on-site parking areas, poor site maintenance, and excessive noise. Both the applicant and neighbouring residents have been advised of these enforcement tools, and staff will continue discussions with the applicant to emphasize the importance of responsible property management. In recent discussions, the applicant has noted that he is in the process of obtaining contracts for waste and snow clearing services from two local companies. While the buffering measures referenced elsewhere in this report will not eliminate noise, they may contribute to visual screening and a sense of separation.

It is unclear whether the reported increase in on-street parking is tied to the rooming house; however, planning staff do not anticipate significant parking impacts given the number of spaces proposed and the lot's capacity to accommodate additional parking if needed. Although on-street parking is permitted on Melville Road, Planning staff have advised the applicant to encourage tenants to park responsibly and in a manner that does not obstruct neighbouring driveways or create conflicts with adjacent properties.

Planning staff acknowledge residents' concerns regarding property values; however, planning policy and legislation do not consider property value impacts as a valid rationale for land use decisions. Further, there is no strong evidence that suggests that rooming houses or similar multi-unit dwellings negatively impact surrounding property values. In some cases, studies have even suggested slight increases in property values when underutilized sites are redeveloped to more active uses. With this being said, responsible and ongoing property management is key to minimizing neighbourhood impacts.

It is also worth noting that such concerns are examples of behaviour and operational issues rather than legitimate land use planning grounds and are therefore more appropriately addressed through municipal by-laws rather than land use planning controls such as zoning. Examples of land use planning grounds include building scale or mass, privacy overlook, shadowing, traffic impacts, and infrastructure capacity (e.g., water, sewer). Behaviour/operational issues are also not specific to any type of specific use, as they can occur in a variety of residential settings of various tenure types and densities.

Application Circulation
As part of the application review, this proposal was circulated to City divisions and external agencies for detailed technical review and comment. The following departments/agencies commented on this application:

The Building Division noted the minimum number of parking spaces required and where on the property they may be located. No issues were identified.

PUC Distribution Inc. (Electrical) has indicated that there is an existing overhead service providing power to the property. If any changes to the existing service are needed an application is required.

PUC Services (Water) has indicated that the existing water service was installed in 1973, but the size is unknown. It is the responsibility of the owner to confirm the existing service size and engage the services of a Professional Engineer licensed in the Province of Ontario or persons qualified under the *Ontario Building Code* to verify if the existing water service is adequate to supply the necessary water demand for the development. If the owner wishes to replace the water service, they must contact the PUC Engineering Department.

The following City Division and external agencies had no comments or objections of the proposed application: Accessibility Advisory Committee, Economic Development, Community Development and Enterprise Services, Fire Services, Heritage Committee, Legal Division, Sault Ste. Marie Region Conservation Authority (SSMRCA), and Engineering Division.

FINANCIAL IMPLICATIONS
Approval of this application will not result in any incremental changes to municipal finances.

STRATEGIC PLAN / POLICY IMPACT
Key objectives of the Strategic Plan's Community Development, and Quality of Life focus areas is to deliver affordable housing while ensuring the community remains affordable and accessible for residents.

The adaptive re-use of existing buildings is associated with sustainable development practices. Compared to demolition and new construction, re-use generates significantly lower greenhouse gas emissions due to less reliance on the production and transportation of new building materials.

SUMMARY
From a land use planning perspective, this application supports both City and Provincial housing and intensification objectives by introducing more affordable accommodation within an established residential area of the urban part of the City. Rooming houses contribute to housing diversity and help address local affordability needs. Given the site’s former institutional use, relatively large lot size, and proximity to ongoing residential redevelopment, the proposed use can be integrated into the surrounding neighbourhood with minimal land use impact.

RECOMMENDATION
It is therefore recommended that Council take the following action:

Resolved that the report of the Junior Planner dated June 2, 2025, concerning Application A-6-25-Z be received and that Council approve the application in the following manner:

Rezone the subject property from Gentle Density Residential (R2) Zone to Gentle Density Residential (R2.S) Zone with a special exception subject to the following provisions:

1. Permit a Rooming House with a maximum of 12 units, in addition to those uses already permitted in an R2 Zone;
2. Require a minimum of 12 parking spaces in association with the Rooming House;
3. That a continuous hedgerow consisting of evergreen trees, bushes, or shrubs be planted along both side lot lines, but not required within the first 7.5 metres from the front lot line. The hedgerow shall reach a minimum height of 1.8 metres above established grade at maturity;

Further, that Council deem the properties subject to Site Plan Control.

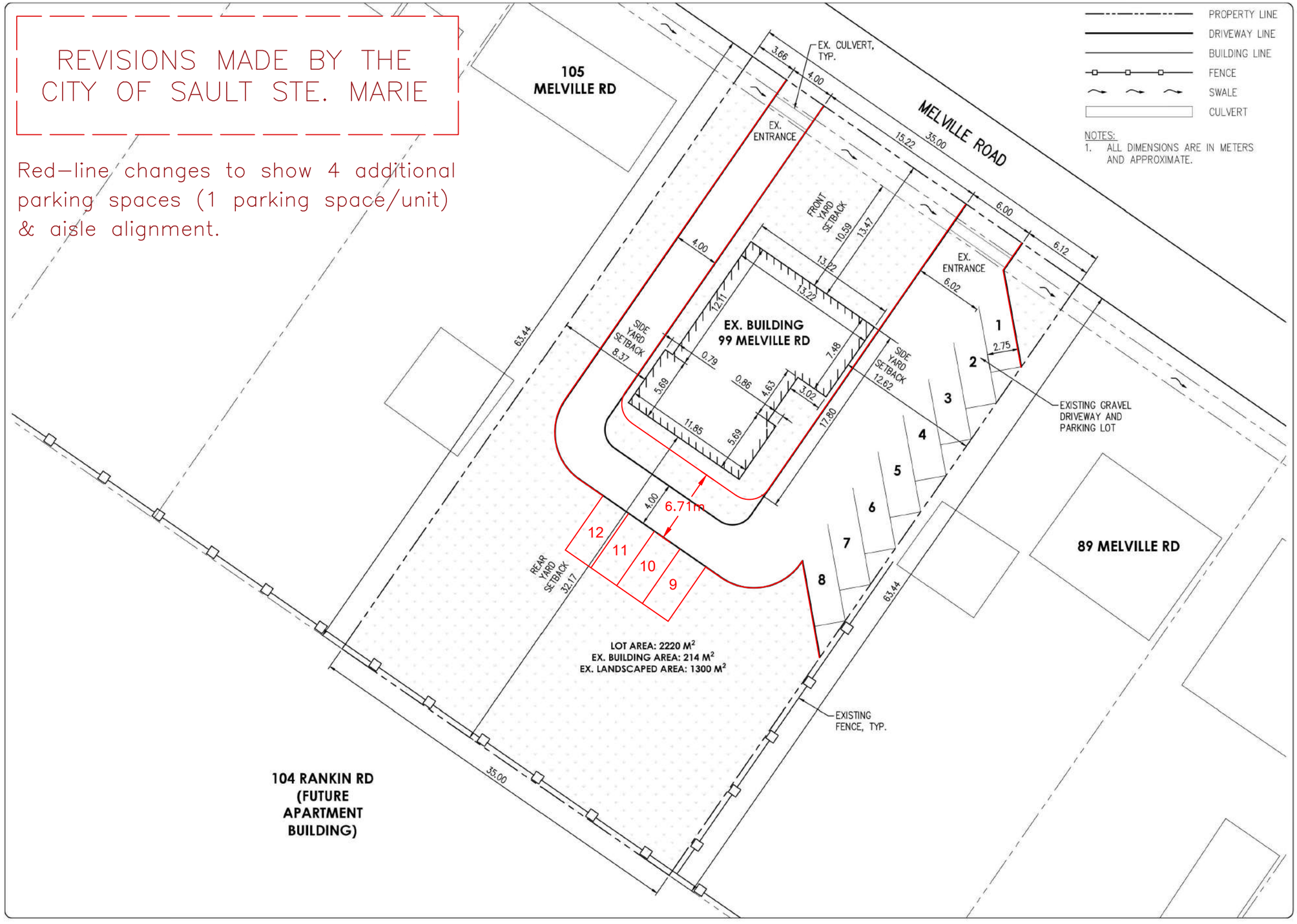
And that the Legal Department be requested to prepare the necessary by-law(s) to effect the same.

Respectfully submitted,

Nicholas Cicchini
Junior Planner
705.759.5375
n.cicchini@cityssm.on.ca

REVISIONS MADE BY THE CITY OF SAULT STE. MARIE

Red–line changes to show 4 additional parking spaces (1 parking space/unit) & aisle alignment.



SEAL

N

REVISIONS

REV #	DESCRIPTION	DATE
A	FOR REZONING APPLICATION	2025–02–19

PROJECT:

99 MELVILLE RD,
SAULT STE. MARIE, ON
P6A 5J6

DRAWING TITLE:

SITE PLAN

DRAWN: MS

CHECKED: MS

DATE: 2025–02–12

SHEET 1 OF 1

SK1

SCALE: 1:8

Nicholas Cicchini

From: Jason Cleminson
Sent: May 8, 2025 3:36 PM
To: Samir Thapa
Cc: Mike Smykacz; Frank Bentrovato
Subject: RE: Request for Comments : A-6-25-Z 99 Melville Road

Good day Samir,

In reviewing the request for re-zoning at 99 Melville from R2 to R3.

Observations of the site plan provided.

5.3.3 {2011-81} LOCATION OF PARKING SPACES
No parking spaces shall be located;

A. In a required front or exterior side yard, including the highway zone and Institutional zone, but excluding all other commercial, industrial, parks and recreation zones, and low density residential zone (R3) uses in the downtown,
B. Within an area required for a future road widening as identified in Section 16.

5.7 MINIMUM PARKING REQUIREMENTS FOR ALL PERMITTED USES

- Rooming Houses 1/5 persons Max. Building Capacity

Other than the appearance of parking in the required front yard the Building Division does not have any objections as proposed.

Sincerely,

Jason Cleminson
Building Inspector
Building Division
j.cleminson@cityssm.on.ca
C - 705.989.2907

CITY OF SAULT STE. MARIE
99 Foster Drive, Sault Ste. Marie, ON P6A 5X6
saultstemarie.ca

Your work day & my work day may be different so please do not feel obliged to respond to this email outside of your work hours.

From: Frank Bentrovato <f.bentrovato@cityssm.on.ca>
Sent: Monday, April 28, 2025 11:59 AM
To: Jason Cleminson <j.cleminson@cityssm.on.ca>
Cc: Mike Smykacz <m.smykacz@cityssm.on.ca>
Subject: FW: Request for Comments : A-6-25-Z 99 Melville Road

Hi Jason,

Can you provide comment to Planning in Mike's absence. See Toni if you have anu questions about the process.

Sincerely;

Frank Bentrovato, MAATO, CBCO, BCIN
Coordinator Plans Examination
Public Works & Engineering Services
705.759.2750 f.bentrovato@cityssm.on.ca

CITY OF SAULT STE. MARIE
99 Foster Drive, Sault Ste. Marie, ON P6A 5X6
saultstemarie.ca

From: Samir Thapa <s.thapa@cityssm.on.ca>
Sent: Monday, April 28, 2025 11:38 AM
To: Maggie McAuley <m.mcauley@cityssm.on.ca>; Dan Perri <d.perri@cityssm.on.ca>; Freddie Pozzebon <f.pozzebon@cityssm.on.ca>; Francois Couture <f.couture@cityssm.on.ca>; Frank Bentrovato <f.bentrovato@cityssm.on.ca>; Toni-Marie Streicher <t.streicher@cityssm.on.ca>; Karen Fields <k.fields@cityssm.on.ca>; Brent Lamming <b.lamming@cityssm.on.ca>; Nicole Maione <n.maione@cityssm.on.ca>; Rick Van Staveren <r.vanstaveren@cityssm.on.ca>; Naomi Thibault <n.thibault@cityssm.on.ca>; eng dept <eng-dept@ssmpuc.com>; Virginia McLeod <v.mcleod@cityssm.on.ca>; Diane Morrell <d.morrell@cityssm.on.ca>; nature@ssmrca.ca; Seifpour, Zeinab (She/Her) (MMAH) <zeinab.seifpour@ontario.ca>; msonorth@ontario.ca; planninganddevelopment@bell.ca; newdevelopment@rci.rogers.com
Cc: Nicholas Cicchini <n.cicchini@cityssm.on.ca>; Amanda Cipriano <a.cipriano@cityssm.on.ca>; Orsalina Naccarato <o.naccarato@cityssm.on.ca>; Jerry Tulloch <j.tulloch@cityssm.on.ca>
Subject: Request for Comments : A-6-25-Z 99 Melville Road

Good Morning All,

The Applicant (Mangesh Shende), is proposing to rezone the subject property from Gentle Density Residential (R2) Zone to Low Density Residential Zone to permit the existing Rooming House. Prior to the Rooming House the existing building was a Religious Institution.

Kindly submit your comments by **May 09, 2025** or before.

Thanks,

Samir Thapa
Administrative Clerk
Planning and Enterprise Services
705.574.1022 s.thapa@cityssm.on.ca

CITY OF SAULT STE. MARIE
99 Foster Drive, Sault Ste. Marie, ON P6A 5X6
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May 5, 2025

Peter Tonazzo
Director of Planning
The Corporation of the
City of Sault Ste. Marie
99 Foster Drive
Sault Ste. Marie, ON P6A 5X6

Email: s.thapa@cityssm.on.ca

Dear Peter:

Re: 99 Melville Rd – Application No. #A-6-25-Z

With regards to the above referenced rezoning application, please refer to the below comments:

PUC Distribution Inc. (Electric Utility)

- There is an existing overhead service providing power to the property. If any changes to the existing service are needed an application is required. Please contact the PUC Engineering Department at 705-759-6576 to coordinate the electrical service requirements.

Public Utilities Commission of the City of Sault Ste. Marie (Water Utility)

- Our records indicate that the existing water service was installed in 1973, but the size is unknown.

- The Owner shall confirm the existing service size and engage the services of a Professional Engineer licensed in the Province of Ontario or persons qualified under the Ontario Building Code to verify if their existing water service is adequate to supply the necessary water demand for the development. If the owner wishes to replace their water service, please contact the PUC Engineering Department at 705-759-6576 to coordinate the water service requirements.

We would also like to take the opportunity to request that the developer reach out to us early in the planning stages with respect to electrical servicing for the development.

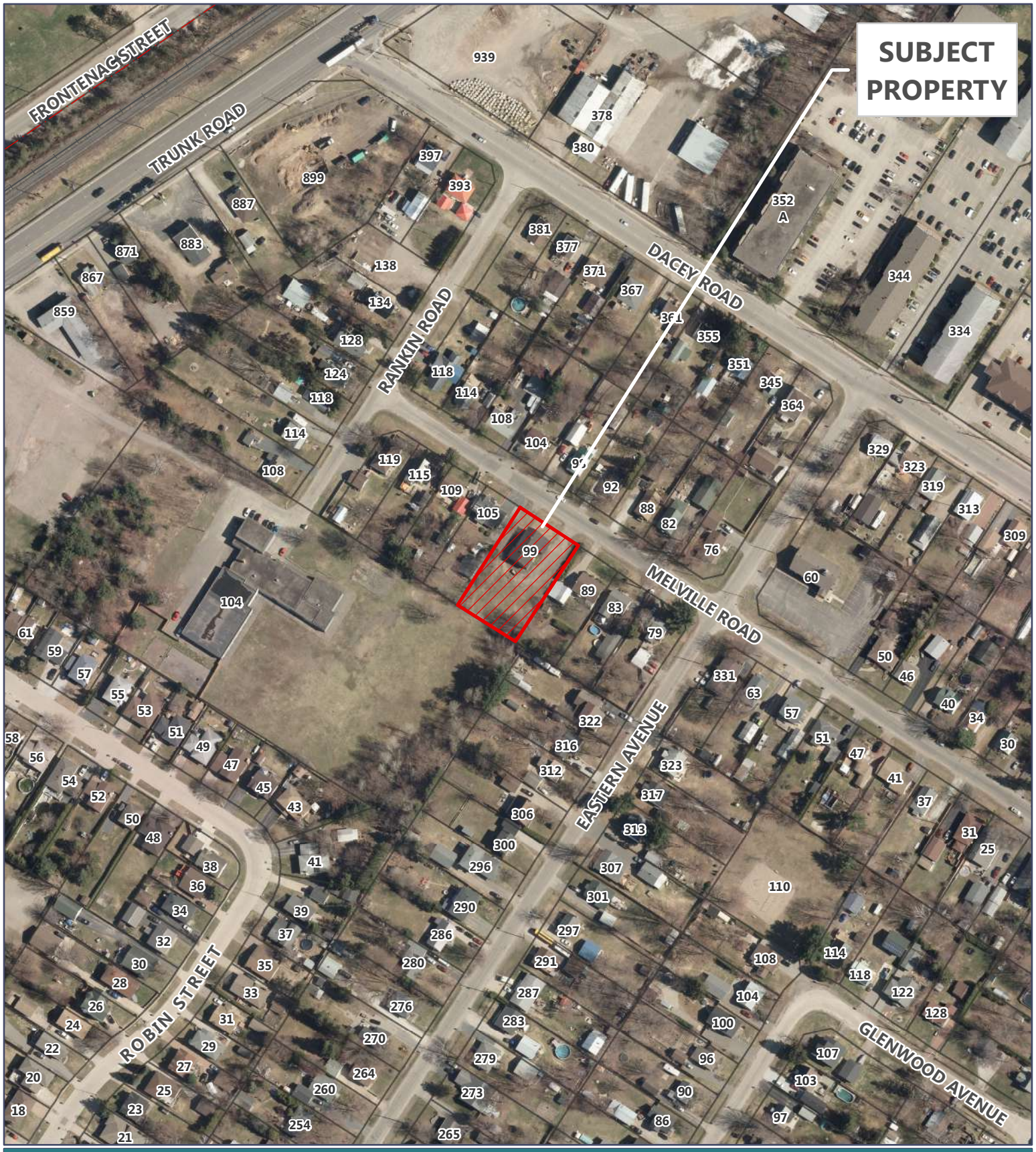
Yours truly,
PUC SERVICES INC.

Mitchell Paradis, P.Eng.
Manager, Electrical Engineering

MP*km

Engineering Department
500 Second Line East
Sault Ste. Marie, ON P6A 6P2
File: A-6-25-Z Melville Rd [99] Response

705-759-6576
www.puc.ca
eng-dept@ssmpuc.com
ECRA/ESA Lic. # 7001626



Application A-6-25-Z: Aerial Image

Property Information

Civic Address: 99 Melville Road
Roll No.: 010050058000000
Map No.: 47/1-39
Date Created: April 4, 2025

SAULT STE.MARIE

Planning and Enterprise Services

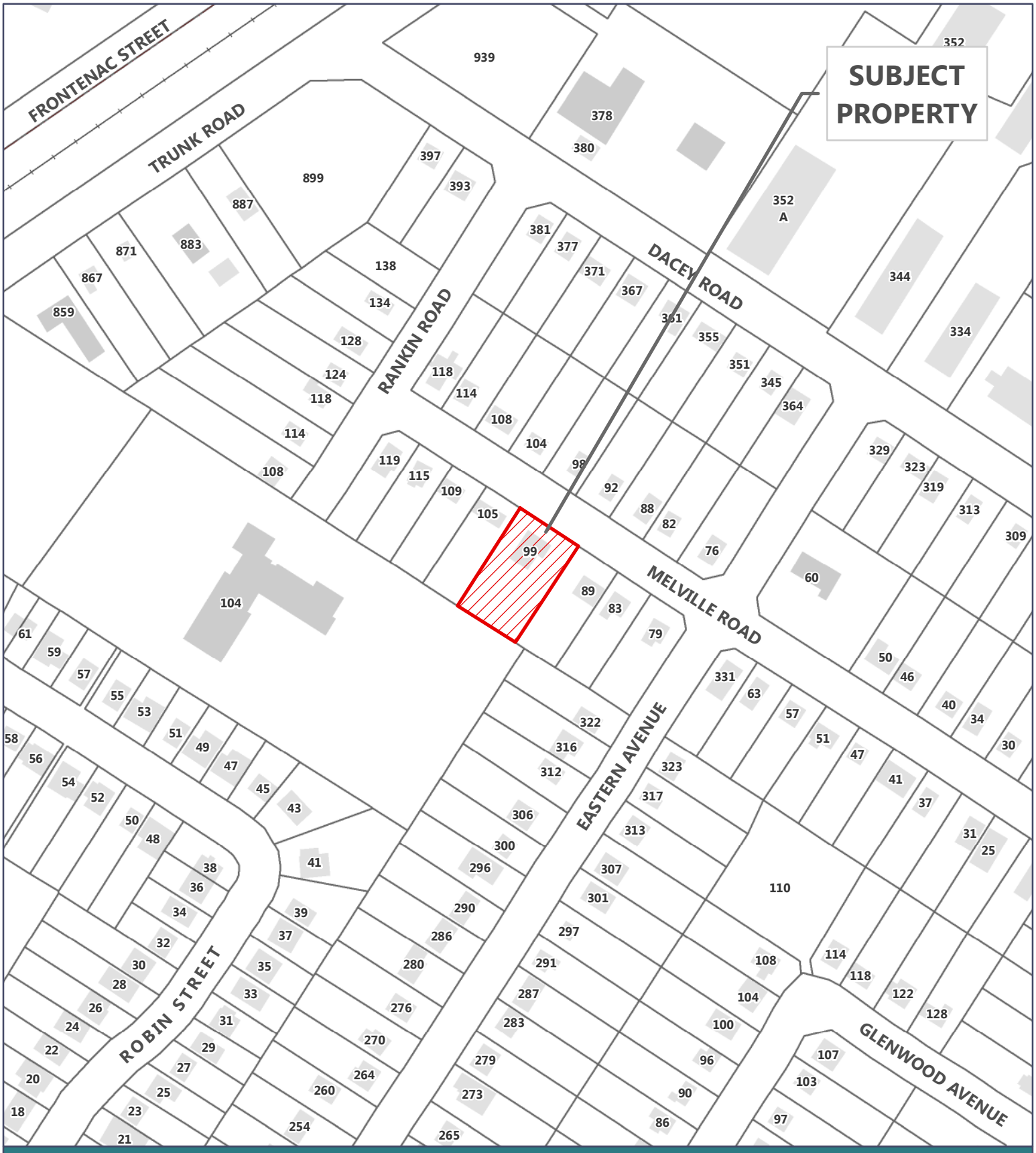
Community Development and Enterprise Services Department
99 Foster Drive, Sault Ste Marie, ON P6A 5X6
saultstemarie.ca | 705-759-5368 | planning@cityssm.on.ca

Subject Property
Parcel Fabric

0 30 60 m
1:2,500

This map is for general reference only
Orthophoto: 2022

N



Application A-6-25-Z: Subject Property

Property Information

Civic Address: 99 Melville Road
Roll No.: 010050058000000
Map No.: 47/1-39
Date Created: April 4, 2025

SAULT STE.MARIE

Planning and Enterprise Services

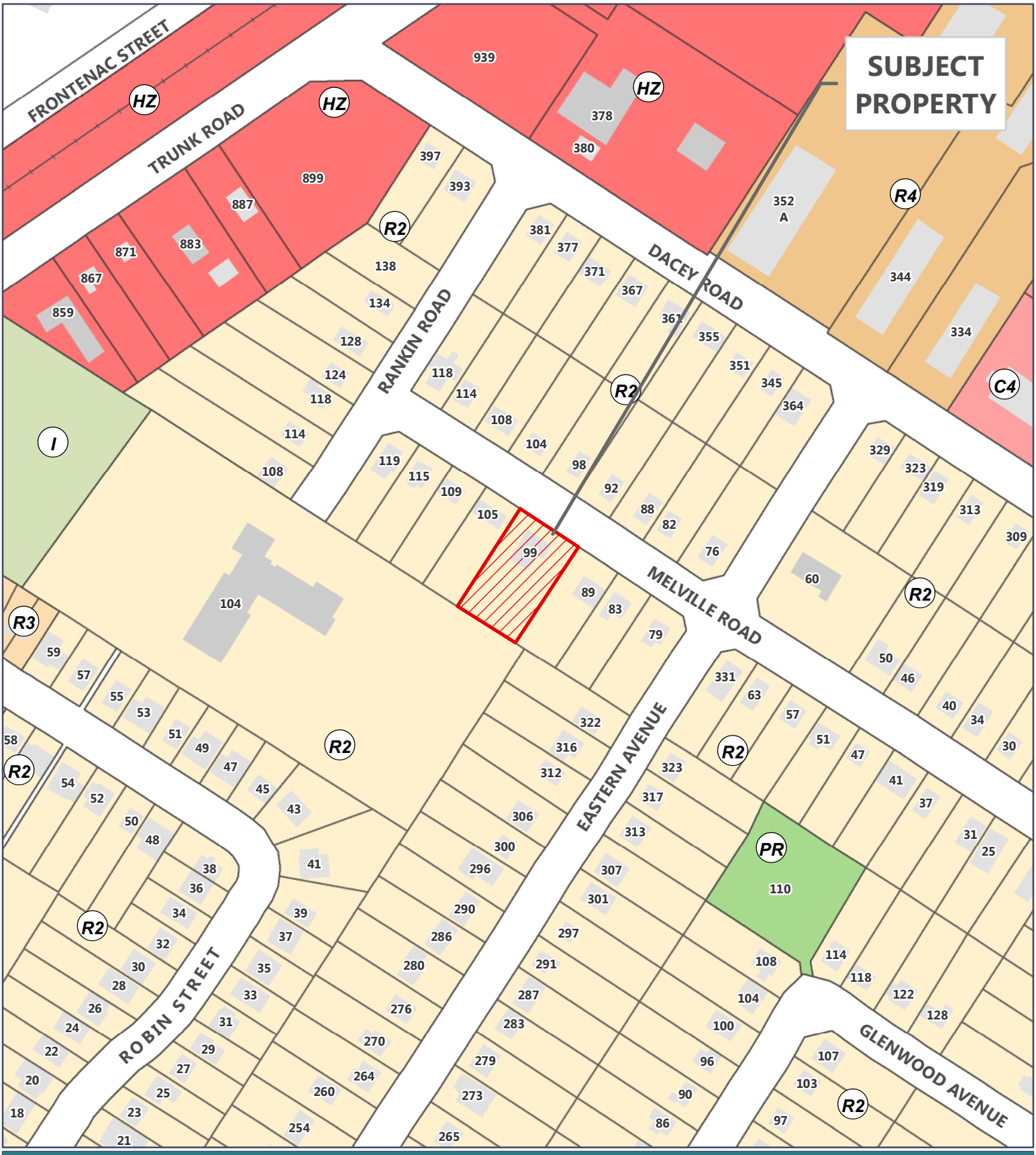
Community Development and Enterprise Services Department
99 Foster Drive, Sault Ste Marie, ON P6A 5X6
saultstemarie.ca | 705-759-5368 | planning@cityssm.on.ca

Subject Property
Parcel Fabric
Residential
Commercial/industrial

0 25 50 m
1:2,500

This map is for general reference only.

N



Application A-6-25-Z: Existing Zoning

Property Information

Civic Address: 99 Melville Road
Roll No.: 010050058000000
Map No.: 47/1-39
Date Created: April 4, 2025

0 40 80 m
1:2,500
This map is for general reference only.

N

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Planning and Enterprise Services

Community Development and Enterprise Services Department
99 Foster Drive, Sault Ste Marie, ON P6A 5X6
saultstemarie.ca | 705-759-5368 | planning@cityssm.on.ca

- Subject Property
- C1 - Traditional Commercial Zone
- C2 - Central Commercial Zone
- CT2 - Commercial Transitional Zone
- C3 - Riverfront Zone; C3hp
- C4 - General Commercial Zone; C4hp
- C5 - Shopping Centre Zone
- HZ - Highway Zone
- M1 - Light Industrial Zone
- M2 - Medium Industrial Zone; M2hp
- M3 - Heavy Industrial Zone
- R1 - Single Detached Residential Zone
- R2 - Single Detached Residential Zone; R2hp
- R3 - Low Density Residential Zone
- R4 - Medium Density Residential Zone
- R5 - High Density Residential Zone
- R6 - Mobile Home Residential Zone
- I - Institutional Zone
- EM - Environmental Management Zone
- PR - Parks and Recreation Zone
- RA - Rural Area Zone
- RP - Rural Precambrian Uplands Zone
- REX - Rural Aggregate Extraction Zone
- AIR - Airport Zone
- Named Use - Commercial Dock

NOTICE OF APPLICATION AND PUBLIC MEETING

Date: June 02, 2025
Time: 5:00 p.m.

Civic Centre, Council Chambers
99 Foster Drive

TAKE NOTICE THAT the Council of The Corporation of the City of Sault Ste. Marie will hold a Public Meeting on **Monday, June 02, 2025** at 5:00 p.m. to consider a proposed amendment to Zoning By-Law No. 2005-150 under Section 34 of The Planning Act, Chap. P.13, R.S.O.1990, as amended. This meeting will be broadcast by Rogers TV and may be viewed on Rogers TV Community Programming, Sootoday.com and on the City's YouTube Channel https://www.youtube.com/saultstemarieca

Any person wishing to present at the public meeting may do so electronically or in person. Electronic participants must contact the City Clerk at cityclerk@cityssm.on.ca or 705-759-5388 to register as a presenter. Registered presenters will be provided with instructions as to how to join the meeting in advance Any written submissions received in advance of the meeting will be included with Council's Agenda.

99 MELVIELLE ROAD
Application Number: A-6-25-Z
Applicant: Mangesh Shende



PURPOSE
The applicant, Mangesh Shende, requests that the subject property be rezoned so that the existing Rooming House conforms to Zoning By-law 2005-150.

PROPOSED CHANGE
To rezone the subject property from Gentle Density Residential (R2) Zone to Low Density Residential (R3) Zone to permit a Rooming House.

HAVE YOUR SAY
Input on the proposed applications are welcome and encouraged. You can provide input by speaking at the public meeting or by making a written submission.

MORE INFORMATION
The applications may be reviewed in the Planning Division, Level 5, Civic Centre, 99 Foster Drive. The Report of the Planning Division will be available for review on **Friday, May 30**, **2025** during regular office hours in the Planning Division. Inquiries should be directed to Nicholas Cicchini, Planning Division, at 705.759.5375 or n.cicchini@cityssm.on.ca. Please refer to the application file number.

WRITTEN SUBMISSION
To provide input in writing, or request notice if the proposed application is approved, please submit a letter to Nicholas Cicchini, Planning Division, 99 Foster Drive, Sault Ste. Marie, ON P6A 5X6, or e-mailed to n.cicchini@cityssm.on.ca with your name, address and application file number on or before **Monday, June 02, 2025.**

If you wish to be notified of the Council of the City of Sault Ste. Marie decision to adopt or refuse the approval of an application, you must make a written request to the Planning Division at the address noted above.

LEGAL NOTICE CONCERNING YOUR RIGHT TO APPEAL
Pursuant to Section 34 of the Planning Act, 1990
If a person or public body does not make oral submissions at a public meeting or make written submissions to the City of Sault Ste. Marie before the By-Law is passed, the person or public body may not be entitled to appeal the decision of the Council of the City of Sault Ste. Marie to the Local Planning Appeal Tribunal.

If a person or public body does not make oral submissions at a public meeting, or make written submissions to the City of Sault Ste. Marie before the By-Law is passed, the person or public body may not be added as a party to the hearing of an appeal before the Local Planning Appeal Tribunal unless, in the opinion of the Tribunal, there are reasonable grounds to add the person or public body as a party.

The Corporation of the City of Sault Ste. Marie

Community Development
Planning & Enterprise Services

Nicholas Cicchini, B.E.S
Junior Planner

Nicholas Cicchini
The Corporation of that City of Sault Ste. Marie, ON
99 Foster Drive
Sault Ste. Marie, ON, P6A 5X6

Date: June 16, 2025

RE: Neighbourhood Meeting - Planning Act Application: A-6-25-Z – 99 Melville Road

Dear Property Owner,

On behalf of the applicant, Mangesh Shende, the City of Sault Ste. Marie is sending this letter to notify you that a neighbourhood meeting will be held for the proposed Planning Act application (A-6-25-Z). The applicant has requested to rezone the subject property from Gentle Density Residential (R2) Zone to Low Density Residential (R3) Zone to permit a Rooming House.

This is a drop-in information session that will provide neighbouring residents with the opportunity to voice their comments, concerns, and obtain further information on the submitted application. If you would like to attend this information session, please see the details provided below:

Date: Wed. July 02, 2025 **Time:** 6:00 – 8:00 PM **Location:** 99 Melville Road

If you cannot attend the neighbourhood meeting or are looking for additional information regarding this application, you may contact the applicant at ***438-926-6345*** or ***mangesh1996@gmail.com***

Planning Staff will be in attendance to answer questions regarding the rezoning process. Questions regarding the rezoning process or official comments on the application may also b e sent to Nicholas Cicchini, Junior Planner at ***705-759-5375*** or ***n.cicchini@cityssm.on.ca***

Please Note: Official public notice from the City of Sault Ste. Marie was provided via Canada Post on May 09, 2025, for the June 02, 2025, Council Meeting. The application was deferred by City Council, on the recommendation of Planning Staff, to July 14, 2025, at 5:00 PM.

Sincerely,

Nicholas Cicchini, B.E.S
Junior Planner

Nicholas Cicchini

Subject: FW: 99 melville

From: Adam Bruni [redacted]
Sent: May 29, 2025 3:28 PM
To: Nicholas Cicchini <n.cicchini@cityssm.on.ca>; Sonny Spina <s.spina@cityssm.on.ca>; Sandra Hollingsworth <s.hollingsworth@cityssm.on.ca>
Subject: 99 melville

This email originated outside of the Corporation of the City of Sault Ste. Marie.
Do not open attachments or click links unless you verify the sender and know the content is safe.

My name is Adam Bruni and i own the property at 92 Melville which sits directly across the street from the so called rooming house. A 4 plex would have been one thing but what they have there is something like 10 or 12 units from what i can tell. They do not maintain their parking area during the winter and the owner instructs the occupants to park in my driveway. This has cost me hundreds in additional plowing fees as i have to call the company back that maintains my driveway once i have these people remove their vehicles from my property. They have stolen my trash containers which i had to take back. As for how i knew they were mine.....well my mail with my address was stuck to the bottom of them and my number is written on the bottom. For a while the garbage was just piling up outside 99 Melville and we already have a rat problem as it is. Now for the safety concerns. I looked at this building when it was for sale and on the north and south side of the building u can see standing outside that the facia was bowing. When i went into the attic i could see the truss plates were pulling apart. In addition to this the main support beam running across where the altar used to be was starting to buckle on both ends. Did an engineer look at this and sign off? Anyways i am 100 percent against this being rezoned. The area is great for families not individuals just passing through. If this goes through then i will begin converting my current properties to rooming houses and proceed to make additional purchases in upscale neighborhoods to do the same. My 150k dollar house is just as important to me as someones 800k dollar house to them. I would have never purchased here had i known a rooming house where up to 12 or more people would be coming and going from each day along with the other problems multiple personalities living in tight accomodations will inevitably end up going through as time goes on. Feel free to call me anytime [redacted]

Nicholas Cicchini

From: Berny Garneau [redacted]
Sent: May 22, 2025 10:47 AM
To: Nicholas Cicchini
Subject: Zoning Application No. A-6-25-Z

This email originated outside of the Corporation of the City of Sault Ste. Marie.
Do not open attachments or click links unless you verify the sender and know the content is safe.

My name is Berny Garneau and I live at 89 Melville Rd, Sault Ste. Marie, ON P6A 5J6, Canada, next to this "church."
I bought this house on December 12, 2022. At that time ,this was a quiet and secure neighborhood. That situation has changed with the number of transients and noisy activities at that location. I did not know, nor was informed that the church was converting to a rooming house. I fear my property value will fall due to this change, if allowed. I am 71 years old and would not have purchased this location knowing it was next to a rooming house.
Thank you for your time and consideration
Berny

Nicholas Cicchini

From: christopher macknight [redacted]
Sent: May 23, 2025 6:00 PM
To: Nicholas Cicchini
Subject: 99 Melville application A-6-25-Z

This email originated outside of the Corporation of the City of Sault Ste. Marie.
Do not open attachments or click links unless you verify the sender and know the content is safe.

To whom it may concern,

My name is Chris Macknight and I live at 82 Melville Rd., Sault Sainte Marie Ontario. Across the street and up two residential addresses used to be a church in my neighborhood. I grew up in this neighbourhood since childhood. My uncle now owns my grandparents house on Eastern Avenue, which backyards are adjacent to.

To my knowledge the church is now a rooming house with several residents, living up and downstairs. Since the church has been occupied, there has been an elevated amount of traffic on the street as well as parking on the roadway through all seasons. There are several garbage cans beside the entry door in the driveway, indicating many residents residing there.

There is often garbage and refuse on the property as well as on the street in front of that address.

There have been several gatherings with fires in the back and many people in attendance. The voices are loud as well as profanity being used that can be heard on the street.

This is a single-family home neighborhood. It always has been and it should remain that way. I was unaware that an older building was allowed to be purchased and changed into a rooming house in my neighborhood. It's my understanding that the zoning does not allow that. Having a rooming house within a stones throw of my front yard is not conducive of this neighborhood.

Since the rooming house opened there have been several police visits at all hours of the day. As well as security companies.

From the documents I have received it is apparent that this person is now attempting to make his rooming house legal when in the face of the city and its rules it wasn't but he built it anyway.

Thank you for your consideration in this matter, respectfully, Chris McKnight.

Sent from my iPhone

Subject: **City of Sault Ste. Marie Zoning Application No. A-6-25-Z**

99 Melville Road. To allow for an "Existing Rooming House"

Formal written comments – Kirk Dillabough, 83 Melville Road

Date: May 22nd, 2025

To City of Sault Ste. Marie Municipal Council.

I am submitting the following written comments regarding the proposed zoning change at 99 Melville Road. Below are my concerns in relation to the application.

Summary of Concerns:

1) The building is not an **"existing rooming house"** as described in the public notification document. It was a built rooming house without zoning or City of Sault Ste. Marie approval. The applicant was aware of the lack of proper zoning. The applicant continued to proceed with building and renting rooms despite efforts from the City of Sault Ste. Marie. The applicant provided photos of the interior of the building prior to improvements. No rooms were established within it.

    - The applicant made building renovations without authority of a building permit in 2023 after acquiring the property.
    - On November 27, 2023, the applicant obtained a building permit (PERMIT #2022-1740). This was to authorize the improvements being made. The City of Sault Ste. Marie was aware of the improvements prior to permit issuance. The permit issued was for a single-family dwelling per current zoning. The permit was for a 6-bedroom, 4-bathroom home.
    - The applicant continued to build a rooming house despite objections and efforts to regulate it from the City of Sault Ste. Marie (up to 12 rooms).
    - In a June 13, 2024, email from the applicant to the City of Sault Ste. Marie it was acknowledged the occupancy was for a single-family residential use. An Occupancy Permit was granted.
    - Shortly after this point listings appeared on websites like Kijiji and AirBnB for rooms to rent. It advertised 12 rooms plus common rooms.
    - On July 31, 2024, a complaint was noted to the City of Sault Ste. Marie about the building potentially being used as a rooming house.
    - On September 12, 2024, the City of Sault Ste. Marie sent a letter to the applicant outlining concerns. Those concerns cited the building was being used for purposes despite the current zoning (rooming house, short-term rental)
    - Occupation as a rooming house continued.

- On December 4, 2024, an Order to Comply was issued to the applicant as the building was being used inappropriately.
- On January 9, 2025, The City of Sault Ste. Marie issued a letter about the failure of the applicant to comply with the above-noted order. It was referred to Legal Services of the City of Sault Ste. Marie.
- Occupation as a rooming house continued.
- On March 3, 2025, The City of Sault Ste. Marie verified compliance appropriate to the zoning (three renters and owner). Keyed locks to be removed from basement bedrooms is noted.
- Application to change zoning sent to landowners in April/May of 2025 to allow for an “existing rooming house”.
- The City of Sault Ste. Marie has extensive records from visits and building inspections noting concerns with the building and the use of it. This was not an established rooming house or had improvements allowing for it. The improvements were made by the applicant post 2023 and after acquisition of the property.

2) This development has failed to adhere to established planning processes. The development went around the municipal planning process with the intention of achieving zoning after the fact. This application does not allow for meaningful public comment.

    - All the developers in the city are required to obtain zoning changes prior to construction. This allows for meaningful public input and decision making. This process is authorizing something that was built without considering process. In fact, more review has gone into reviewing applications for minor works when listening to city council deliberations. This is a major development that could change the characteristics of a single-family neighbourhood. The applicant knowingly developed the rooming house despite the lack of zoning. Neighbours revealed that workers told them of what the project was, and the zoning would be changed later.
    - The potential impacts of this development are not clear. Consideration for density or impacts on services are not disclosed. There is also no data disclosed about whether this is a complementary use or if a mixed use of this type is appropriate. It appears to be a process of legalizing something that was done illegally.
    - The City of Sault Ste. Marie is providing a comment period as outlined in a regulatory framework. It is noted that the report to council is available one working day prior to council deliberations. A resident is expected to obtain and read the report one working day prior to council deliberations. This is

not meaningful public engagement. Those reports contain important information that residents may consider if they need to provide comments. For example, are there any conflicts with this development and the 18 apartments currently being developed at the rear of the building in an old school? From what I understand that development is following process. This did not.

- The applicant provided some pre-notice information to residents. They were invited to a meeting scheduled on April 23, 2025. A letter was received only one day prior on April 22, 2025. The letter was dated April 9, 2025, and the applicant tried to explain they were hand delivered no later than April 13, 2025. When challenged with camera footage it was conceded that it was hand delivered on April 22, 2025. This demonstrated another example of a process by the applicant to minimalize public engagement into a development that has potential implications to residents. The demographic of the neighourhood is long-term residents. Municipal planning processes can be complex and challenging to navigate. Minimal public comment periods by an applicant do not allow for residents to comment on proposals.

3) Does Section 41 of the *Planning Act* apply? Did the development fail to meet site plan control requirements?

    - This development built 12-bedrooms that are used by separate individuals. It was evidenced that this was the case with rental ads. The applicant established a rooming house without authority. The City of Sault Ste. Marie was aware of the development.
    - If the development would have been done correctly would the applicant have required site plan control?

4) The contribution of this development to the City of Sault Ste. Marie housing objectives. Including the capacity of the City of Sault Ste. Marie to manage these types of developments.

    - It is anticipated the approval of a full rooming house will result in increased workload for the city related to by-law enforcement. Several communities in Ontario have had to create regulatory frameworks to manage rooming houses. I appreciate if the zoning is in place the city has little ability to deny an occupation. In this case the zoning change is being applied for. Again, after the fact.

- The applicant knowingly built a rooming house without authorization or zoning. There have been several challenges made related to rooming houses including to the Ontario Municipal Board in communities across Ontario. A reference could not be found that the city requires more housing units of this type. In fact, reference is made that more self-contained units are required (ex. apartments). Given the current financial situation will the city have resources to monitor this location or similar rooming houses? The allowed use of short-term rentals under R3 zoning does not increase the housing supply for the city. It tends to service vacationers and people transiting through the city. In some instances, the short-term rental definition is excluded for the *Residential Tenancies Act*. Long-term residency tends to make people become more part of the community especially in a single-family neighborhood.

  In the City of Toronto they recently released (2024) a framework to manage rooming houses. This was due to concerns about building code, occupations, and un-regulated use. One of the key points the City of Toronto committed to is:

  "Putting in place an effective enforcement and compliance program, including a dedicated enforcement team, annual inspections, increased fines, a Multi-Tenant House Licensing Tribunal and other enforcement tools." *Source: City of Toronto Website*

  It should be noted that other communities in Ontario are facing challenges related to rooming houses. This includes regulating them, defending resident rights and safety. This information is readily available through internet searches.

  This zoning change could put a strain on city resources. Allowing this type of use could be an indicator and trend to repurpose or build new rooming houses within the city (without authorization). This could cause the city to have to consider a framework as noted above. Land availability and real estate values in the City of Toronto is very different than Sault Ste. Marie and the requirement to have rooming houses may be required in the case of Toronto. I have not found literature that shows that Sault Ste. Marie requires this supply.

- This development is outside of the area identified by the city for intensification.

5) Impacts to a single-family neighbourhood.

- The legalization of an observed unauthorized use done outside of proper planning could have implications. For example, does a rooming house affect adjacent property values? This process is an approval after the fact approach. The demonstrated need for this use is not clearly documented. It only demonstrates authorization of works done by a developer who ignored the City of Sault Ste. Marie officials and legislated requirements. This despite being cautioned by the City of Sault Ste. Marie including forwarding the file onto legal services.

6) Observations of 99 Melville Road while being used as a “rooming house”:

Improvements

The applicant cited that he has improved a rundown building.

- I appreciate significant investment could have occurred on the inside of the building. Those investments have little consequence to me. In fact, I am not sure or care to certain degree what they are.
- The exterior of the building has had minimal visual change. Some painting and window installation occurred. The exterior has changed substantially since the previous use. This is documented below.

Physical Observations

- Prior to the current owner I had no concerns with the occupation. In fact, the City of Sault Ste. Marie engaged with that previous owner when one person started living in it. The use was not deemed appropriate. That activity stopped. Note an Order to Comply was issued in that case.
- Prior to the current owner's occupancy, there were no concerns with the building’s use. However, when the building began operating as a rooming house, several issues arose, including increased garbage. Piles of delivery boxes were found outside the door, and the recycling bin was consistently overflowing. The building was also assigned two waste bins, which were regularly overflowing. It is important to note that the use of two waste bins is a contravention under the Waste and Recycling Bylaw 2022-24, and no records from the City of Sault Ste. Marie have shown approval for this arrangement at a single-family residential property when requested through *Municipal Freedom of Information and Protection of Privacy Act, R.S.O. 1990, c. M.56*. This discrepancy raises questions about whether

the applicant has adhered to all relevant bylaw regulations regarding waste management.

- Increased volume of street parking as residents would have visitors.
- Piles of old furniture stacked outside the building.
- Vehicle improvements/repairs occurring on the street.
- Observed a resident of the building using a private driveway during the winter months, requiring the owner of the residence to ask them to move the vehicle as his snow removal company couldn't clear his driveway. The winter conditions caused residents of 99 Melville Road to struggle with parking, as snow removal for them was not organized until later in the season.
- Increased daily use of outside areas (multiple fire pits operating, large gatherings, loud profane language being used). Multiple fire pits do not align with the Open Air Burning Bylaw 2024-147.
- City of Sault Ste. Marie Police Service patrol cars attending the building on various dates.
- KC Security Company cars attending the building on multiple dates.
- It is important to note that the applicant maintains that a building overseer is onsite 24 hours a day, 7 days a week yet the above-noted items occurred. A future owner may not provide that service and the service also does not seem to control on site activities.
- Increased presence of out of province licence plates. Observed vehicles for short term stays (one day) which would indicate it was being used as a short-term rental. The City of Sault Ste. Marie did not produce any record showing conformity with the short-term rental by-law. *Municipal Freedom of Information and Protection of Privacy Act, R.S.O. 1990, c. M.56*

General Comments:

- The current owner has indicated that he does a screening of residents to protect his investment. Even with that, the above observations were made. Concerns arise further if the owner was to transfer or sell the property, a new owner may not have the same vision for operation of a rooming house.
- It has only been in full operation for a short time (approximately 7 months). The concerns began quite quickly. City engagement at the property has changed in recent months. The number of residents has been reduced and a lot of the problems resolved themselves (required City of Sault Ste. Marie directing the applicant through an Order to Comply). This would be in line with the original intended use of single-family home or a use consistent with the neighbourhood (ex. duplex, tri-plex). It is important to note that according to records the City

of Sault Ste. Marie officials have had to invest substantial time and resources into this development (site visits, non-conformity, non-compliance etc).

- I had to make a request under the *Municipal Freedom of Information and Protection of Privacy Act, R.S.O. 1990, c. M.56*. *(MFIPPA)*. This is for two reasons. One being no one from the Planning Department was returning my call seeking information (I gave up) and two lack of information in which to make fact-based comments. I was required to engage my local Councilor to forward my concerns for me. This should not be required. The costs associated with a *MFIPPA* request of this type can be burdensome for some residents and an example of how the process limits resident's ability to participate.

The development at 99 Melville Road has raised numerous concerns that the City of Sault Ste. Marie needs to address. The applicant knowingly built a rooming house without the proper permits, and the zoning change application is an attempt to legalize this unauthorized use. This process has circumvented public input and proper planning procedures, and I urge the Council to carefully consider the implications of approving this zoning change.

I am concerned about the long-term impacts of approving this application, especially in terms of potential strain on City resources, impact on the neighbourhood, and the precedent it could set for future developments.

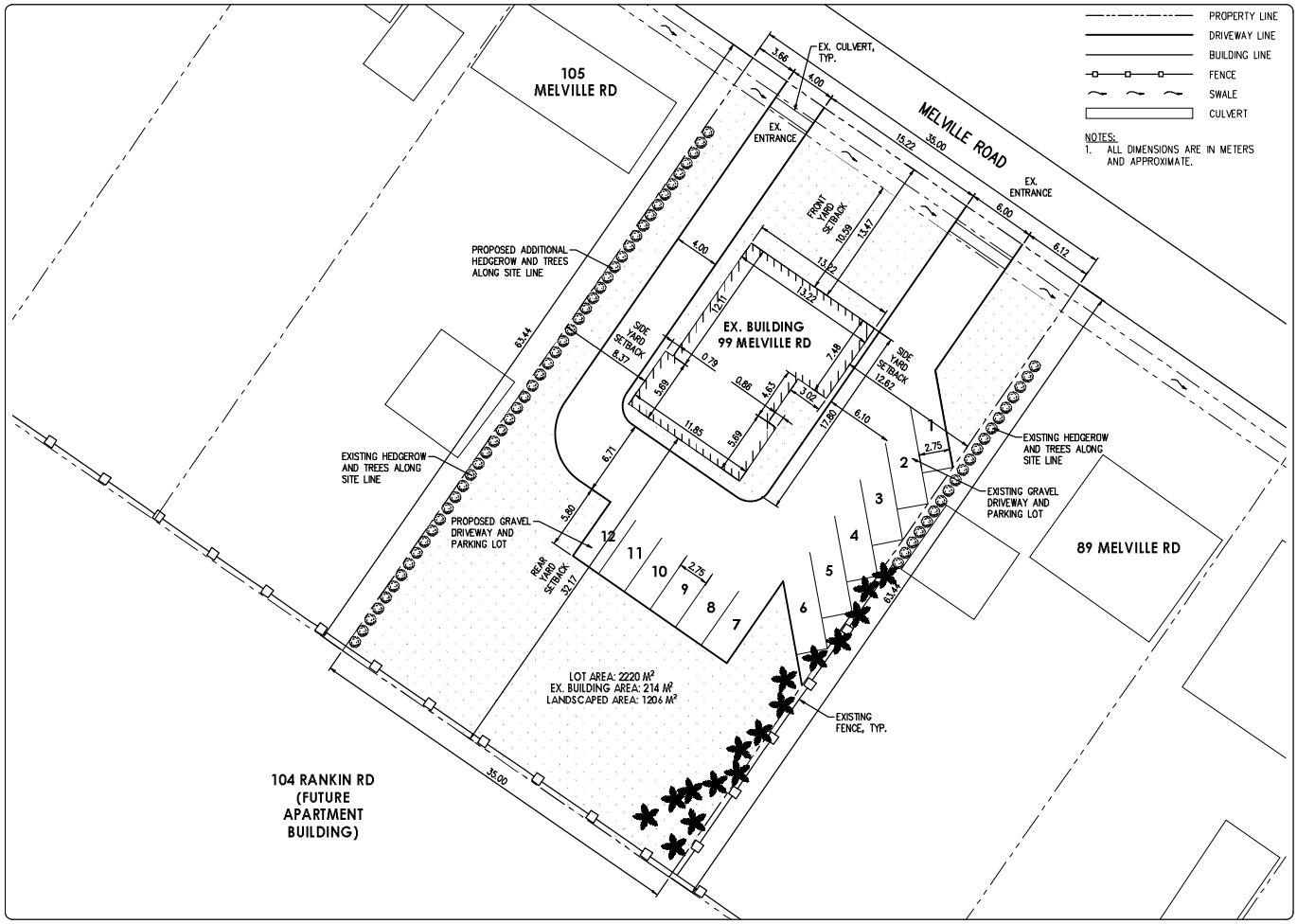
Thank you for your consideration of these comments.

Sincerely,



Kirk Dillabough

83 Melville Road



SEAL

REVISIONS

REV #	DESCRIPTION	DATE
0	ISSUED FOR PERMIT	2025-07-14
A	FOR REZONING APPLICATION	2025-02-19

PROJECT:
99 MELVILLE RD,
SAULT STE. MARIE, ON
P6A 5J6

DRAWING TITLE:
SITE PLAN

DRAWN: MS
CHECKED: MS
DATE: 2025-02-12

SHEET 1 OF 1
SK1
SCALE: 1:8

Nicholas Cicchini

From: Nicholas Cicchini
Sent: Monday, July 14, 2025 11:38 AM
To: Mayor Shoemaker; Sandra Hollingsworth; Sonny Spina; Luke Dufour; Lisa Vezeau-Allen; Angela Caputo; Ron Zagordo; Marchy Bruni; Stephan Kinach; Corey Gardi; Matthew Scott
Cc: Peter Tonazzo; Freddie Pozzebon; Francois Couture; Brent Lamming; CAO Vair; Carl Rumiel
Subject: FW: Comments for Council Consideration 99 Melville Road
Attachments: Response_Public_Comments_99_Melville.pdf; 99_Melville_Rezoning Proposal.pd

Hello,

For your information, below are the responses from the Building Divisions (in red) to the questions originally raised by Kirk Dillabough regarding Planning Act Application A-6-24-Z – 99 Melville Road. Also attached are the responses and project information provided by the applicant.

If you have any questions, please feel free to reach out.

Thanks,

Nicholas Cicchini, B.E.S.
Junior Planner
Planning and Enterprise Services
n.cicchini@cityssm.on.ca
705-759-5375

CITY OF SAULT STE. MARIE
99 Foster Drive, Sault Ste. Marie, ON P6A 5X6
saultstemarie.ca

From: Nicholas Cicchini
Sent: Monday, July 14, 2025 11:28 AM
To: Kirk Dillabough [redacted]
Cc: Mangesh Shende [redacted]; Freddie Pozzebon <f.pozzebon@cityssm.on.ca>; Peter Tonazzo <p.tonazzo@cityssm.on.ca>
Subject: FW: Comments for Council Consideration 99 Melville Roa

Good morning Mr. Dillabough,

Thank you for providing your comments and concerns to City Council and the Planning Staff.

As requested, please see the below responses (in red) from the City's Building Division to your questions regarding rezoning application A-6-25-Z – 99 Melville Road.

1. **Q. The City approved a six-bedroom single family residential unit. This was done through a building permit. To obtain building permits, usually design drawings are required. The 12 rooms located in the building would have been observed and are likely listed on design drawings. Why did the City of Sault Ste. Marie allow this construction to be appr**

   Building Division Response**:** The rooms are clearly indicated by name on the plans. The permit was issued for the number of bedrooms (6) indicated on the plans.

2. **Q. Does the City of Sault Ste. Marie has an explanation of what the six additional rooms were when**

   Building Division Response: The rooms were empty at the time of the last called in inspection during the construction. Later, the Building Division was notified that the building was being illegally used as a Rooming House. During that investigation it was clear that some of the rooms were being rented out to occupants beyond the allowable 4 renters within the use as a single-family dwelling. The use of those rooms was later confirmed to be changed to storage and the illegal use as a rooming house ceased.

3. **Q. Why did the City of Sault Ste. Marie require the applicant to document in writing that he would use the building as a single-family residential unit pr**

   Building Division Response: The applicant is required to confirm there would not be any contraventions of the zoning by-law that was in place at the time.

4.

   Building Division Response**:** Yes. This is typical in circumstances where the Building Official has requested assurances.

5. **Q. Follow up: Did the City of Sault Ste. Marie suspects the building would possibly be used as**

   Building Division Response: We review the documents for compliance with building and zoning by-law. Things either comply, or don't comply. In this case, the documents showed compliance. All applicants must fill out the permit application submission form. The applicant must declare the proposed use of the building. The application stated single family dwelling.

6. **Q. I hope you can provide clarification on a rumour. There are rumours circulating about this project. The rumours are not varied but have a similar theme. One of the rumours is that residents were told that City of Sault Ste. Marie officials told the owner they could build the rooming house and change the zoning later. Can you comment on that it**

   Building Division Response: It was more likely that the applicant was told they can perform any type of code compliant renovations in their dwelling, but the actual use of the building must always comply with the zoning by-law.

If you have any other questions, please feel free to reach out.

Kind Regards,

Nicholas Cicchini, B.E.S.

Junior Planner
Planning and Enterprise Services
n.cicchini@cityssm.on.ca
705-759-5375

CITY OF SAULT STE. MARIE
99 Foster Drive, Sault Ste. Marie, ON P6A 5X6
saultstemarie.ca

From: Mangesh Shende [redacted]
Sent: Friday, July 11, 2025 1:37 PM
To: Kirk Dillabough [redacted]
Cc: mayorsoffice mayorsoffice@cityssm.on.ca>; Sandra Hollingsworth s.hollingsworth@cityssm.on.ca>; Sonny Spina s.spina@cityssm.on.ca>; Luke Dufour l.dufour@cityssm.on.ca>; Angela Caputo angela.caputo@cityssm.on.ca>; Ron Zagordo r.zagordo@cityssm.on.ca>; Marchy Bruni m.bruni@cityssm.on.ca>; Stephan Kinach s.kinach@cityssm.on.ca>; Corey Gardi c.gardi@cityssm.on.ca>; Matthew Scott m.scott@cityssm.on.ca>; Nicholas Cicchini n.cicchini@cityssm.on.ca>
Subject: Re: Comments for Council Consideration 99 Melville Road

This email originated outside of the Corporation of the City of Sault Ste. Marie.
Do not open attachments or click links unless you verify the sender and know the content is safe.

Hi Kirk

Thank you for your detailed submission regarding the rezoning application for 99 Melville Road. I truly appreciate the time and thought you have put into reviewing the planning report and raising important questions around both policy and process.

I want to start by acknowledging your recognition that the City's Planning Division took care to separate policy-based planning decisions from the construction history of the site. I agree that the report presents a thoughtful and transparent rationale aligned with the Provincial Policy Statement and the City's Official Plan.

With respect to the concerns you raised regarding the Building Division and the sequence of construction, I would like to offer the following clarifications from my perspective as the applicant:

When I began work on the property I was not fully aware of the zoning implications and made mistakes out of inexperience and financial pressure. These were errors in judgment for which I take full responsibility.

A building permit was issued in November 2023 for a six-bedroom single family dwelling. City inspectors conducted follow-up inspections and after public complaints the use of the building was revised to comply with zoning. The keyed locks were also removed as directed.

Since February 2025 the property has been operating in accordance with existing zoning as an owner-occupied dwelling with up to three tenants.

This rezoning application is not intended to retroactively justify past missteps. It is a sincere effort to bring the property into full compliance with municipal regulations. The proposal is for a small-scale rooming house that meets all applicable zoning provisions including fire separations and shared amenities and is managed with oversight.

Sorry for the delay in responding to your questions. I work full-time and am also currently studying part-time in a university program. Regarding the questions you submitted please see the attached response. I have also made several attempts to connect with you directly. If you are still open to meeting or visiting the property in person I would be happy to make myself available at your convenience. Please feel free to give me a call at [redacted] anytime if you wish to discuss this further.

Lastly I want to emphasize that I am not a developer in any way. I am just a local resident who came to Soo in 2020 from Montreal for a job and then decided to stay and build a future here. I bought this building with all the savings I had not to exploit the process but to contribute something meaningful to the housing options available in our city. This application is about making things right and moving forward responsibly.

I respect the concerns you have raised and fully support a transparent accountable process. I trust the Council will continue to consider all perspectives carefully and uphold both fairness and good planning principles.

Sincerely,
Mangesh Shende

On Fri, Jul 11, 2025 at 10:45 AM Kirk Dillabough [redacted] wrote:

> To: City of Sault Ste. Marie Municipal Council
>
> Subject: Zoning Report for 99 Melville Road
>
> At the July 14, 2025 Council meeting you will be encouraged to accept the report from the Junior Planner to allow for a zoning change at the above-noted location.
>
> I have reviewed the report and have concluded the decisions of the planner are based on provincial policy statements and align with other regulatory guidance. The planner did a good job of separating the planning decisions from underlying items that occurred at this location. It read in a way that a developer building a new development would seek a zoning change. The report satisfied some of the concerns cited by the residents that are within the control of the planning department (ex. recommending site plan control).
>
> Despite the comments above there is a larger issue at this location that I encourage Council to address. The applicant began construction on a 12-unit rooming house without authority. In an attempt to authorize the development, the Building Division allowed it to continue and authorized the development through a building permit for a 6-bedroom single family dwelling. A 12-unit rooming house would not have been allowed due to zoning concerns at the time. Building Division staff would have had to attend the building to approve construction (evidenced in multiple inspection reports). 12 units would have been observed. In fact, the

building division required the applicant to remove locks from the 6 units in the basement. Furthermore, they required the occupant number to be reduced after a complaint was received. I have not viewed the design drawings but did obtain inspection reports for the location. It would be strange if the additional 6 units were not noted in some form on design drawings.

As part of the public comment period I put forth a series of questions to the applicant and the City of Sault Ste. Marie. They are noted in the email chain below. The applicant did not respond. The City Planner forwarded my questions onto the Building Division. They did not respond or partially respond even after prompting.

The concerns I have that Council should address is:

1. Did an officially induced error occur on behalf of the City? Did Building Division staff allow an individual to continue project construction outside of appropriate zoning?
2. Is this zoning change allowing for legalization of the error? I appreciate that the applicant spent a considerable amount of money to make the improvements. I doubt they would have continued if they were informed that zoning changes may/may not be obtained.
3. Was this process truly transparent that allowed for meaningful public comment? Did this development go through the motions to authorize the illegally/city authorized built development in a creative way using building division approvals?

If Council approves this zoning change without considering the above-noted items, it sets a concerning precedent—one that risks undermining public trust in the planning and permitting process. It suggests that development can proceed outside the rules, and that compliance can be negotiated only after complaints arise. I urge you to ensure that decisions made at this meeting uphold not only policy consistency but also procedural fairness and accountability.

Thank you.
Kirk Dillabough
Melville Road.

From: Nicholas Cicchini n.cicchini@cityssm.on.ca>
Sent: July 8, 2025 1:38 PM
To: Kirk Dillabough [redacted]
Cc: Mangesh Shende [redacted]
Subject: RE: Neighbourhood meeting 99 Melville

Hello Kirk,

There has been no response at this time. I am still waiting on the Building Division to respond. I will follow up with them and get back to you at the earliest convenience.

Thanks,

Nicholas Cicchini, B.E.S.
Junior Planner
Planning and Enterprise Services
n.cicchini@cityssm.on.ca
705-759-5375

CITY OF SAULT STE. MARIE
99 Foster Drive, Sault Ste. Marie, ON P6A 5X6
saultstemarie.ca

From: Kirk Dillabough [redacted]
Sent: Tuesday, July 8, 2025 12:29 PM
To: Nicholas Cicchini n.cicchini@cityssm.on.ca>
Cc: Mangesh Shende [redacted]
Subject: Re: Neighbourhood meeting 99 Melville

This email originated outside of the Corporation of the City of Sault Ste. Marie.
Do not open attachments or click links unless you verify the sender and know the content is safe.

Good Morning,

I wanted to check in and see if I would be receiving a reply prior to the item going back to council for consideration. If you have sent a reply please let me know.

Thanks.
Kirk

Sent from my iPhone

> On Jun 26, 2025, at 09:19, Nicholas Cicchini n.cicchini@cityssm.on.ca> wrote:
>
> Good morning Kirk,
>
> Thank you for providing us your questions, some of the questions that are directed to me, are more related to the Building Division. I have forwarded those questions to the necessary individuals for a proper response. When I receive the response from the building division, I will forward them to you.
>
> Furthermore, I have been in contact with Mr. Shende, and he has informed me that he is working on providing you responses to the questions directed to him.
>
> We will be in touch as soon as possible.
>
> If you have any other questions, please feel free to reach out.

Regards,

Nicholas Cicchini, B.E.S.
Junior Planner
Planning and Enterprise Services
n.cicchini@cityssm.on.ca
705-759-5375

CITY OF SAULT STE. MARIE
99 Foster Drive, Sault Ste. Marie, ON P6A 5X6
saultstemarie.ca

From: Kirk Dillabough [redacted]
Sent: Wednesday, June 25, 2025 1:56 PM
To: Mangesh Shende [redacted]; Nicholas Cicchini n.cicchini@cityssm.on.ca>
Subject: Neighbourhood meeting 99 Melville

This email originated outside of the Corporation of the City of Sault Ste. Marie.
Do not open attachments or click links unless you verify the sender and know the content is safe.

Good afternoon,

I was really looking forward to meeting you both on July 2, 2025. I was hoping in person questions would help address the concerns I have.

Unfortunately, due to another commitment I am unable to attend this meeting. I know the logistics of scheduling these sessions are complex so I have put below a few questions I was hoping ask at the meeting. Perhaps you could answer them since I cannot attend. I have divided the questions by person to try and be helpful.
Thanks.
Kirk

Questions for Mangesh Shende:
Q. What is your plan to manage garbage, recycling and general property standards if the zoning is approved? This seems to be an ongoing concern despite fewer tenants.

Q. Do you intend to operate a short-term rental at this location? An example is rooms by the night on Air BnB.

Q. How do you intend to be the responsible party for your tenants to ensure issues/concerns with neighbours are managed? Ex. contact information etc. if you don't live on site.

Q. Do you plan on having any agreements with your tenants about rules for the property? If so, what type of rules do you intend to have?

Q. Have you ever considered altering the building to not accommodate 12 residents in individual rooms? Ex. du-plex, tri-plex or smaller rooming house.

Q. I completed a freedom of information request from the City of Sault Ste. Marie. I obtained a copy of the email you sent them on June 13, 2024. This was related to an occupancy permit for the building. In that email you stated: ***"This email, is just to confirm that I understand that the occupancy to be granted is as a single family dwelling at this time."*** Why did you not follow this item and rent out individual rooms?

Q. Follow up to above. When you wrote "at this time" was it always your intention to have a rooming house and the zoning change would be applied for later? If it was not intended that way, why did you change your mind and never occupy it as a single-family home?

Q. Do you currently reside at 99 Melville Road?

Questions for Nicholas Cicchini:
Q. The City approved a six bedroom single family residential unit. This was done through a building permit. To obtain building permits, usually design drawings are required. The 12 rooms located in the building would have been observed and are likely listed on design drawings. Why did the City of Sault Ste. Marie allow this construction to be approved as it is clearly not six bedrooms?

Q. Does the City of Sault Ste. Marie have an explanation of what the six additional rooms were when building officials completed inspections?

Q. Why did the City of Sault Ste. Marie require the applicant to document in writing that he would use the building as a single-family residential unit prior to an occupancy permit?

Q. Follow up: Is this a normal procedure to do?

Q. Follow up: Did the City of Sault Ste. Marie suspect the building would possibly be used as something other than a single-family dwelling?

Both:
Q. Either person can answer this question or both. I hope you can provide clarification on a rumour. There are rumours circulating about this project. The rumours are varied but have a similar theme. One of the rumours is that residents were told that City of Sault Ste. Marie officials told the owner they could build the rooming house and change the zoning later. Does either party have a comment on that item?

Sent from my iPhone

Individuals who submit written correspondence or information to the City should be aware that any personal information contained in their communications may become part of the public record and made available to the public through the Council Agenda process or that of a committee of Council or a local board.

Individuals who submit written correspondence or information to the City should be aware that any personal information contained in their communications may become part of the public record and made available to the public through the Council Agenda process or that of a committee of Council or a local board.

Response to Public Comments – Rezoning Application
A-6-25-Z (99 Melville Road)

To: City of Sault Ste. Marie Council and Planning Department
Date: July 11, 2025

Dear Council Members and Planning Staff

Thank you for the opportunity to respond to the public comments received regarding the rezoning application for 99 Melville Road (Application A-6-25-Z). I appreciate the time that members of the community have taken to voice their concerns, and I want to acknowledge and address those concerns with openness and accountability.

1. Background and Acknowledgment

I moved to Sault Ste. Marie in 2020 with nothing but $10,000 in debt and a strong desire to build a future. Since then, I have worked extremely hard through the pandemic, economic uncertainty, and personal risk to build a stable life in this community. I owe a great deal to the people of this town, the City's staff and officials, and those who have helped me along the way.

I am not a developer. I am simply someone trying to build a future for myself and my family. I saw an opportunity to restore a long-vacant property into safe, affordable housing. I understand now that I made mistakes early on, partly out of inexperience and lack of awareness of municipal procedures, but also very honestly out of desperation not to lose everything I had worked for.

I take full responsibility for those missteps and have taken every step since to comply with the City's requirements.

2. Building Standards and Inspections

The building was constructed specifically to meet the standards required for a rooming house. I personally completed the electrical work in accordance with the Ontario Electrical Safety Code and had everything inspected by ESA inspectors, City building inspectors, and external consultants. The work was conducted with attention to safety, durability, and code compliance, and I continue to take pride in the quality of what has been built.

The building has passed all required inspections and has been used in accordance with the applicable zoning as an owner-occupied dwelling with up to three tenants since February 2025.

3. Community Engagement

An initial information session was held on April 23, 2025, at the property. Some of the letters were unfortunately delivered later than intended due to my own oversight. This was not intentional and had a negative impact on both the outreach and my efforts to be transparent with the community. I regret the error and take full responsibility.

In addition, I have personally reached out to the neighbors who submitted formal complaints, both directly and through mutual contacts, to offer a private meeting or tour of the property should they wish to discuss their concerns further.

A second meeting was hosted by the City of Sault Ste. Marie to allow the public to speak directly with planning staff. Only one resident attended and stated they were there mainly out of curiosity.

4. Use and Operations

The proposal is to allow for a small-scale rooming house with responsible oversight. The property is not a short-term rental or large boarding facility. The interior includes fire separations, code-compliant exits, and shared amenities designed to support longer-term tenants in need of affordable housing.

Once the rezoning is approved, I have confirmed arrangements for the following:

- Scheduled garbage removal through GFL Environmental
- Grass cutting and Snow removal contracted out to a local company.
- Routine pest and rodent control through Amato Pest Control

An on-site manager will continue to oversee the property. Regarding claims about KC Security, the individual seen at the property was a friend who happens to work there. There is no security contract in place, and I have a signed letter from KC Security confirming this.

5. Neighborhood Compatibility

I understand the desire to preserve the neighborhood's single-family character. However, the proposed R3 zoning still reflects low-density residential use and is consistent with other areas of the city. Rooming houses are part of the affordable housing solution and can exist compatibly in a residential setting when properly managed.

This project is not speculative development. It is a personal effort by a local resident to contribute meaningfully to the community and recover from early mistakes.

6. Site Planning and Policy

The property is not currently subject to Site Plan Control under existing regulations. However, I am open to entering into a voluntary site management agreement if Council deems it appropriate. This could address matters such as parking, snow removal, and waste storage.

7. Moving Forward

This experience has taught me a great deal. I have done my best to fix the mistakes made at the start and bring the property into full compliance. My goal is not to change the character of the neighborhood but to offer well-managed, affordable housing that helps meet local needs.

I respectfully ask Council to consider the context and intent of this application. I welcome any further discussions and remain committed to being a good neighbor and a responsible housing provider.

Sincerely,
Mangesh Shende



99 MELVILLE ROAD REZONING PROPOSAL

Proposal: Rezoning from R2 (Gentle Density Residential) to R3 (Low Density Residential)

Purpose of the Project

The project is intended to provide a safe, high-quality, and affordable residential option for individuals in need of secure accommodation - particularly students, young professionals, and newcomers to the area. The R3 zoning would allow for a rooming house format, where private rooms are rented individually while residents share common spaces such as the kitchen and living area. The house has been fully renovated with modern finishes, reliable infrastructure, and a focus on long-term sustainability and livability.

How This Benefits the Neighborhood

- Increases Property Values: The complete renovation has elevated the appearance, functionality, and market value of the home, helping uplift the surrounding neighborhood.
- Preserves Neighborhood Character: The home's footprint, height, and architectural form remain unchanged. It continues to blend seamlessly into the residential setting, maintaining the charm and integrity of the streetscape.
- Improve Neighborhood Safety: The property includes a fully installed surveillance and security system, helping deter crime and increase safety for residents and neighbors alike.
- On-Demand Property Management: A property manager will be available on-site 24/7 when required, ensuring responsive maintenance, supervision, and tenant support.
- Ongoing Maintenance Commitment: Formal agreements are in place for regular grass cutting during the summer and prompt snow removal in the winter, ensuring the property is clean, accessible, and well-kept year-round.
- Expands Affordable Housing: The residence offers thoughtfully designed and affordable accommodation, filling an essential gap in the local housing market while maintaining a high standard of quality.
- Meets Zoning Standards: The existing building meets all the requirements of R3 zoning as per "The City of Sault Ste. Marie Zoning By-law 2005-150 – May 2024"
- Direct Accountability: As the property owner, I remain directly available to respond to any questions or concerns from neighbors. I can be contacted at: [redacted] or [redacted]

Improvements – Before & After

Previously: The building was a low-use church facility with outdated interiors and minimal occupancy, contributing little to the streetscape.





Now: A clean, bright, and secure residence. All rooms, bathrooms, and shared areas have been fully updated and professionally finished.









The Corporation of the
City of Sault Ste. Marie

C O U N C I L R E P O R T

July 14, 2025

TO:	Mayor Matthew Shoemaker and Members of City Council
AUTHOR:	Jonathan Kircal, Intermediate Planner
DEPARTMENT:	Community Development and Enterprise Services
RE:	Active Transportation Master Plan

Purpose

The purpose of this report is to seek Council approval of an Active Transportation Plan for the City of Sault Ste. Marie.

Background

The Sault Ste. Marie Cycling Master Plan was approved by City Council on August 27, 2007.

At its August 9, 2021, meeting, Council authorized staff to issue a Request for Proposals to undertake a comprehensive Active Transportation Master Plan study. This was subsequently awarded to WSP consulting firm. The corresponding resolution was as follows:

"*Council authorize staff to issue a Request for Proposals to undertake a comprehensive Active Transportation Master Plan study, to a maximum cost of $150,000 (inclusive of non-recoverable HST), with funding to come from carry over funds from the FutureSSM project.*"

Analysis

WSP, a multinational consulting firm with expertise in active transportation planning and engineering, in consultation with City staff, developed the attached Active Transportation Master Plan (ATMP).

Although the development of the ATMP officially started in 2021, the project was temporarily paused midway to allow staff to focus on rapidly changing priorities with respect to housing and land use planning prompted by emerging Provincial legislation and municipal priorities. While this pause delayed the completion of the Plan, it also presented an opportunity to better align active transportation goals with land use planning efforts. This coordination strengthens the effectiveness of the ATMP by ensuring that future infrastructure investments support complete, connected, and walkable communities as envisioned in housing and land use planning objectives.

For an effective active transportation plan, it must be supported by a strong land use plan. By directing a mix of housing, grocery stores, retail, employment, and institutional uses to locate within walkable proximity to one another, as well as to direct intensification towards well served areas of the city (Strategic Growth Areas), land use and housing plans established a framework that makes walking, cycling, and public transit more practical for everyday activities such as going to work, shopping, and other leisure activities. By focusing on how and where growth occurs early in the phase, a foundation that will more effectively support the implementation of active transportation infrastructure is established.

What is an Active Transportation Master Plan?
Active transportation refers to any form of human-powered travel that involves physical activity, such as walking, cycling, skateboarding, and the use of non-electric scooters.

The Active Transportation Master Plan is a long-term strategic plan that outlines the goals, policies, and investments needed to enhance active transportation in the community. While infrastructure is a key component, the Plan also includes strategies to influence culture and behaviour, encouraging broader adoption and long-term sustainability of active transportation.

Objectives of the Plan:
Developing an Active Transportation Master Plan is a strategic step towards improving mobility, sustainability, and overall quality of life. As the city grows and becomes home to a more diverse population, the demand for safe, reliable, and accessible multi-modal transportation options will increase. A well-connected active transportation network not only enhances mobility, but also strengthens the City's appeal, making it a more attractive place for residents, workers, and families to call home.

The four objectives of the Plan are:

1. Create Connectivity:
This objective addresses gaps in the transportation network, such as missing sidewalks, bike routes, pedestrian signals, and multi-use trail connections. It ensures seamless access to key destinations, including schools, parks, shopping areas, and the John Rowswell Hub Trail.

2. Enhance Safety and Accessibility:
The Plan prioritizes safe and comfortable travel for all users, regardless of their mode of transportation. This is achieved through features such as bike lanes, pedestrian crossovers, and traffic calming measures. These improvements create inclusive streets that promote active transportation and improve overall connectivity.

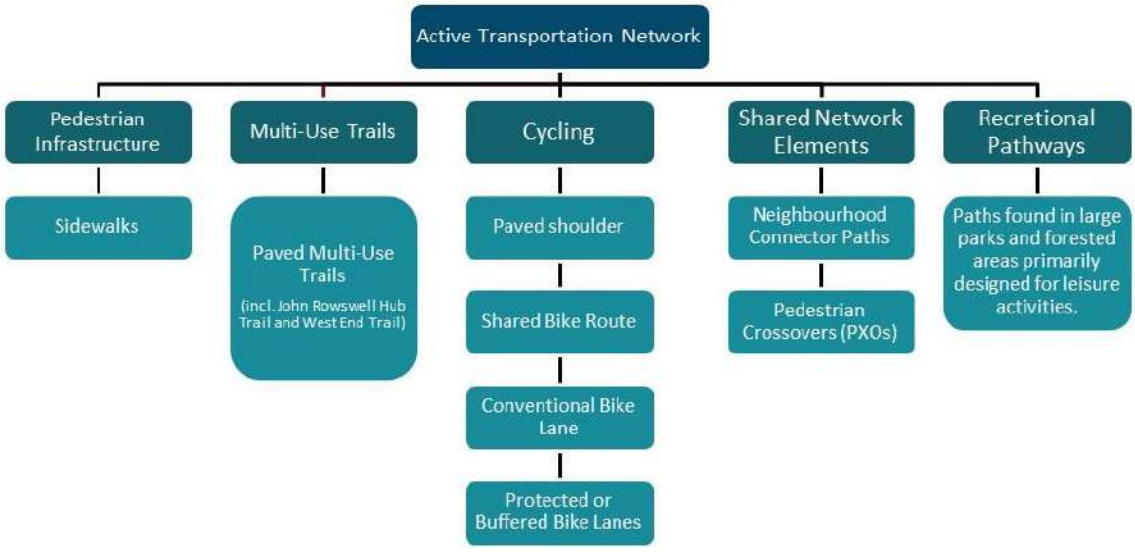
3. Advance Transportation Equity:
Not everyone has access to a car, and many individuals face barriers due to financial limitations, age, or mobility challenges. This objective ensures that all residents have access to safe, reliable, and inclusive transportation options by addressing issues such as difficult intersection crossings, missing curb cuts, and inadequate pedestrian infrastructure.

4. Education and Encouragement:
Promoting a culture of walking and cycling is essential to increasing active transportation use. This objective supports education and awareness initiatives such as cycling safety lessons, promotional events, and campaigns such as the "share-the-road" campaign. These efforts build confidence, encourage participation, and enhance overall transportation safety.

Key Highlights of the Plan:

1. Background Review
The introductory chapters of the Active Transportation Master Plan outline the extensive background research conducted by WSP to inform the recommendations of the Plan. This research includes a review of socio-economic patterns and transportation trends in the city, an assessment of existing active transportation infrastructure, and a jurisdictional scan of policies from municipalities with comparable populations and climates to Sault Ste. Marie.

2. Active Transportation Network Hierarchy
The active transportation network consists of a number of different infrastructure elements that are identified in the Active Transportation Network Hierarchy image below:



The proposed network primarily consists of sidewalks, multi-use trails, cycling lanes, shared network elements, and recreational pathways. A series of maps

have been created to show the current locations of these elements, as well as areas where staff and WSP recommend infrastructure expansion.

It is important to note that the ATMP is not a capital plan but rather a strategic roadmap that outlines a vision for the future of active transportation in the community. Only when the City is ready to proceed with a specific infrastructure project will a comprehensive analysis be conducted to evaluate its overall viability. Depending on the results, modifications to the infrastructure and routes may be necessary. For example, if a road is found to have technical issues that pose significant challenges for the construction of a cycling lane, a nearby parallel road may be considered as an alternative. Both the public and City Council will be kept informed of any changes.

3. West End Hub Trail
One of the more significant proposed investments in the ATMP is the 'West End Hub Trail.' Active transportation infrastructure is currently limited in the west end of the city, and expanding the John Rowswell Hub Trail into this area is a priority.

This proposed trail would run along the perimeter of the urbanized area, utilizing corridors such as Peoples Road, Rossmore Road, Korah Road, the creek network owned by the Conservation Authority, and Wallace Terrace. A series of existing and proposed intervening bike lanes (i.e. 'spokes') will connect the community with this trail system. The City has already begun the first steps to develop this initiative by constructing new multi-use trail segments at the intersection of Peoples Road and Second Line East. A future Hub Trail section is planned to go north along Peoples Road between Second Line and Penno Road this year.

4. Trunk Road Trail
A multi-use trail between the rail line and Trunk Road running between the downtown area and the eastern City limit is under consideration. This trail would provide a continuous, uninterrupted, and safe route for active transportation users, allowing them to better navigate a major transportation corridor that accommodates significant retail and residential areas. Opportunities to address connectivity issues between neighbourhoods and retail establishments on either side of the rail line would also be explored. Staff are in preliminary discussions with the rail authority. This is an example of a long-term strategy due to its complexity and construction costs.

5. Programming and Social Infrastructure
The successful implementation of an ATMP is not just about physical infrastructure, it also involves fostering social infrastructure that raises awareness and interest in active transportation.

Social infrastructure refers to the "soft touch" elements of active transportation, including programs, events, and community partnerships that encourage active transportation. Examples include regularly organized community walks or bike

rides, open street events that temporarily close roads to cars to create space for pedestrians and cyclists, wayfinding maps and signage, bike valets at community events, “bike-to-work” initiatives, and bike shop learning sessions.

A number of such activities already exist in the community due to the efforts of committed community members and organizations that regularly coordinate and host these events. This ‘social infrastructure’ is essential for creating a culture that views active transportation as a legitimate and desirable mode of transportation, integrating it into everyday life.

An Active Transportation Coordinator, as discussed in more detail below, would help coordinate these activities, work with community organizations, and strengthen public engagement to raise the cultural profile of active transportation.

6. Advisory Committee and AT Coordinator
Establishing an Active Transportation Advisory Committee is recommended. Advisory committees are created by City Council and are composed of members of the public with specialized knowledge, supported by staff and one or two Councillors. These committees do not have decision-making powers, but they can provide recommendations to Council and are often influential due to their subject-matter expertise.

Ideally, an advisory committee would include voices from residents, cycling groups, accessibility advocates, and other stakeholders, including different city departments, helping to broaden the city’s perspective on planning and maintaining active transportation infrastructure. Committees also play a key role in institutionalizing community engagement, ensuring that active transportation decisions reflect the needs of users and the community as a whole.

Based on successful models from other cities, advisory committees assist municipal staff and Council by offering recommendations on project prioritization, safety improvements, and funding opportunities while ensuring alignment with broader municipal policies and plans. The committee would also serve as a liaison between the City and the public, gathering feedback and advocating for active transportation initiatives. Additionally, advisory committees monitor progress and evaluate the effectiveness of implemented projects, helping to refine strategies and ensure that active transportation remains a priority for the municipality, and that it is accountable to municipal strategic plans.

Establishing an Active Transportation Coordinator position is also recommended. The coordinator would serve as the central resource for all things related to active transportation. This role would include building partnerships, coordinating events, engaging with the public, supporting education and awareness campaigns, and seeking funding and grant opportunities.

Phasing the Plan

The ATMP outlines a long-term, 30+ year vision that identifies approximately $145 million in potential capital infrastructure investments across the city. This figure also includes a 45% markup to account for non-construction costs that includes contingency allowances, design and engineering fees, permitting and approvals, and project management and administration expenses. This is an industry standard to ensure that cost estimates are more comprehensive and realistic.

The implementation of the Plan and its individual components/projects will be selective and phased, based on how well the specific item meets the Plan's objectives of positive community impact, network connectivity, accessibility and safety improvements, cost efficiency, feasibility, resource availability, political feasibility, and other criteria of the Plan. High-priority projects will be the focus of early implementation.

Therefore, while the Plan's total cost is $145 million, the high-priority projects that staff would be focused on represent a cost of $28.5 million. Two high-priority, flagship projects fall under this $28.5 million figure – the construction of the West End Hub Trail, and filling in a gap in the Hub Trail along Old Garden River Road, between Northern Avenue and Terrance Avenue. Both projects are multi-year undertakings and represent a combined total of $18 million for 14 kilometres (8.6 miles) of paved multi-use trails.

Lower and longer-term priority projects are still important and are included in the Plan to ensure the City has a framework in place to be responsive when opportunities arise, such as government grant programs, infrastructure projects and private land developments that provide bundling opportunities. These leveraging opportunities can expand the AT network with minimal additional capital funding from the municipality.

In terms of phasing and prioritization, the Plan distinguishes between 'near-term' and 'long-term' projects rather than outlining rigid timelines. It was intentional to not have an explicit timeframe for the phasing of the plan because there is no consistent, predictable funding source for active transportation infrastructure.

While the ATMP identifies near and long-term priority projects and provides a broad, high-level phasing framework, the more detailed phasing plan will be dependent on budget and funding opportunities being identified.

Funding the Plan

Although the Active Transportation Master Plan is not a formal budget request, approval in principle will support staff budget submissions for both capital and maintenance funding to support active transportation in the community.

Planning staff are recommending two priority projects for early implementation: the West End Hub Trail and the Old Garden River Road Hub Trail gap. The combined cost for these strategic short-term initiatives is estimated at approximately $18

million. Based on the City's past experience with securing funding, it is anticipated that up to 60% of construction costs may be offset through federal and provincial grants. This would result in a municipal share of approximately $7.2 million.

To support this investment, as part of this year's budget deliberations, Planning staff will request an annual contribution of $400,000 over a 20-year time period. This phased approach will allow the City to deliver two high-impact projects while also supporting lower-cost improvements such as new bike lanes, sidewalks, signage, and wayfinding enhancements.

This financial scenario is conceptual, but it does demonstrate the trade-offs between implementation speed and financial impact: faster project completion requires larger annual capital commitments, whereas a longer time horizon allows for smaller, phased capital investments. Further, detailed design and engineering studies for the proposed projects have not yet been carried out. Internal discussions involving Planning, Public Works and Engineering, and Finance are ongoing to develop a more detailed financing and implementation framework.

Staff will continue to actively pursue external funding opportunities to reduce the municipal cost. Where possible, active transportation investments will be coordinated with other planned capital works, such as road reconstructions, to maximize cost efficiencies.

Most infrastructure grant programs and other transfers are based on a cost-sharing model, typically capping their contributions at a percentage of total construction costs; therefore, the availability of readily available municipal funding increases the City's ability to take advantage of grant funding, making City applications more competitive and maximizing overall investment.

The West End Hub Trail and the Old Garden River Road gap also responds to strong public interest and offers the potential to build political momentum for active transportation investments citywide. Advancing these visible, high-impact projects can create a positive foundation for broader implementation of the ATMP.

In addition to capital costs, it must be acknowledged that new infrastructure has long-term maintenance and operation commitments to keep it in a good state of repair, and where applicable, to ensure that they are in a safe condition to use during winter seasons. The Planning Department and Public Works are in ongoing discussions to assess the annual operating impacts associated with the implementation of active transportation infrastructure.

In addition to capital funding, in the future, once funds are assembled to advance a pipeline of projects, City staff will also submit a separate budget request to support the hiring of a full-time Active Transportation Coordinator. This position will be essential to lead the implementation of the ATMP, coordinate interdepartmental work, secure grants, engage the community, and track progress. A dedicated staff

resource, hired at the appropriate time, will ensure that the City has the internal capacity to maintain momentum on active transportation initiatives, programs, infrastructure delivery, and stakeholder collaboration.

Ultimately, the successful implementation of the Plan relies on four pillars:

- Phased capital investments for infrastructure;
- External funding opportunities through federal and provincial governments;
- Maintenance funding to keep infrastructure in a good physical state and to accommodate winter use; and
- Dedicated capacity through an Active Transportation Coordinator and an Active Transportation Advisory Committee.

Public Engagement

A number of engagement activities occurred between fall 2022 to summer 2025. Such activities were advertised in the newspaper and the City's social media accounts, as well as directly emailing identified stakeholders. Such activities included stakeholder meetings with City departments, external agencies, advocacy groups, and non-profits. A series of public information sessions and pop-up information booths were also hosted across the city at key community centres and various community events to raise awareness about the ATMP and collect feedback. The most recent public activities were two information sessions that were specifically hosted prior to submitting this plan to Council to provide the public a final opportunity to comment before being submitted to City Council for approval. These events took place at the John Rhodes and Northern Community Centres on June 3 and 4, 2025. Approximately 30 people attended these events in total. Throughout all engagement efforts, it is estimated that outreach targeted people within the 200-300 range. Further, recent stakeholder meetings with the Mayor's Youth Advisory Council (MYAC) and the Sault Trails Advocacy Committee (STAC) were hosted on June 11 and 24, 2025 respectively.

Public and stakeholder response was overwhelmingly positive. A common theme was that people wanted more opportunities to use active transportation for both recreational and utilitarian purposes, however, due to things such as lack of connectivity and separation from vehicular traffic lanes, many feel that the current network is unsafe and inconvenient. Winter maintenance has also been a recurring theme raised during all public engagement events. Community members noted that during winter seasons, sidewalks, multi-use trails, and bike routes are inaccessible or unsafe, creating barriers to recreational opportunities as well as for those who depend on active transportation infrastructure year-round to get to their destinations. As previously noted, Planning and Public Works are in ongoing discussions about maintenance costs, including winter maintenance. It is recognized that enhanced winter maintenance may require additional equipment, routes, and labour.

Public Works and Engineering Services, the Planning Department, and an active transportation-focused stakeholder group are currently in high-level discussions to develop a strategy for improving winter maintenance of active transportation infrastructure. Based on experience and best practices, WSP has recommended prioritizing a focused network starting with maintaining a small segment of strategically selected routes that are thoroughly cleared of snow during the winter, as opposed to attempting to maintain a larger, City-wide network with mediocre snow clearing service. This approach would emphasize quality over quantity.

Some comments noted that the ATMP should more strongly support what is referred to as 'transportation demand management' (TDM). TDM refers to strategies that are aimed at reducing reliance on personal vehicles by influencing travel behaviour through policies such as heightened parking fees, promoting flexible and at-work opportunities, providing incentives to use public transit, establishing carpooling programs, etc. A TDM strategy falls outside the scope of an ATMP and would be best addressed through a separate, city-wide plan. With this being said, TDM is most effective when residents have convenient and safe alternatives to driving throughout the City. Such a foundation is still in the process of being built out; however, it is still discussed in the Plan as a future policy tool.

Some comments were not supportive of the Plan, as it was felt that directing resources to cycling and pedestrian infrastructure is not a good use of municipal resources, as there are fewer AT facility users than vehicles on the road. This perspective overlooks the primary purpose of an ATMP. An ATMP is a long-term strategy to encourage more people to use active transportation by making such infrastructure more convenient and safer. Low pedestrian and cyclist counts relative to motorists may be the result of concerns with the active transportation network rather than a lack of interest. For example, safety, accessibility, and connectivity issues – the very issues that the Plan seeks to address, may be a contributing factor to why active transportation users are not higher. Cities that have made similar investments have seen increases in walking and cycling use once high-quality, connected infrastructure was put in place. Active transportation is also associated with a number of other benefits, such as climate resiliency, creating more walkable neighbourhoods, improved health, and an overall increase in quality of life and community pride.

Despite public and stakeholder engagement officially concluding, staff continue to periodically host pop-up booths at community events to continue engagement and awareness efforts with the public on major projects that the department is involved with. Such engagements are used to further inform policies to keep them updated with community interests.

Financial Implications

While there are no immediate financial implications associated with receiving this report and adopting the accompanying Active Transportation Master Plan, the plan sets the stage for future capital and operating budget requests that will be brought

forward at a later date following its approval. An initial, conceptual approach is discussed in the **Funding the Plan** section of this report. Council can expect a budgetary ask of approximately $400,000 for consideration within the 2026 budget.

Strategic Plan / Policy Impact / Climate Impact

The ATMP aligns with several focus areas of the City's Corporate Strategic Plan 2024 – 2027. Active transportation supports economic development, quality of life, tourism, and environmental sustainability. It contributes to the City's goal of attracting new businesses and increasing tourism spending (Focus Area 1: Community Development). By providing alternative modes of transportation that are both functional and recreational, the plan promotes sustainable forms of transportation while also investing in a type of recreation infrastructure (Focus Area 2: Quality of Life). By expanding the City's active transportation network, the ATMP helps to further the City's climate goals of reaching net-zero emissions by 2050 (Focus Area 3: Infrastructure).

Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report of the Intermediate Planner dated July 14, 2025 concerning Active Transportation Master Plan be received and that Council adopt the Plan as a strategic, guiding policy document to inform active transportation investment decisions.

Respectfully submitted,

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Soo Moves:

Active Transportation Master Plan

SAULT STE.MARIE

July 2025

Acknowledgements

We acknowledge, with respect, that we are in Robinson-Huron Treaty territory,

that the land on which we are gathered is the traditional territory of the Anishinaabe and known as Bawating.

Bawating is the home of Garden River First Nation, Batchewana First Nation, the Historic Sault Ste. Marie Metis Council.

City of Sault Ste. Marie

Prepared by:

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List of Abbreviations

AAA - All Ages and Abilities

AADT - Annual Average Daily Traffic

AODA – Accessibility for Ontarians with Disabilities Act

AT – Active Transportation

ATMP – Active Transportation Master Plan

GHG – Greenhouse Gases

GIS - Geographic Information Systems

IAP2 - International Association of Public Participation

LIM-AT - Low-Income Measure After Tax

LTS - Level of Traffic Stress

MCEA – Municipal Class Environmental Assessment

MTO – Ontario Ministry of Transportation

OAST – Ontario Active School Travel

OTC – Ontario Traffic Council

OTM – Ontario Traffic Manual

SOAR - Strengths, Opportunities, Analysis, and Results

STAC - Sault Trails Advocacy Committee

TAC – Technical Advisory Committee

1 Introduction

1.1 What is Active Transportation?

Active transportation refers to any form of human-powered travel that involves physical activity. Common examples include walking, cycling, and various forms of 'wheeling' and 'rolling,' such as using wheelchairs and skateboards. While traditional active transportation typically involves non-motorized means of travel, small electric-powered devices, like motor-assisted wheelchairs and e-micromobility devices like e-bikes and e-scooters, can also be considered active transportation, as they maneuver similarly, provide similar benefits, and their growing popularity makes them integral parts of the active transportation system.

1.2 About the Active Transportation Master Plan

As Sault Ste. Marie continues to grow, new residents, job opportunities, and community amenities will heighten the demand for reliable multi-modal mobility options. As a result, the City has developed an Active Transportation Master Plan (ATMP), a long-term strategic framework that outlines goals, policies, and projects aimed at enhancing active transportation within the community. An ATMP is community-driven and not prescriptive; it is a roadmap that provides directions on how a City can reach its ultimate goals.

The ATMP supports the growth of physical and social infrastructure for walking, cycling, and rolling within the City. This means enhancing our existing active transportation infrastructure, which features 28 km of multi-use trails, inclusive of the John Rowswell Hub Trail, and various cycling routes throughout the city, and increasing the number of pedestrian pathways, bike lanes, and multi-use trails that are accessible and safe for individuals of all ages and abilities. It also lays out policies and programs for supporting and promoting active transportation use throughout the city.



An ATMP is a long-term strategy to guide decision making, budgeting and communications related to active transportation and its function in a multi-modal transportation network.

An ATMP should not be confused with a construction plan. An ATMP outlines long-term goals, policies and strategies to improve active transportation, whereas a construction plan focuses on the technical design, engineering, timelines, budget and construction methodologies to execute the strategies laid out in the ATMP. A construction plan, along with some form of civic engagement and/or council approval, will be requisite for much of the network that is proposed in this Plan.

The ATMP includes recommended actions to achieve the community's overall vision for active transportation and provides the necessary policies and guidelines to ensure that these actions align with best practices. During the community engagement process, residents had opportunities to share their thoughts, helping to shape a plan that reflects their needs. The ATMP also includes an implementation strategy, identifies relevant partners, and provides an annual monitoring strategy and report to Council to document progress and guide implementation.

1.3 Benefits of Active Transportation

Active transportation and the planning of its network can bring about a multitude of benefits to the individuals and the community, contributing to healthier, safer, more prosperous, and more sustainable City.

HEALTH & SOCIAL BENEFITS

- Encourages people to incorporate physical activity into their day on a regular basis.
- Regular physical activity can improve your overall health, helping prevent chronic diseases such as heart disease, stroke, diabetes, or cancer.
- Getting outside and active can also lower stress levels, improve mood and mental health, and increase energy levels.
- Creates opportunities for social interaction which supports a sense of community, belonging, and reduces feelings of loneliness.
- Provides greater independence for a wider range of ages and abilities and for those who do not or wish to not drive.
- Reduces reliance on cars and empowers people to choose from a range of mobility options that fits their needs.
- These health and social benefits enhance overall quality of life.

ENVIRONMENTAL

- Provides an alternative method of transportation to motor vehicles which rely primarily on fossil fuels to operate.
- Less motor vehicle traffic on our roads results in less congestion.
- Improves local air quality and reduced greenhouse gas (GHG) emissions and other pollutants, leading to healthier communities.
- Reduces noise pollution, contributing to decreased stress levels.

- Encourages compact land use and development and decreases the need large parking lots and roadways taking up land.
- Saves green space from development.

ECONOMIC

- Cost savings for people individuals by reducing expenses related to vehicle ownership, gas, operation, maintenance, and parking.
- Minimizing vehicles on the road saves the City resources it would spend on parking infrastructure, road maintenance, and healthcare, which can then be allocated to other community improvements.
- Decreases wear and tear on roads leading to better road conditions and less need for maintenance, repair, and construction.
- Creates a people-oriented places that improves the vitality of streets and supports the local economy, and increases tourism.

Transportation is the **second largest** source of emissions in Sault Ste. Marie. Decreasing the use of motor vehicles and increasing the use of active modes in Sault Ste. Marie is a **critical action to reach the City's goal for GHG reduction is net zero by 2050.**

Check out the Sault Ste. Marie *Greenhouse Gas Reduction Plan 2020-2030* for more information on how the City is tackling GHG emissions!

1.4 Defining the Vision & Objectives

1.4.1 Vision Statement

The City's vision statement outlines its aspirations for active transportation and the role it will play within the City. It was initially established from the key themes of the study's policy review surrounding strategic directions and the ideal future for active transportation within Sault Ste. Marie. As the project progressed, the vision statement was revised based on input from City staff, key stakeholders, and public consultation to reflect the needs and desires of the community. The vision for the ATMP is:

> ***Sault Ste. Marie's active transportation network provides safe and accessible transportation options for all ages and abilities, seamlessly connecting key destinations while supporting community health and sustainability.***

1.4.2 Objectives

To support the vision statement, a series of project objectives were established. Like the vision, these objectives were formed based upon the City's existing policy directives and through a collaborative process with City Staff, stakeholders, and members of the public.



Enhance Safety and Accessibility

Adopting and rehabilitating mobility corridors by using complete streets and vision zero principles[1] for improved access to safer walking, rolling, and cycling throughout Sault Ste. Marie.



Educating and Encouraging

Empower residents through resources that allow them to easily adopt active transportation modes, demonstrating the viability, safety, and accessibility of sustainable transportation.



Create Connectivity

Enhance the active transportation network by developing safe and accessible routes that connect the John Rowswell Hub Trail to key downtown destinations, residential and employment areas, alongside transit services and spoke routes.



Transportation Equity

Ensure that residents of all ages, abilities, and backgrounds have safe and reliable transportation options, allowing them to choose any mode they prefer.

As this Plan is implemented, the vision and objectives will serve as an accountability tool. At every stage of implementation, the City will assess the proposed next steps to ensure that the objectives laid in the Plan are being advanced.

[1] These approaches are further explored in Section 4.2 Best Practices and Emerging Technologies.

1.5 The Study Process

The *Soo Moves: Active Transportation Master Plan* study was initiated in 2021. This ATMP builds on previous municipal, provincial, and federal planning documents such as the City's 2015 Transportation Master Plan and the 2007 Cycling Master Plan (further discussed in **Section 2.1**). The ATMP aims to expand on the vision and goals previously established by the City and other levels of government.

Across Canada, there has been increasing support for active transportation and recreation from all levels of government. Federal, provincial, regional, and municipal governments are working together to establish policies, conduct research, develop strategies, and implement initiatives that promote investments and improvements in active transportation.

WSP Canada Inc. was retained by the City of Sault Ste. Marie to prepare this Active Transportation Master Plan. The ATMP was developed through a multi-stage approach to grow and enhance active transportation within the City. The study's approach (**Figure 1**) is consistent with Phase 1 and 2 of the Master Planning process as identified in the Municipal Class Environmental Assessment (2023).

Background and Technical Review	• Develop a Vision and Objectives (Chapter 1) • Review of policy and best practices (Chapter 2) • Develop an Engagement Strategy (Chapter 3)
Existing Conditions Review	• Conduct an analysis of socio-economic and travel patterns (Chapter 2) • Undertake a desktop review of the existing active transportation network (Chapter 2) • Stakeholder and community engagement (Chapter 3)
Network Development	• Identify candidate routes and missing links (Chapter 5) • Select facility types for the network (Chapter 5) • Gather feedback on network with community and stakeholders (Chapter 3)
Implementation	• Identify policy and programming recommendations (Chapter 6) • Phase and cost the recommended network (Chapter 7)
Reporting	• Develop ATMP Report • Develop final Council and stakeholder presentations

Figure 1 | Study Process

2 Active Transportation in Sault Ste. Marie

The City of Sault Ste. Marie ATMP aims to build on previous municipal, provincial, and federal planning documents to ensure that the ATMP contributes to the goals and vision previously established by different levels of government.

Throughout the last decade there has been an increase in support for funding and developing more active communities from across levels of government. Federal, provincial, and municipal governments are working together and establishing policies, research, strategies, and initiatives that provide support for investments and improvements for active transportation.

One of the first steps in the process of creating the ATMP is developing an understanding of the plans and policies that have helped set the foundation for active transportation development, including those that have a direct influence on active transportation planning, design, and implementation in Sault Ste. Marie. The following is an overview of all plans and policies that were reviewed to inform the development of the ATMP.

Despite the focus of this plan on land-based forms of transportation, consideration should be made for water-based travel such as boats, canoes, kayaks. Sault Ste Marie has extensive waterfront access and therefore, water-based transportation should be included as it has significant benefits to individual's physical health, to the environment, and holds cultural significance to such groups as the Métis.

It is important that the ATMP's vision aligns with the City's existing policies to ensure all future decisions meet the City's overall vision and reflect the needs of the community. As these documents provide significant guidance for the ATMP, the following sections summarize relevant aspects of these policy documents and highlight common themes among the documents that were used to develop the vision statements for the Plan.



2.1 Existing Policies and Initiatives

2.1.1 Federal Policies and Documents

The Government of Canada has several policies and funding programs designed to help municipalities transition to more sustainable modes of transportation. The federal strategies that promote active transportation and provide support for provincial, regional, and local initiatives include:

Policy Considerations:

- The National Active Transportation Strategy's (2021) *Active Transportation Fund* provides $400 million to help municipalities develop active transportation facilities and education/outreach programs. To qualify, municipalities must demonstrate that their planned projects will create community connections, improve user experience, assist in a modal shift, and increase equity across the municipal region.
- Transport Canada's *2024-2025 Departmental Plan* (2024) and *Transportation 2030: A Strategic Plan for Transportation in Canada* (2016), which include actions for improving the safety, accessibility, efficiency, and environmental sustainability of Canada's transportation systems. Transportation 2030 acts as the overarching blueprint for developing Canada's transportation systems over the next decade and it highlights the need for a mode-shift to sustainable transportation methods.

2.1.2 Provincial Policies and Documents

The Province of Ontario has a suite of policies that support the adoption of active transportation. These policy documents provide guidance to local municipalities which can range from suggested actions to legislated requirements. However, legislated requirements for active transportation are seldom used, as most documents provide suggestions, guidance and support for active transportation development.

Policies Reviewed:

- Provincial Planning Statement (2024)
- Northern Ontario Growth Plan (2011)
- Tour By Bike: Ontario's Cycling Tourism Plan (2017)
- Ontario Province-wide Cycling Network (2018)
- Accessibility for Ontarians with Disabilities Act (2005)
- Minimum Maintenance Standards for Municipal Highways O.Reg.239/02 (2018)

Policy Considerations:

- The Provincial Planning Statement (PPS) 2024 encourages the use of active transportation and transit across residential, employment, and institutional areas (s. 1.8.1.b) and a diverse range of publicly accessible recreational settings to meet the needs of all age groups and abilities (s. 3.9.1.b). It emphasizes the creation of healthy, safe, inclusive, and complete communities by

incorporating multimodal transportation options to meet long-term needs and enhance accessibility for individuals of all ages and abilities (s. 2.1.6). It advocates for designing public streets, spaces, and facilities to foster social interaction and active transportation while ensuring safety and accommodation for everyone (s. 3.9.1.a). The PPS highlights the importance of connectivity within and among transportation systems and modes, including cross-jurisdictional connections (s. 3.2.3). It also promotes the efficient use of existing and planned infrastructure through transportation demand management strategies where feasible (s. 3.2.2). Efficient use should be made of existing and planned infrastructure, including through the use of transportation demand management strategies, where feasible. (Provincial Planning Statement, 2024 s. 3.2.2.).

- The Northern Ontario Growth Plan (2011) supports the transition to a multi-modal transportation system that prioritizes enhancing connectivity between road-based, rail, marine and air transportation options (s. 5.3.2.d).
- Ontario's Cycling Tourism Plan (2017) encourages increasing collaboration between governments and industry partners to develop and enhance products and experiences that support cycling tourism (e.g. heritage trails, trail tourism programs), particularly in rural regions of the province.
- The Accessibility for Ontarians with Disabilities Act (AODA) built environment guidelines and O.Reg.239/02 provides support for the technical and legislative requirements for improving accessibility within transportation systems to create an inclusive environment.
- O. Reg. 239/02: Minimum Maintenance Standards for Municipal Highways requires municipalities to ensure sidewalks and bicycle lanes are safe and accessible for pedestrians and cyclists, even during adverse weather conditions, including during the winter. Further guidance on snow removal, ice, and regular maintenance is included in this Standard.

2.1.3 Municipal Policies and Documents

The ATMP is closely informed by policies at the municipal level. The City's Official Plan provides the most guidance on future development, as it is a statutory document required under the Planning Act and the Provincial Policy Statement. Policies and supportive guidance that have the highest degree of relevance to the ATMP are referenced in **Table 1.**

Policies Reviewed:

- Official Plan (1996, currently being updated)
- City of Sault Ste. Marie Transportation Master Plan (2015)
- City of Sault Ste. Marie Corporate Strategic Plan 2024 – 2027
- City of Sault Ste. Marie Cycling Master Plan (2007)
- Sault Ste. Marie Community Greenhouse Gas Reduction Plan (2020)
- City of Sault Ste. Marie Parks and Recreation Master Plan 2020 – 2025 (2019 and draft 2024 update)

Table 1| Summary of the Relevant Policies and Support from Local Policy Documents

**Bolded ideas identify common themes among the documents*

Policy	Relevant Vision(s), Objective(s), and/or Plan Purposes
Official Plan (1996, currently being updated) 	• Enhance the lives of all residents **regardless of age or skill**, through the provision of **diverse leisure and recreational opportunities**. • Develop a comprehensive recreational multi-use trail system. • Promote the value of recreation for **health and quality of life** • Eliminate access inequalities to parks and integrate the parks/open space system with **linear recreational facilities**. • Encourage sidewalk improvements, lighting, and street furniture and pedestrian and cycling **access to parks, bus stops and schools**. • Create pedestrian and cycling routes throughout the **Downtown and along the waterfront**. • Support alternative, **energy efficient** forms of transportation. • Consider **alternative transportation modes**, including pedestrians and cycling, in the development approval process for large-scale projects. • Build on & off-road bicycle routes and facilities
Transportation Master Plan (2015) 	• Invest in active transportation and multimodal networks . • Continue with the **implementation of the Cycling Master Plan** and **extension of the John Rowswell Hub Trail** . • Build **complete streets** and consider road diets to **meet the needs of all modes.** • Provide a **safe and accessible network** and a **safe pedestrian environment.** • Continue with the implementation of traffic calming measures. • Ensure roads, cycling facilities and sidewalks are **built for all users,** including persons with disabilities. • Promote **environmental sustainability**, **active transportation, and** the reduction in usage of single occupant vehicles. • Manage travel demand by supporting non-auto travel choices .
Corporate Strategic Plan 2024 – 2027 	• Ensure a healthy, sustainable, and prosperous community. • Be accountable, transparent, and fiscally responsible to meet the needs of our community. • Foster a **safe, welcoming** and **inclusive community** and invest in an improved, **accessible** and **barrier-free transportation network.** • Monitor, maintain, and **redevelop existing infrastructure.** • Develop an attractive and **vibrant downtown core/waterfront** and **expanded active transportation network**. • Achieve net zero emissions by 2050 through **sustainable** solutions. • **Collaborate with community groups** to achieve goals.

Policy	Relevant Vision(s), Objective(s), and/or Plan Purposes
Cycling Master Plan (2007) 	• Improve and develop the road and trail network to **provide a safe, convenient environment** for all cyclists. • Develop educational programs to **promote safe cycling** and **improve skills** for all road and trail users. • Promote cycling as an **inclusive, enjoyable, practical** and **sustainable alternative means of transportation** and exploration that **improves quality of life** for **all ages and abilities**. • Integrate cycling into the local transportation network using best practices to create intuitive routes connecting key destinations. • Accommodate cycling routes and bicycle-friendly amenities during road reconstruction.
Community Greenhouse Gas Reduction Plan (2020) 	• Achieve Net Zero in Sault Ste. Marie by 2050. • Focus on **reducing residents commuting by car** to lower emissions. • Introduce a Climate Lens policy for all major City decisions to ensure City investments, policies and programs are **supporting climate change goals**. • Increase **education and awareness** about the **environmental, economic and health benefits** related to active transportation. • **Develop and maintain bike friendly infrastructure.** • Encourage workplace initiatives aimed at promoting active transportation. • Maintain an inventory of bike trails, and update annually. • Promote compact land uses.
Parks And Recreation Master Plan 2015 – 2025 (2019 Update) 	*As of 2024, this plan is in the process of being updated.* • Enhance programs and services to address gaps and meet the changing needs of the community. • Implement a **network of cycling facilities.** • Develop initiatives that support cycling. • Implement proactive strategies that accommodate the unique and growing **parks and recreation needs** with an emphasis on '**walkability'** and **improved accessibility**. • Implement strategies for **providing amenities** that enhance and **enrich the lives of community members**.

2.2 Current Socio-Economic Patterns and Transportation Trends

To develop an active transportation network that is specific to Sault Ste. Marie, it is important to understand the local context, especially demographic and transportation characteristics and trends. This will ensure that recommendations and strategies that form the ATMP are reflective of the City's Strategic Plan and meet the needs of existing and future residents who will be using the network. A review of the socio-demographic and transportation data was completed as part of an equity-focused approach to building the network.

This section includes a series of infographics to show current demographic and travel patterns based on spatial data from the 2021 Statistics Canada Census, 2021 Journey to Work data, City of Sault Ste. Marie and Land Information Ontario. Five categories were derived to organize the spatial analysis work:

- Population Profile
- Economic Profile
- Transportation Patterns and Future Demand
- Physical Environment
- Connectivity and Network Completeness

Each of the above categories is explained in more detail within this section.



2.2.1 Population Profile

Understanding population and the growth is an important consideration when assessing the existing conditions and the potential for active transportation in the City.

The 2021 Census indicated a population of just over 72,000, expected to grow to 83,300 in 2036. Since then, annual population estimates from Statistics Canada have found a recent increase to over 78,574 as of June 2024, suggesting a more robust rebound than previously expected.

WHERE IS THIS DATA FROM?

The data used for population and economic profile was collected from **Statistics Canada.** Every five years, information on social, economic and environmental conditions is collected and published to help gain a better understanding of the population, resources, economy, environment, society and culture.

Figure 2 presents the changes in Sault Ste. Marie's population from 1996 to 2022 and the expected growth to 2036. Note that the years of 2026 and beyond are estimates. It is expected that the majority of new growth will be directed to the urban areas to help maintain the existing character of the rural and natural areas (Draft Official Plan, 2022).

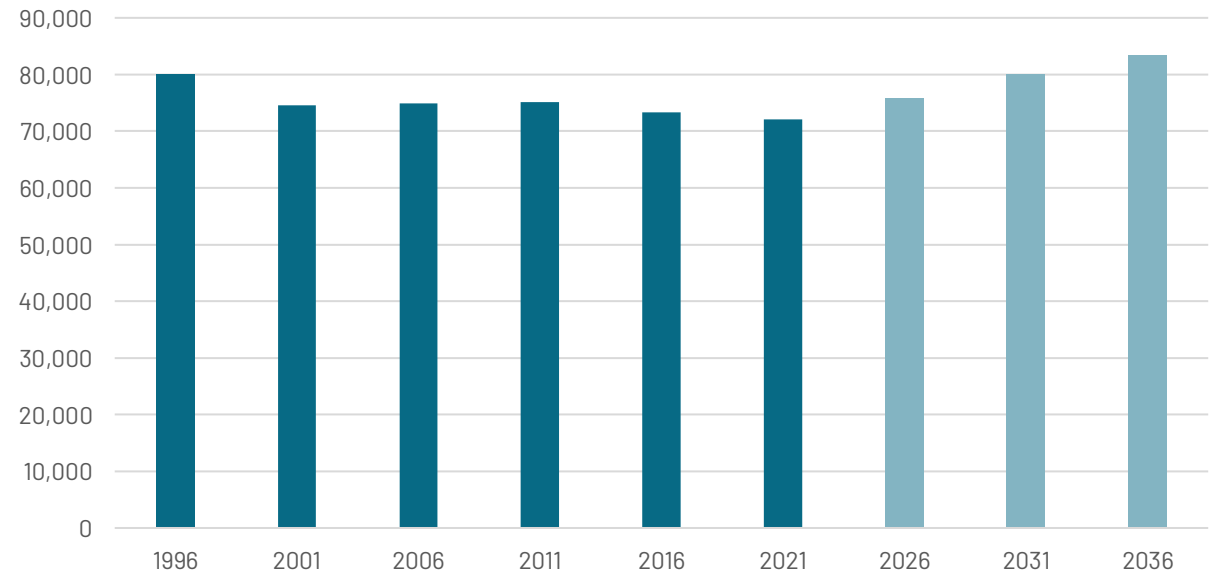


Figure 2 | Population Growth (Historical and Future Estimates) in Sault Ste. Marie
Source: 2021 Census and 2022 City of Sault Ste. Marie Draft Official Plan

Population density

The majority of the City's population resides in the Urban Settlement Area. This area designated in the Draft 2022 Official Plan includes the Downtown area, which is a Strategic Core Area in the Growth Plan for Northern Ontario.

75% of Sault Ste. Marie's total land mass is Precambrian Uplands Land (lands located above the Precambrian Shield Line to the north City limits) or rural, including the area surrounding the Sault Ste. Marie Airport. There is increasing recognition and desire to preserve the characteristics of the rural lands and to support local agriculture and food, as noted in the Draft 2022 Official Plan. These lands are significant activity hubs, however only about 10% of the City's population live in rural areas, with more choosing to live within the urban boundary in the last few years.

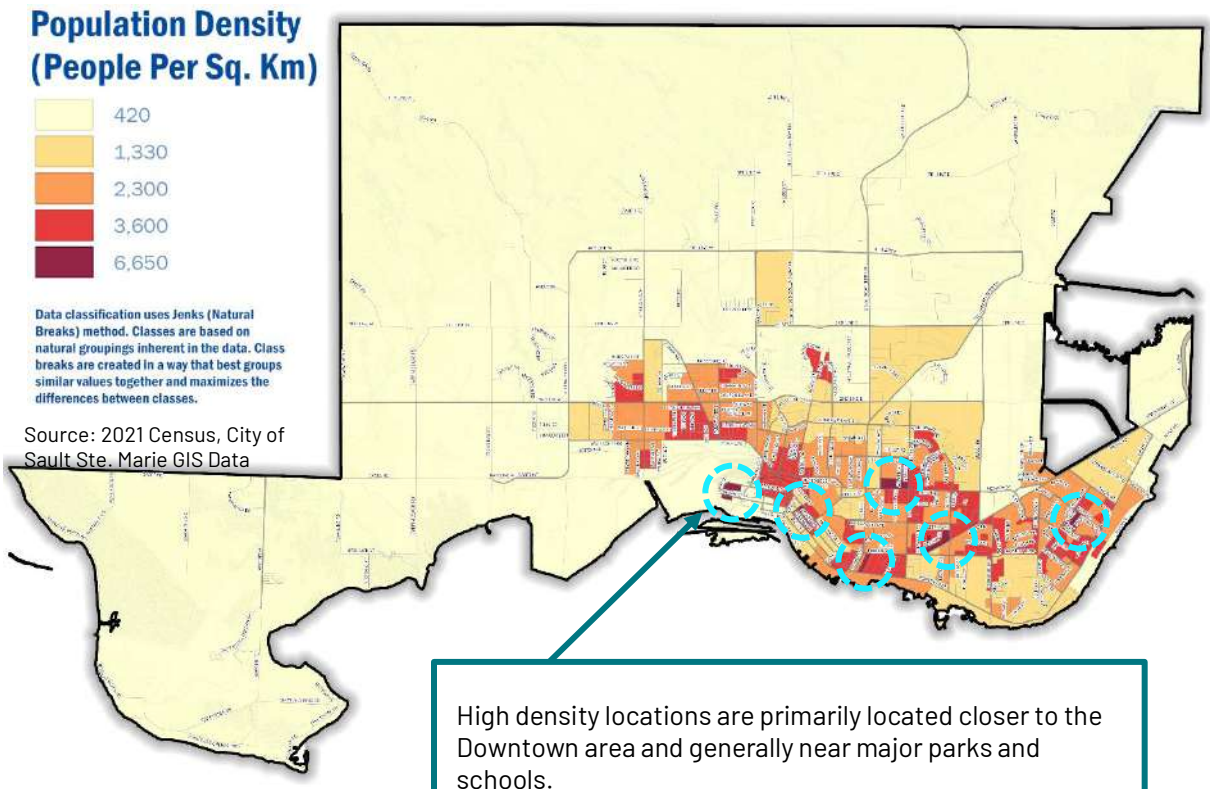


Figure 3 | Population Distribution

High density locations are primarily located closer to the Downtown area and generally near major parks and schools.

The exception to this is the James Street Neighbourhood. From the recent James Street Neighbourhood Strategy 2021-2025, it was heard that community members considered this neighbourhood to be physically and socio-physically isolated from the rest of the City despite the high proportion of residents in the area.

Distribution by Age: Youths

When looking at the age distribution for the City of Sault Ste. Marie, the majority of families with youths between the ages of 0 and 14 are located around public schools (**Figure 4** and **Figure 5**).

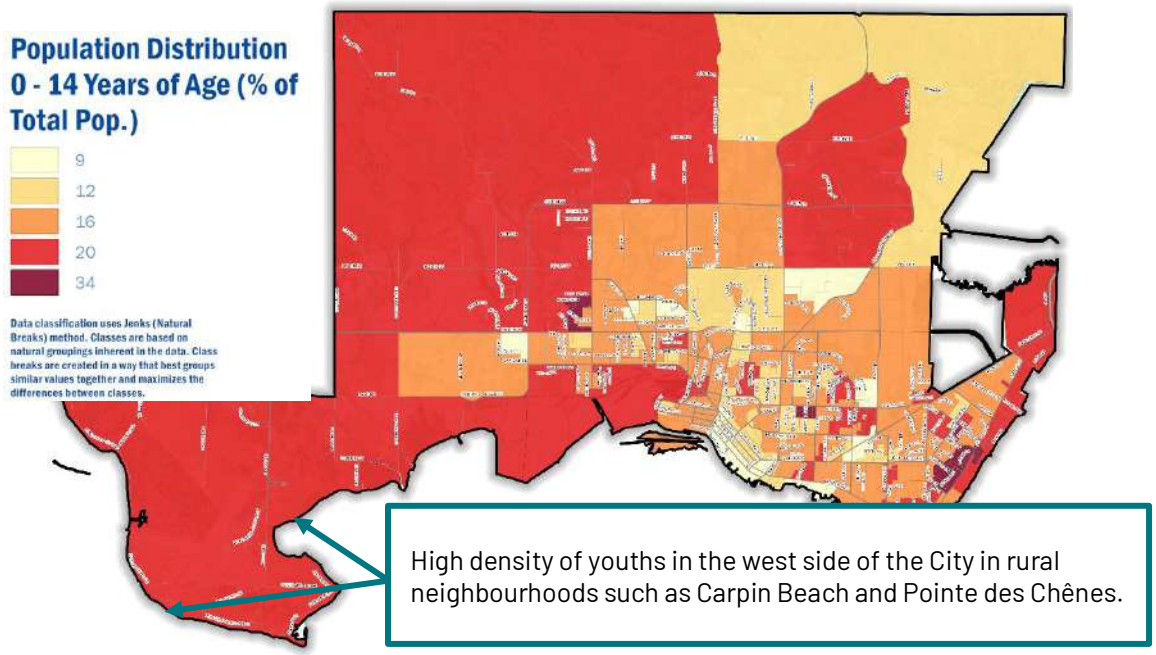


Figure 4 | Population Distribution of Youths
Source: 2021 Census, City of Sault Ste. Marie GIS Data

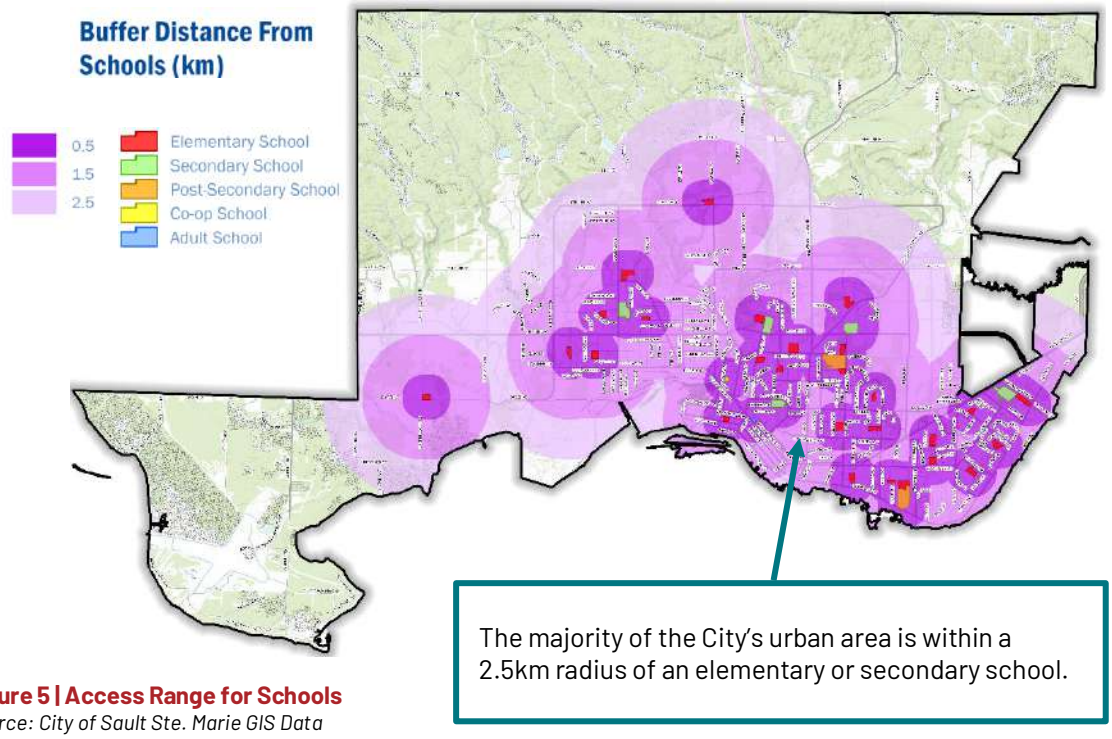


Figure 5 | Access Range for Schools
Source: City of Sault Ste. Marie GIS Data

Distribution by Age: Seniors

Seniors over the age of 65 in Sault Ste. Marie are generally higher in distribution within the urban area of the City.

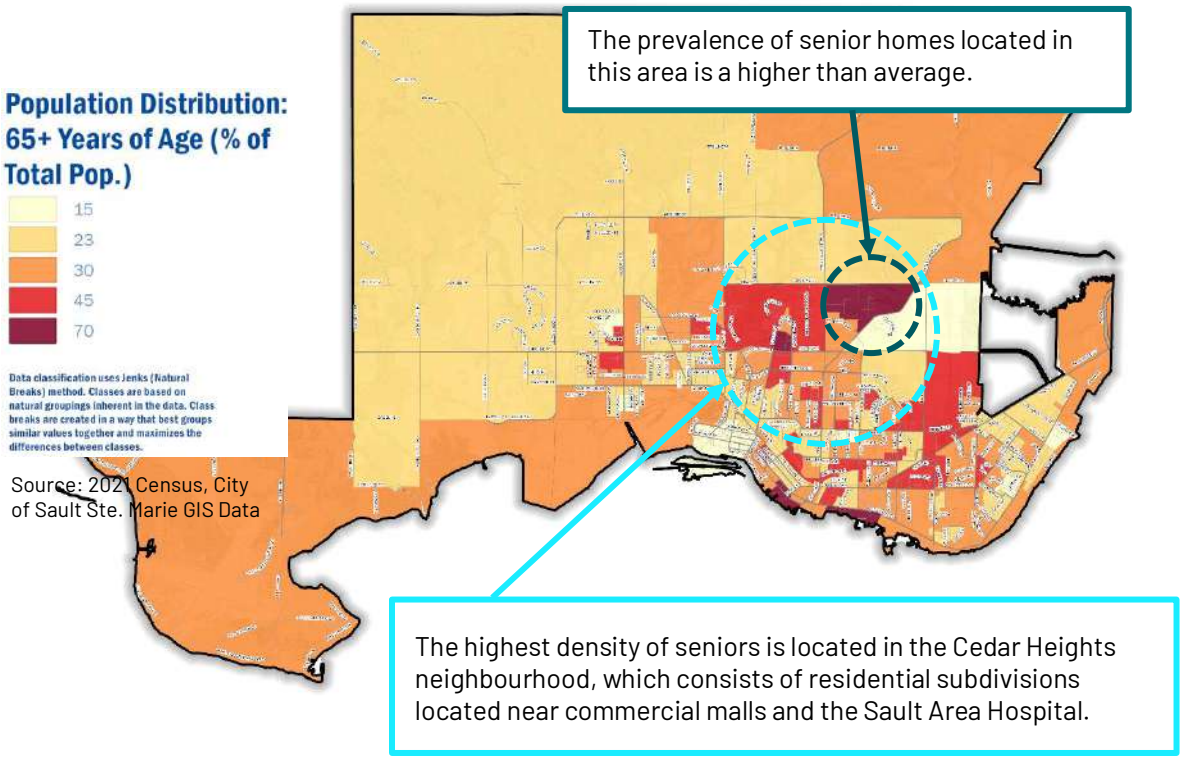


Figure 6 | Population Distribution of Seniors
Source: 2021 Census, City of Sault Ste. Marie GIS Data

POPULATION DISTRIBUTION KEY TAKEAWAYS

Areas identified as high density and with mixed land uses tend to encourage and support more active transportation trips due to the ability to make shorter distance trips. For example, residents in these locations could choose to walk to school or to local shopping areas rather than drive if they lived nearby to their destinations.

Sault Ste. Marie's population density is primarily around schools in the urban area. Improving active transportation options in the areas immediately surrounding a school provides families with youths with viable and sustainable alternatives for getting to and from school. The urban area is also higher in distribution of seniors, who are a key demographic group for active transportation as they may choose to walk and cycle as a form of low impact exercise and may also require assistive mobility devices and therefore additional accessibility considerations. Active transportation options in high density neighbourhoods like Cedar Heights should be explored for trips to and from key destinations and for recreational use.

Visible Minority and Immigrant Population Distribution

Visible minority and immigrant communities may not have benefitted as much as other groups in terms of access to active transportation routes and connections to transit or other supportive infrastructure. The distribution of these population groups and their options for transportation within Sault Ste. Marie was reviewed as part of an equity-focused approach.

The visible minority group captured by the 2021 Census includes following population groups: South Asian, Chinese, Black, Filipino, Arab, Latin American, Southeast Asian, West Asian, Korean, Japanese, and people of multiple visible minorities.

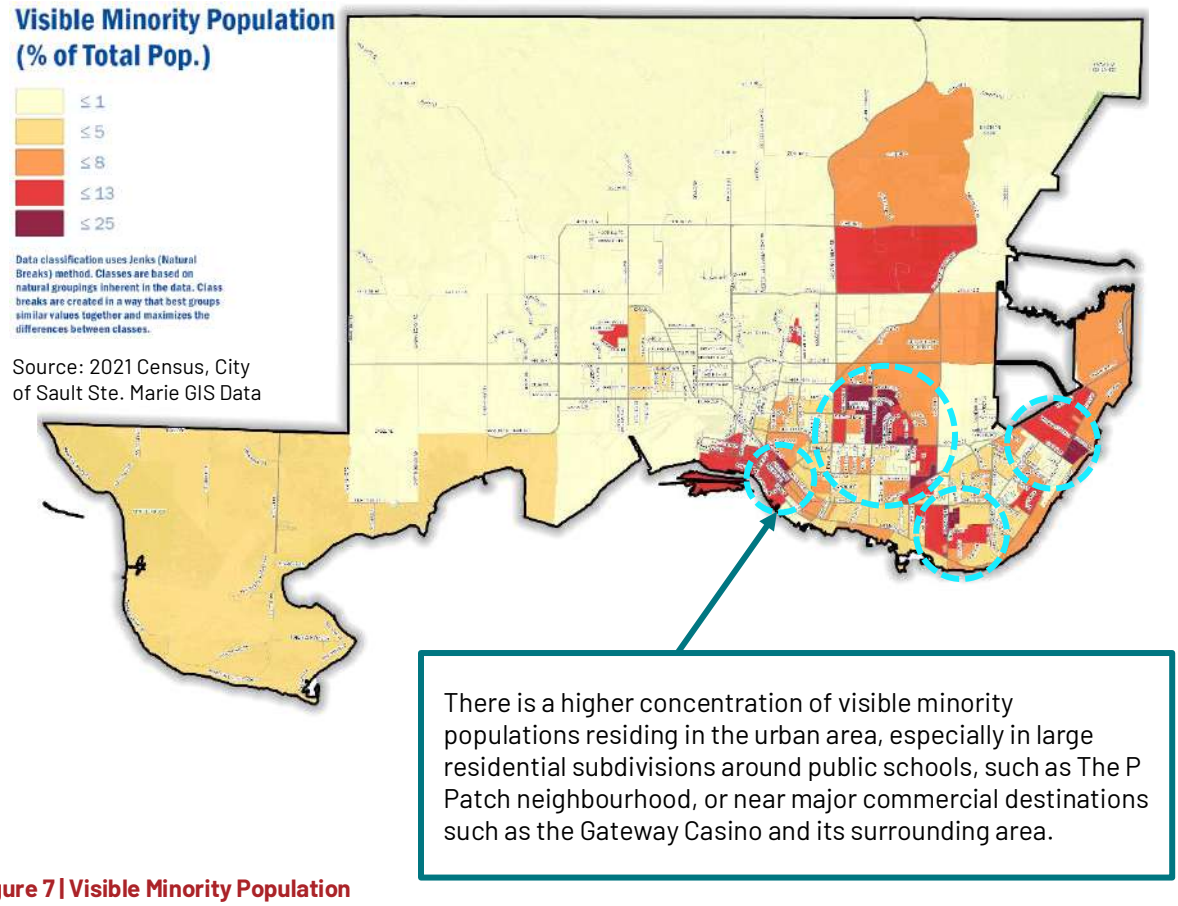


Figure 7 | Visible Minority Population

The distribution of immigrant communities with a high prevalence of non-English or French speaking populations are similarly concentrated around Second Line (**Figure 8** and **Figure 9**).

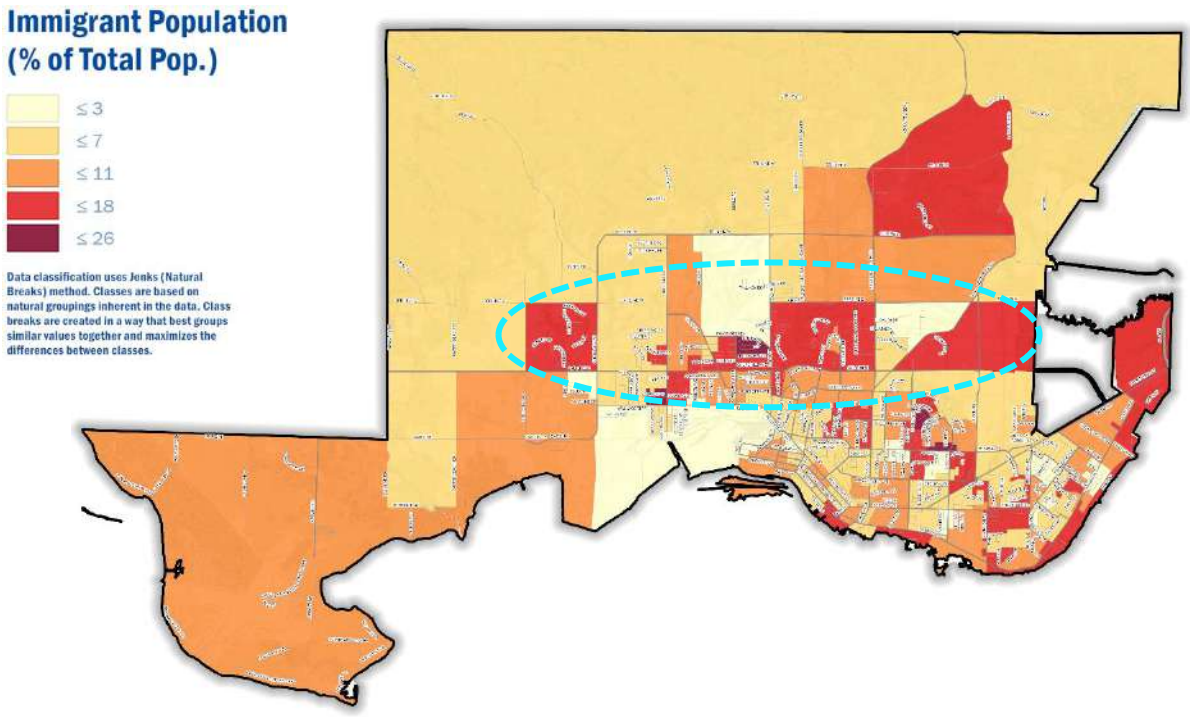


Figure 8 | Distribution of Immigrant Population
Source: 2021 Census, City of Sault Ste. Marie GIS Data

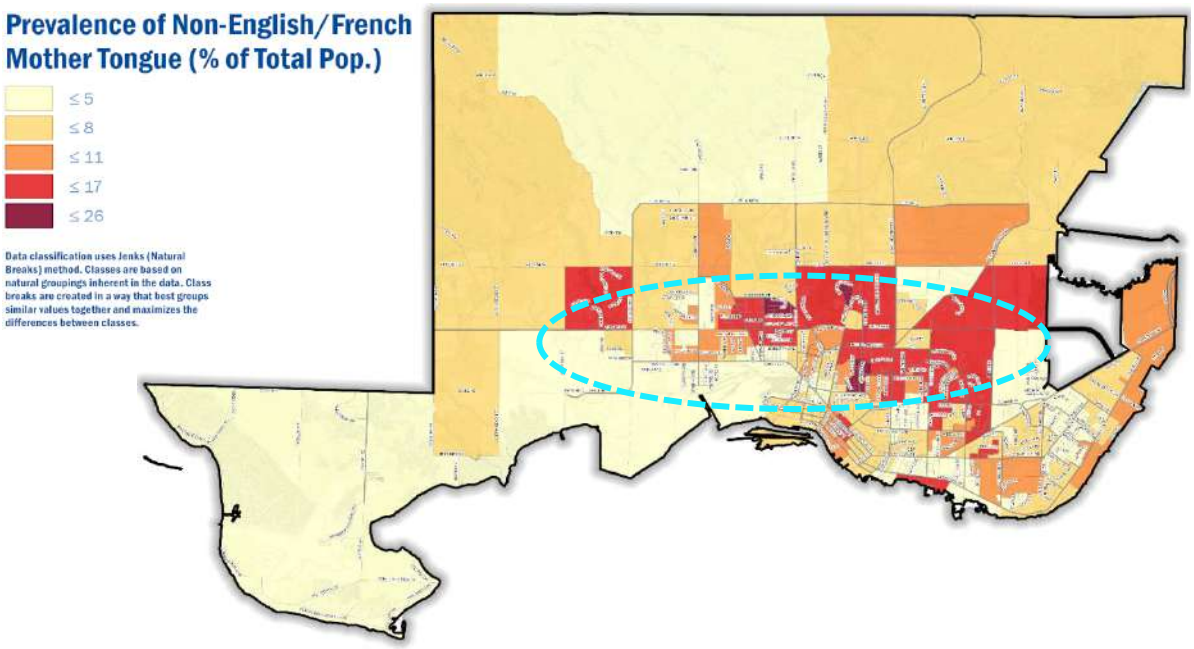


Figure 9 | Distribution of Population with a Non-English or French Mother Tongue
Source: 2021 Census, City of Sault Ste. Marie GIS Data

VISIBLE MINORITY AND IMMIGRANT POPULATION KEY TAKEAWAYS

As marginalized communities, the takeaways from these maps provide information that could inform decisions on where opportunities for higher density active transportation infrastructure could be to improve equity and to support active transportation connections to transit. New immigrants may not have access to a vehicle and may rely on active transportation and transit connections to facilitate movement within and across the City. If English or French is not their first language, there may also be a language barrier to understand how to travel in the area.

2.2.2 Economic Profile

The economic profile of Sault Ste. Marie provides insight on the City's economic vitality and opportunities for increased active transportation infrastructure density, such as areas where low to medium income households are located. Income is also a key indicator when considering equity in terms of access to transportation infrastructure.

Median Household Income

From the 2021 Census, the median household income in Sault Ste. Marie is $89,600 before tax, as shown in **Figure 10,** slightly below the Ontario median household income of $91,000. Approximately 34% of the City's households have an income over $100,000. The household income after tax distribution by location is illustrated in **Figure 11**.

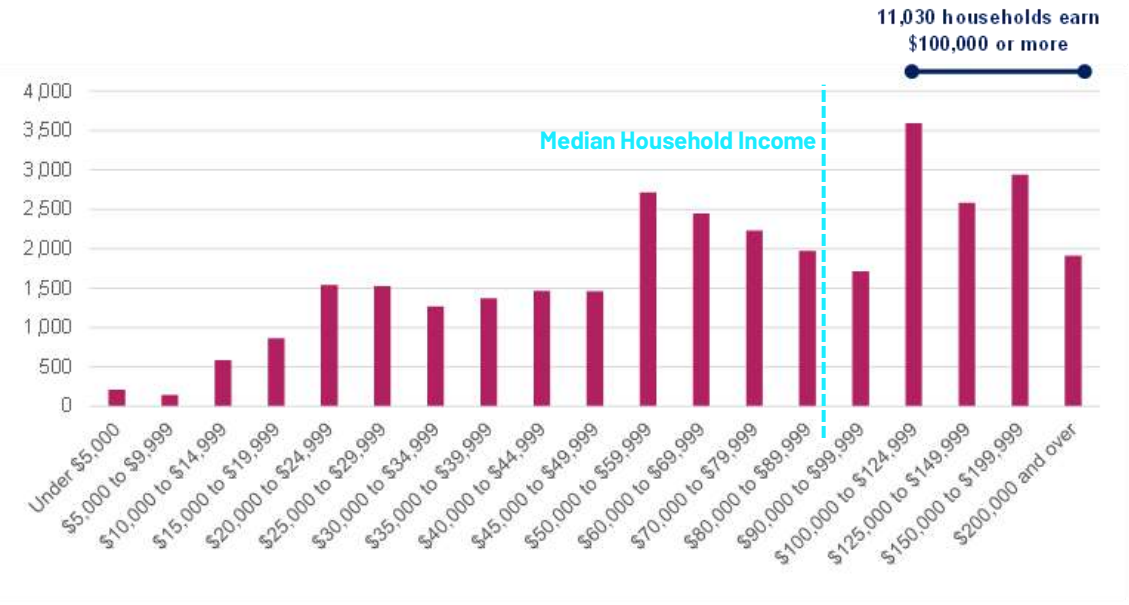


Figure 10 | Distribution of Household Income for Sault Ste. Marie (Before Tax)
Source: 2021 Census

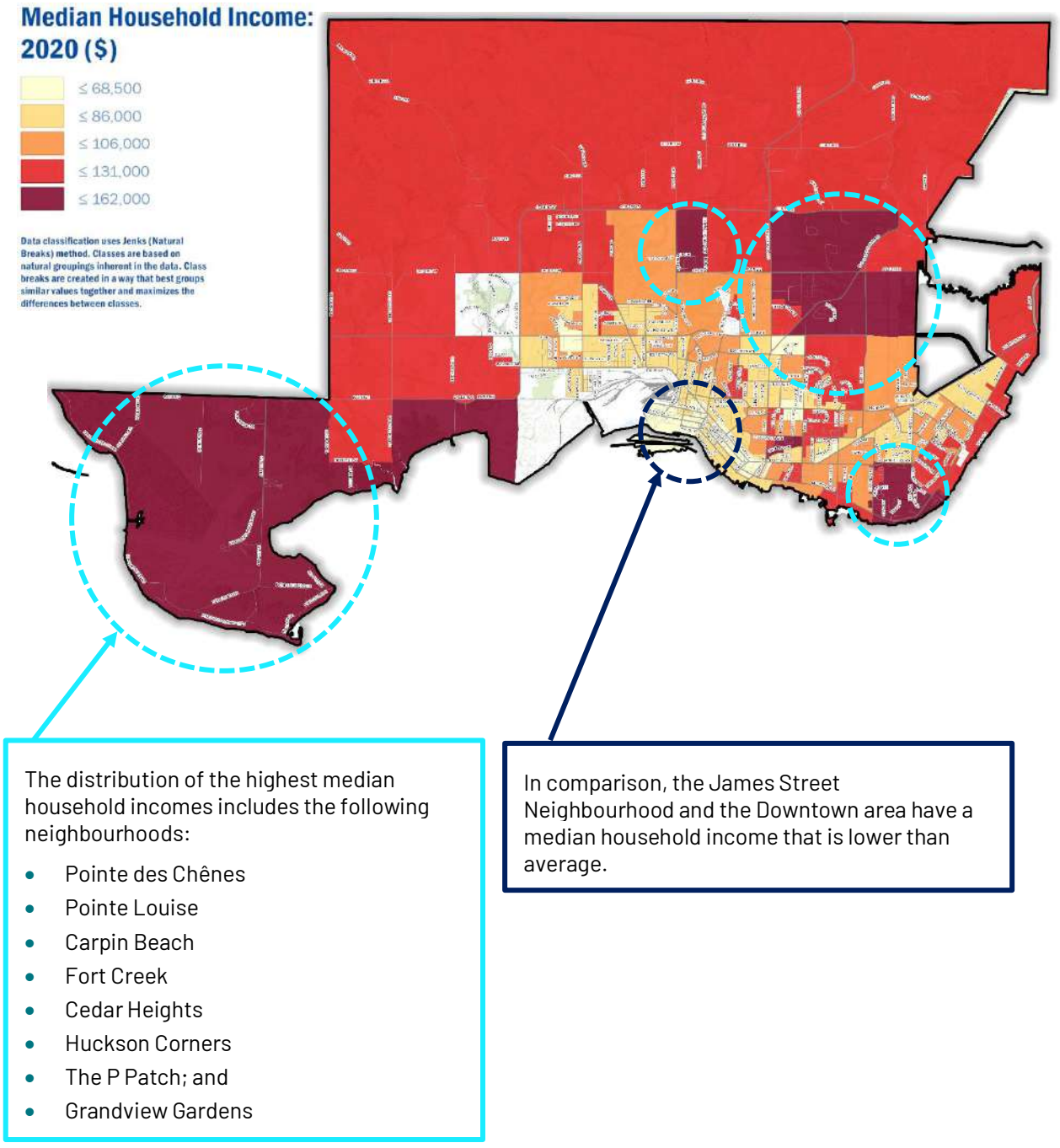


Figure 11 | Distribution of Median Household Income by Location (After Tax)
Source: 2021 Census, City of Sault Ste. Marie GIS Data

Lower Income Areas

The Low-Income Measure After Tax (LIM-AT) and the Gini Index are two commonly used measures to identify lower income areas in local municipalities. The LIM-AT is a fixed percentage (50%) of median adjusted after-tax income of households observed at the person level. 'Adjusted' indicates that a household's needs are taken into account. The households that fall under 50% are classified as "low-income". The Gini Index measures income distribution across a population in which the index values range from 0 to 1, with 0 representing "perfect equality" and 1 representing "perfect inequality". Therefore, an index value closer to 0 indicates an area with a greater proportion of income resources.

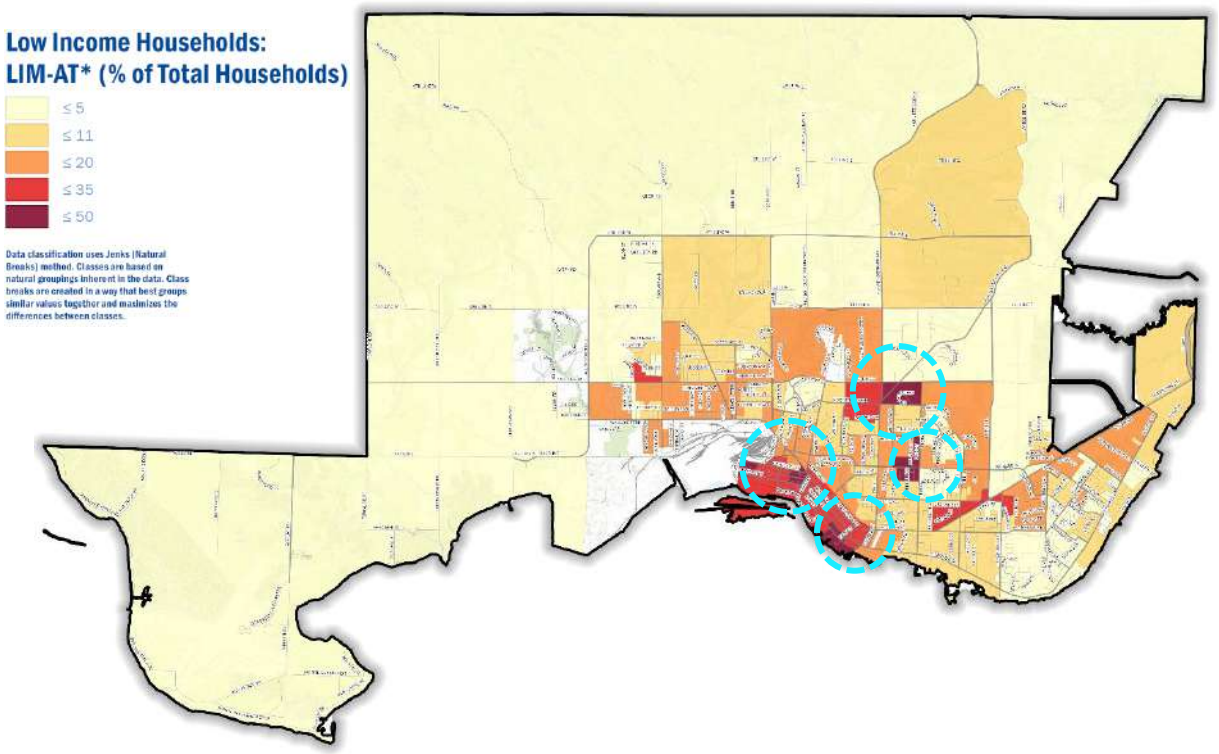


Figure 12 | Low-Income Measure After Tax Distribution
Source: 2021 Census, City of Sault Ste. Marie GIS Data

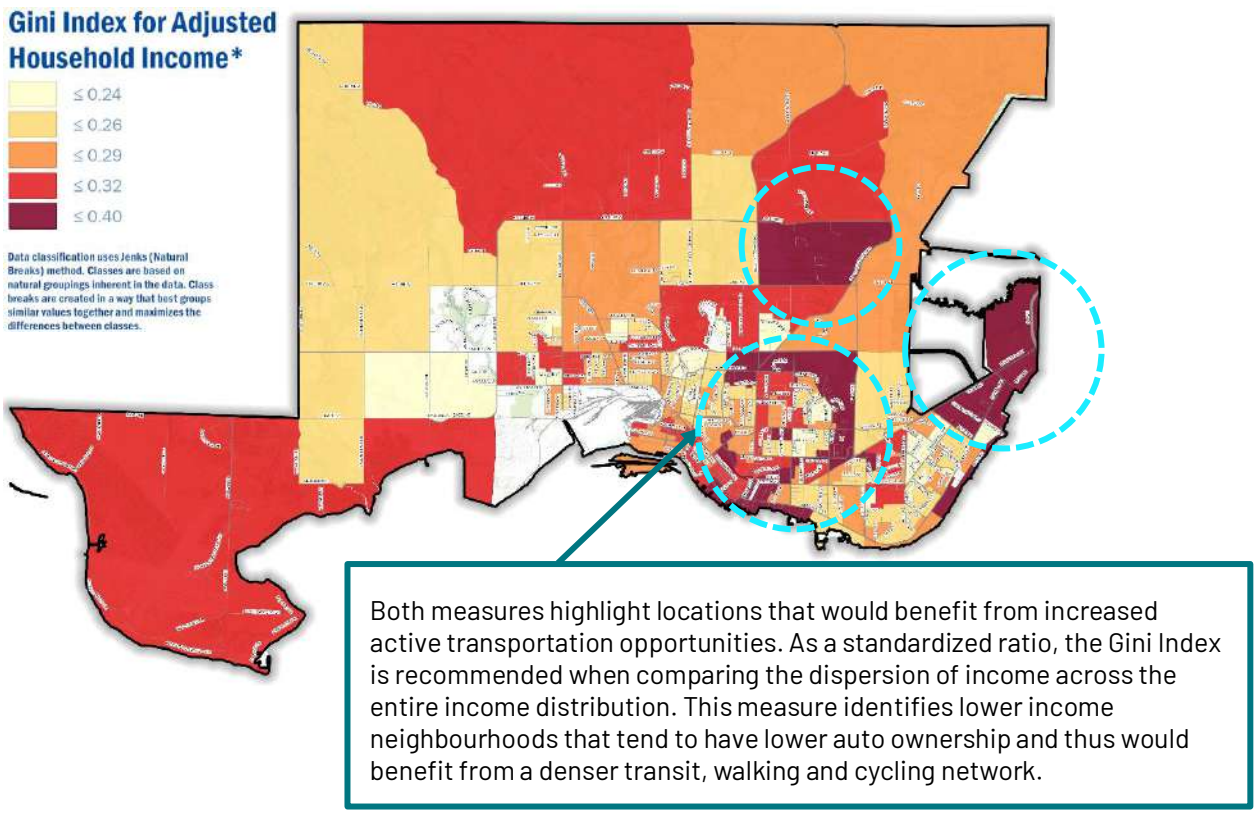


Figure 13 | Gini Index Distribution
Source: 2021 Census, City of Sault Ste. Marie GIS Data

ECONOMIC PROFILE KEY TAKEAWAYS

Low to moderate-income households may have less financial flexibility to purchase and maintain a vehicle and may even have difficulty covering the cost of public transit fare. Active transportation modes, like cycling, walking and other forms, are considered low-cost transportation modes, making them more accessible to a wider population, especially those with limited financial resources. However, the availability of active transportation infrastructure is crucial for these modes to be viable options. Although active transportation infrastructure should be distributed across the City, implementing a higher density of well-connected cycling paths, pedestrian-friendly sidewalks, and other active transportation facilities within low to medium-income neighbourhoods may help to address barriers and reduce transportation inequities by enhancing transportation options to travel in and around the City.

2.2.3 Transportation Patterns and Future Demand

The majority of the residents in Sault Ste. Marie from the 2021 Census reported their main mode of transportation used to commute to work as driving. Approximately 91% of residents commute by car, truck or van, both as a driver and passenger, which is higher than the Provincial average of 84%. Residents of the City are also therefore less likely to take transit, walk or cycle as compared to the Ontario average for each mode. The City's modal split is shown in **Figure 14**.

The 2022 Draft Official Plan Background Paper noted that this may be due to lower overall population density, which makes it difficult to implement a more direct, high-frequency public transit system which would facilitate longer-distance trips that may not be feasible through walking or cycling.

WHERE IS THIS DATA FROM?

The data used for this section is from the **Statistics Canada's Journey to Work Survey**, which is collected as part of the census. This survey focuses on how Canadians commute to work. This section references the results from the 2021 Survey which provides insight on the commute patterns in May 2021. At that time, employment was more than half a million below its February 2020 level, with millions of Canadians continuing to work from home. This data presents the impacts of the COVID-19 pandemic on commuting in Sault Ste. Marie.

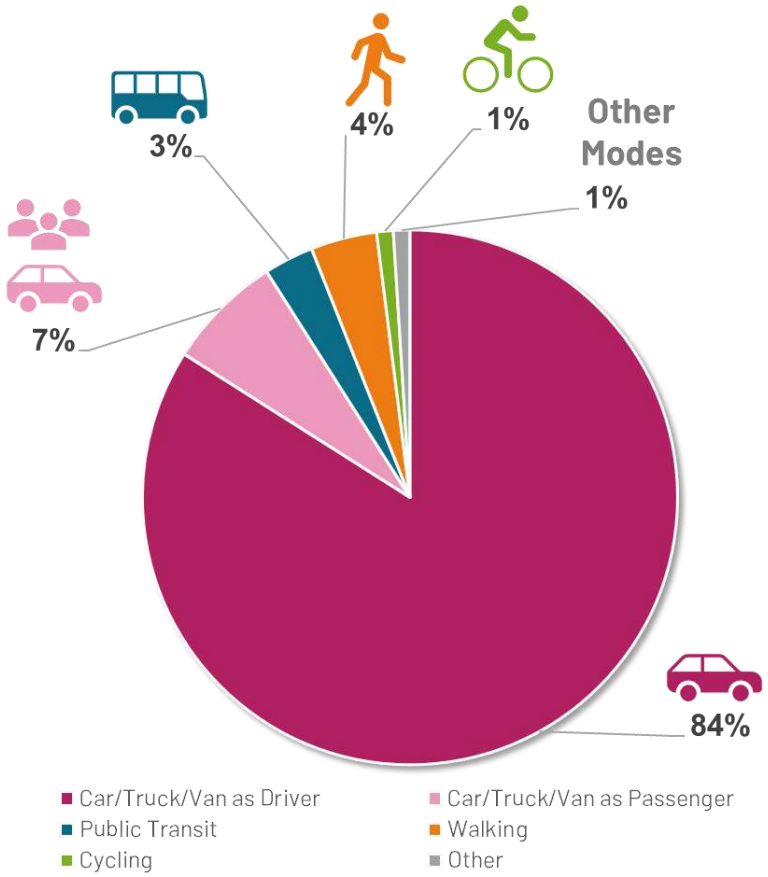


Figure 14 | Modal Split in Sault Ste. Marie
Source: 2021 Census and 2022 Sault Ste. Marie Draft Official Plan Background Paper

Commute Distances

Average commuting distance for residents provide insight on the potential for shifting trips that are currently being made by cars to active transportation. Typically, commutes that can be completed by walking or cycling in under 20 to 30 minutes could be considered as potential for this shift. That means commutes under 2 km to 3 km can be converted to walking trips, and commutes under 5 km can be converted to cycling trips.

Average commuting distance data from both 2016 and 2021 were reviewed, with an acknowledgment of the impacts the COVID-19 pandemic had on commuting patterns in 2021 (**Table 2**). The review showed that approximately 65% (62% in 2016, 67% in 2021) of trips to work by car, truck or van for both drivers and passengers in Sault Ste. Marie are under 5 km, indicating the potential for these trips to be by active transportation modes.

Approximately 34% (31% in 2016, 36% in 2021) of trips were under 3 km, suggesting they could potentially be made by walking.

Table 2 | Average Commute Distance by Car/Truck/Van in Sault Ste. Marie under 5 km (%)
Source: 2016, 2021 Census

Trip Distance	2016	2021
Trips under 1km	5.2%	7.6%
Trips under 3km	31.4%	36.1%
Trips under 5km	62.4%	67.0%



Future Travel Demand

The 2015 Transportation Master Plan included the development of a travel demand model using EMME which grew the City's population to the year 2026 and assigned population growth to the anticipated growth zones. Annual Average Daily Traffic (AADT) volume maps were generated for future travel demand for 2022, 2032 and 2042. The summary of these results is provided in **Figure 15**. The arterial and collector roads that are anticipated to have the highest proportion of traffic growth include:

- Second Line
- Great Northern Road
- Black Road
- Wallace Terrace
- McNabb Street
- Bruce Street
- Wellington Street
- Trunk Road



Figure 15 | Forecast Traffic Growth Summary
Source: 2015 Sault Ste. Marie Transportation Master Plan

Impacts of COVID-19

The 2021 Statistics Canada Census data was collected in May 2021 and revealed a decline in the number of commuters due to the COVID-19 pandemic. This reduction was driven by the unprecedented employment losses, primarily due to public health measures, as well as a shift towards more people working from home. The following summarizes the initial key findings regarding shifts in travel behaviours due to the pandemic as seen in the 2021 Census:

- The number of Canadians commuting by car, truck or van as both a driver and a passenger declined by 1.7 million from the previous census to reach 11 million in May 2021.
- The largest decrease of people commuting by car, truck or van was seen in Ontario (-20.2%);
- There were 245,000 fewer Canadians making commutes of at least 60 minutes, compared with the findings in May 2016.
- Transit ridership decreased from 2 million in 2016 to 1 million in May 2021.
- Despite some Canadian adults and seniors reporting that they were exercising a few more minutes each day for recreational purposes, approximately 300,000 fewer commuters were using active transportation as their main mode of commuting in May 2021, compared to 2016.

As the public health measures were relaxed, transportation trends in 2022 (**Figure 16**) showed that the number of car commuters exceeds what was seen in 2016. The number of commuters using transit and active transportation are still below pre-COVID-19 conditions, however the number of active transportation commuters has increased between 2021 to 2022. Travel trends should continue to be monitored for policy implications as the economy and working trends have shifted from this unprecedented event.

	Driver/passenger in a car	Bus	Subway	Train	Walk	Bicycle	Motorcycle
2022 (thousands)	12,768	797	271	103	726	215	37
2021 to 2022 (% change)	18.3	17.5	14.4	32.6	11.6	57.4	83.8
2016 to 2022 (% change)	2.5	-32.7	-48.1	-58.3	-14.5	-2.1	43.9
2021 (thousands)	10,790	678	237	78	651	137	20
2016 (thousands)	12,454	1,184	523	248	849	220	25

Note(s): The census data exclude First Nations reserves, full-time military and the territories.
Source(s): Census of Population, 2016 and 2021 (3901), and Labour Force Survey, 2022 (3701).

Figure 16 | Number of Commuters by Main Mode (2016, 2021 and 2022)
Source: Statistics Canada, 2022

TRANSPORTATION PATTERNS AND FUTURE DEMAND KEY TAKEAWAYS

The Journey to Work data from 2021 Census showed that the majority of the City's car, truck and van commuters spend a relatively low amount of time commuting. Over 93% of the trips are less than 30 minutes, showing a potential opportunity to convert short trips to active modes and moderate trips to transit trips with active transportation connections.

Shifting modes to active transportation and transit through the implementation of a connected and accessible active transportation network will reduce the demand along the corridors which have been identified as having the most growth in traffic to the year 2042. Building the recommended network identified in the ATMP will be consistent with Alternative 2 (A Sustainable Approach) and Alternative 3 (A Balanced Approach) identified in the 2015 TMP. The latter approach, is identified as the preferred approach in the TMP and entails active transportation and transit improvements along with the following road improvements:

- Highway 17 Bypass (need and justification of which would be determined by the Ministry of Transportation in a separate Environmental Assessment study)
- Black Road from McNabb Street to Third Line
- Northern Avenue Extension to Black Road
- Bay Street Extension under the Sault Ste. Marie International Bridge
- Extend Sackville north to Third Line

Data comparing the travel trends of commuters in 2016, 2021 and 2022 show that the number of commuters for all modes decreased primarily because of the COVID-19 pandemic, with the exception of cars and motorcycles which could be due to transit users choosing to drive private vehicles rather than shared modes. In addition to standalone walking trips, walking is also linked to public transit use, which partly explains the decrease between 2016 and 2021. However, the proportion of walking commuters reduced between 2016 and 2021 is significantly less than that of transit commuters.

According to Statics Canada, although there was a decrease in the number of cycling commuters between 2016 and 2021, cycling is the travel mode with the least amount of decrease between these years (-2.1%), and the most growth between 2021 and 2022 (+57.4%). This may reflect the significant investment that some municipalities have made in recent years to building separated cycling facilities, which are more appealing to a greater percentage of the population (i.e. all ages and abilities).

These transportation trends support the concept that "if you build it, they will come" as it relates to investing in all ages and abilities active transportation infrastructure.

2.2.4 Physical Environment

The surrounding land use, including the built and natural environment, is a criteria in identifying opportunities for enhancing active transportation, such as considerations for different facility types or possible barriers to implementing candidate routes. This section shows potential opportunities and barriers to enhancing active transportation in the City.

Opportunity to connect to parkland

Active transportation facilities are often used as recreational routes. Connections to recreational destinations such as parks and greenspaces are highly valued. Sault Ste. Marie is served by an integrated system of parks, including some spaces operated by the Conservation Authority. The urban area is generally considered within walking distance (under 1 km or a 10 minute walk) to park space, as shown in **Figure 17**, indicating a high potential to implement active transportation routes in the urban area and near the airport lands in the west side of the City.

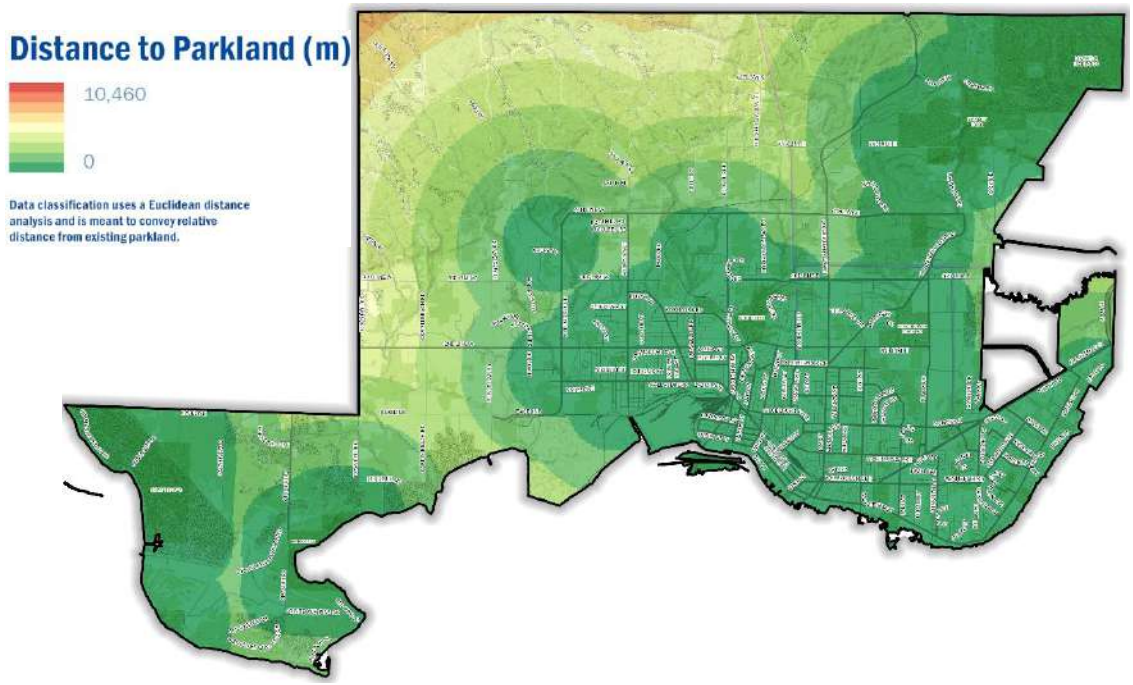


Figure 17 | Distance to Parkland in Sault Ste. Marie
Source: City of Sault Ste. Marie GIS Data, Land Information Ontario

Barriers to Implementing Active Transportation

Figure 18 and **Figure 19** show two barriers that would affect the recommendations of this ATMP: physical constraints from the rail corridors and steep grades and landforms. Consideration for these two types of barriers should be reviewed prior to implementation to assess feasibility of active transportation routes.

However, these barriers also present some opportunities. At the time of writing, preliminary discussions on implementing a multi-use trail along the rail corridor adjacent to Trunk Road have already commenced.

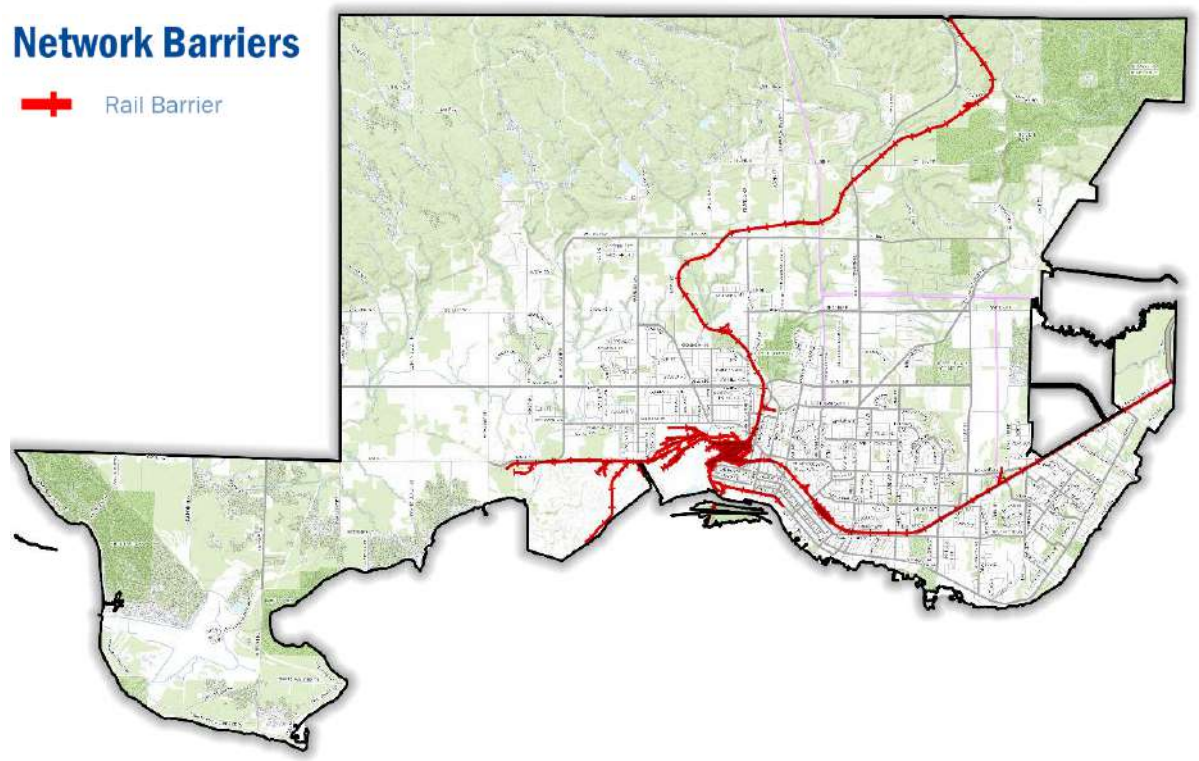


Figure 18 | Current Physical Constraints of the Active Transportation Network
Source: City of Sault Ste. Marie GIS Data

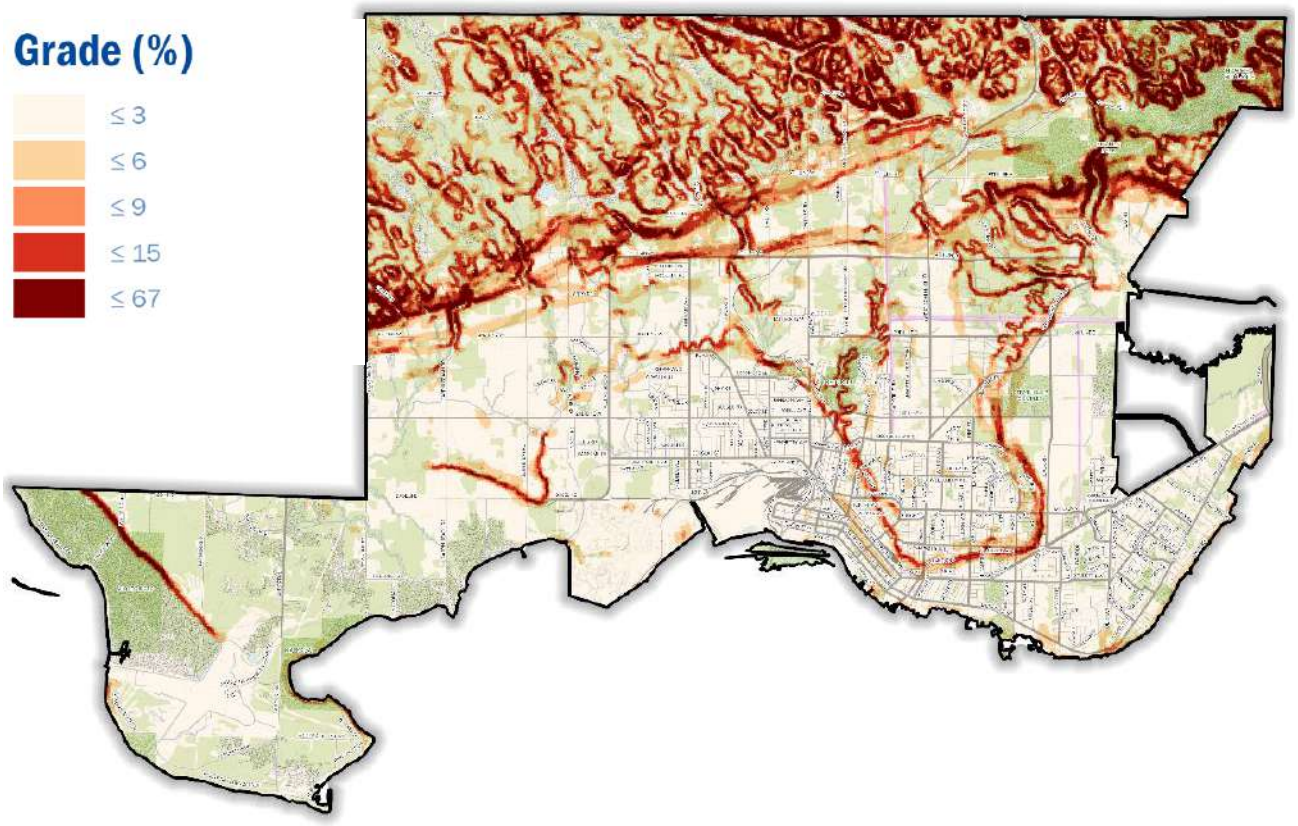


Figure 19 | Steep Land Grades in Sault Ste. Marie
Source: City of Sault Ste. Marie GIS Data, Land Information Ontario

2.2.5 Connectivity and Network Completeness

As shown in the 2021 Census data, the majority of commute trips by car/truck/van are less than 30 minutes, indicating a potential to convert trips to active transportation or transit.

Figure 20 shows a 5-minute walk and bike zones around the Sault Ste. Marie Transit bus stops. The majority of the urban area is captured within these zones. Residential areas in particular have a high active transportation potential and high support for creating integrated multi-modal connections to transit routes.

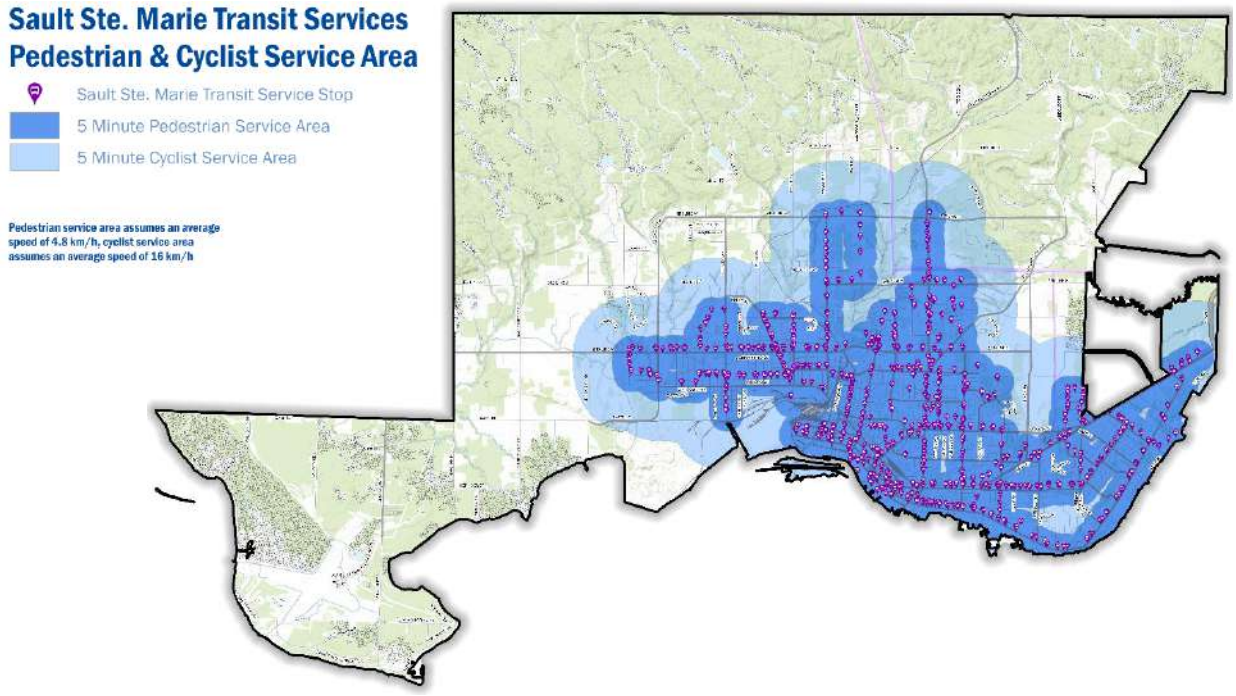


Figure 20 | 5-minute Walking and Cycling Service Areas around Sault Ste. Marie Transit Bus Stops
Source: City of Sault Ste. Marie GIS Data, Land Information Ontario

Network Coverage

A network coverage review was conducted to compare the density of the existing pedestrian and cycling network compared the the potential density if all the previously proposed routes from the 2007 Cycling Master Plan were to be implemented. The maps in **Figure 21** show that both the pedestrian network and the cycling and multi-use network are significantly more dense and connected with the implementation of the previously proposed routes. There is a high potential to increase the coverage area through the refinement of previously proposed routes as part of this Active Transportation Master Plan.

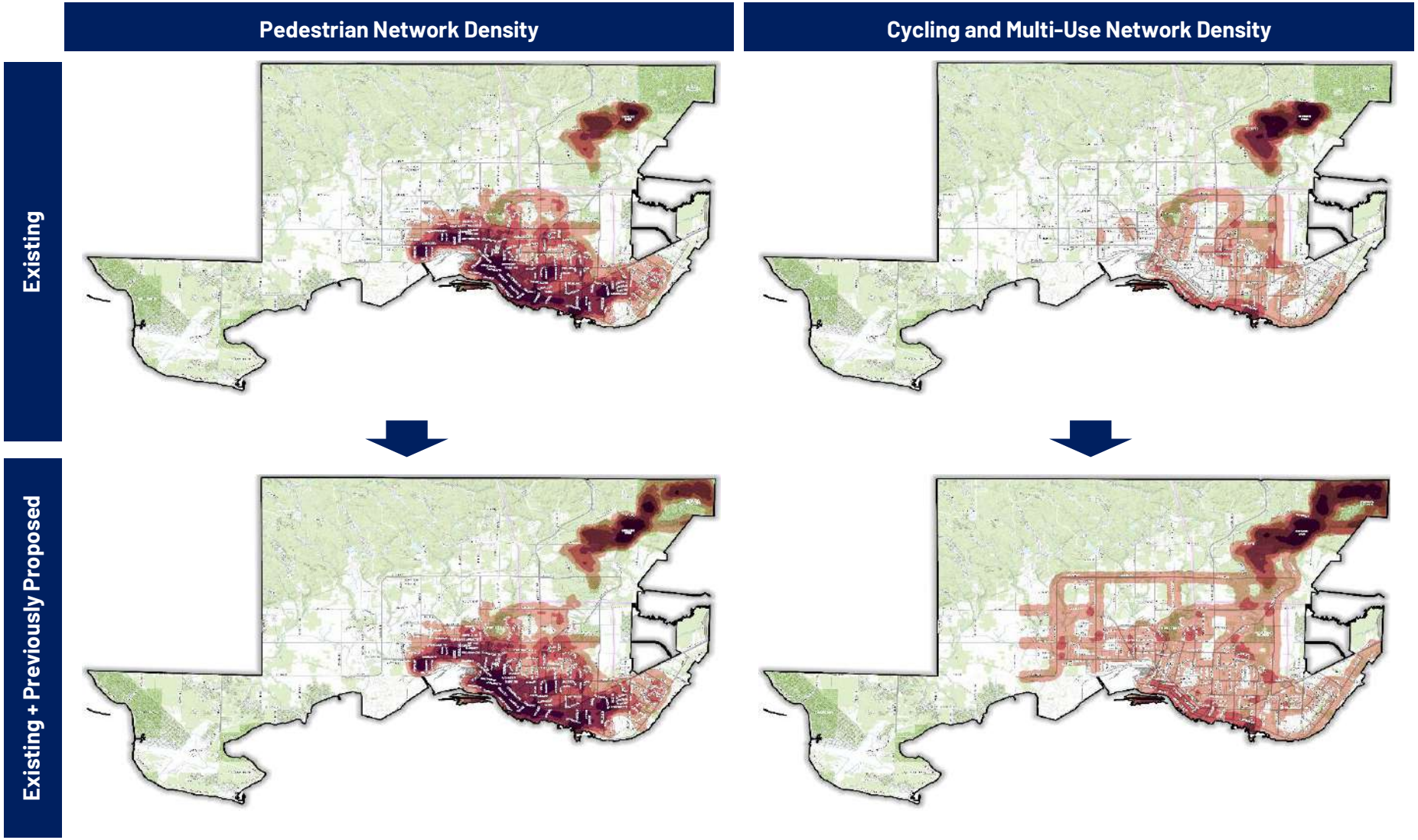


Figure 21 | Pedestrian and Cycling Network Coverage Analysis

2.3 Existing Active Transportation Network

2.3.1 Existing Pedestrian Network

The walking experience of an individual is significantly impacted by factors such access to, condition of, and connectivity of a sidewalk or other pedestrian infrastructure. Building a pedestrian network that is safe and comfortable for people of all ages and abilities that is connected to where they want to go is key to a multi-modal transportation network. Whether it's a trip to a transit stop or to a car, most journeys begin and end with a walk or roll.

Sault Ste. Marie has a vast network of pedestrian routes within and outside the urban area. The typical pedestrian facilities found in Sault Ste. Marie include:

- Sidewalks
- Neighbourhood Connector Paths/Catwalks
- Pedestrian Crossovers

2.3.2 Existing Active Transportation Network

Like walking, an individual's comfort and ability to use a bike or another form of active transportation or micromobility device is influenced by their access to safe and convenient infrastructure. The current active transportation network passes through natural areas, the waterfront boardwalk, commercial areas, and green spaces.

The typical active transportation facilities found in Sault Ste. Marie includes:

- Paved Shoulders
- Conventional Bicycle Lanes.
- Multi-Use Paths

Two key components of both the pedestrian and active transportation network are the **John Rowswell John Rowswell Hub Trail** and the **Fort Creek Conservation Area** trails, pictured in **Figure 22**.

The John Rowswell Hub Trail is a vital component of the active transportation network in Sault Ste. Marie. It provides access to many areas of the City and links together key cultural, historical, and natural areas of the community. The John Rowswell Hub Trail is used for both utility and recreation purposes. To the north of the urban area, the Fort Creek Conservation Area offers scenic trails that can be enjoyed all year round – being a popular destination for hiking in the summer and snowshoeing in the winter. These trails are mainly used for recreation.



Figure 22 | Left: The John Rowswell Hub Trail along the waterfront, Right: Fort Creek Conservation Area

2.3.3 Water-Based Travel and Cultural Significance

While this Plan focuses on land-based active transportation such as walking, cycling, and rolling, during public consultation, it was noted that water-based travel, such as canoeing, kayaking, and boating has long been a mode of transportation in Sault Ste. Marie. With access to the St. Marys River and a network of connected waterways, water-based travel supports physical activity, environmental stewardship, and carries deep cultural significance for Indigenous communities. With this being said, it is important to consider opportunities to better integrate water-based transportation into broader mobility and recreation planning.

3 Engaging Sault Ste. Marie

3.1.1 Overview

The ATMP is a community-driven plan, focusing on increasing uptake of active transportation by residents, strengthening political support for more people-oriented transportation options and establishing new partnerships with community stakeholders to support implementation. To build this sense of community ownership that is necessary to support a plan of this scale, there were several opportunities to engage in the process of developing the ATMP. The multi-faceted consultation effort involved internal City staff, community organizations, key stakeholders, and members of the public. Engagement activities included:

- Regular meetings and consultation with internal City staff
- Interviews and presentations with stakeholders and other community stakeholders
- Sault Trails Advocacy Committee (STAC) workshop
- Published Discussion Papers posted on the project website
- Community surveys posted on the project website
- Public Open Houses
- Pop-up booths and tents at various community events

These activities aimed to gain an understanding of the existing conditions of the active transportation network and to identify strengths, gaps, concerns, and opportunities regarding the network across the City. Towards the end of the ATMP development process, another round of consultations took place to collect feedback on the proposed network, and adjustments were made accordingly.

This section provides a summary of the key themes and priorities heard through the engagements that were essential in informing the ATMP to reflect the community's needs and desires. A full summary of engagement activities is included in **Appendix B.**

3.1.2 Key Themes & Priorities from Engagements

The engagement activities provided valuable insight into key community concerns, opportunities and priorities of members of the public and key stakeholders that allowed the project team to tailor the ATMP in a way that reflects the needs and desires of those than live, work and visit Sault Ste. Marie.

Based on the engagement activities conducted to date, the following themes were heard from stakeholders and the public.

IMPROVED SAFETY



Members of the public reported feeling unsafe while walking or riding within Sault Ste. Marie, often noted as a result of perceptions of an auto-centric culture, causing driver inattentiveness toward active transportation users, high speeds, and other undesirable driver behaviours. It was recognized that the safety of vulnerable road users needs to be prioritized to make active transportation a viable option for more people. This involves creating safer active transportation routes and facilities that are either dedicated or physically separated from motor vehicles, especially where there are high volumes of traffic, and safety enhancements at crossings and intersections. It also involves slower traffic speeds and greater education and awareness for all roadway users. Traffic calming tools should be considered along busy streets to help reduce traffic speeds and make roadways more comfortable for active transportation users. Prioritizing pedestrian and cyclist safety conveys that streets belong to everyone, not just motor vehicles.

EXPANDED & CONTINUOUS NETWORK



A significant barrier to active mobility is the insufficient pedestrian and cycling infrastructure available, including gaps in the existing network. Although driving is the dominant mode of transportation, community members stated that they walk and/or cycle year-round and expressed the need for more continuous sidewalks and cycling facilities to make active modes more appealing and practical. There is also a need for enhanced pedestrian and cycling infrastructure at crossings and intersections to improve the safety and comfort for users. Prioritizing the expansion of active transportation infrastructure contributes to it becoming a more viable option.

IMPROVED MAINTENANCE & ACCESSIBILITY



Implementing the active transportation system is just the beginning; making sure it is useable and accessible by a wide range of people is crucial for the success of the network. When a facility is not well maintained, it becomes inaccessible for a variety of users, including children, those with strollers, those with physical impairments, and any those using any wheeled device. Stakeholders and the public emphasized prioritizing walkability and bikeability by addressing sidewalk infrastructure like potholes and cracked surfaces, as well as consistent maintenance. Another key concern is seasonal barriers to walking and cycling, which can be aided with continual winter clearing of active transportation facilities. Ensuring pathways and routes are free from obstructions and useable by users of all ages and abilities at all times of the year is essential.

MORE AMENITIES



Enhancing the active transportation network involves providing amenities that support users. Amenities that allow people to rest, navigate the active transportation network easily, spend more time along the paths, and leave their bike or other device without having to worry are essential. Additional bicycle parking, seating, wayfinding signage and washrooms were all mentioned as amenities needed to along active transportation facilities in Sault Ste. Marie. For instance, rest areas along routes, equipped with seating and washrooms, can accommodate various abilities and encourage longer use of active transportation facilities. Wayfinding also boosts user confidence and informs them about nearby amenities and destinations.

GREATER CONNECTIONS



Stakeholders and community members emphasized the need to provide more active transportation connections to key destinations. These routes need to be safe and comfortable for people of all ages and abilities. Addressing the gaps in the network and developing new routes that connect users to key destinations (such as tourist spots, places of work, schools etc.), commercial areas, public transit hubs, and existing trails. Increasing access to these destinations will attract and encourage a broader range of residents to participate in active travel more in their daily lives and for recreation.

JOHN ROWSWELL HUB TRAIL IMPROVEMENTS



As the centrepiece of Sault Ste. Marie's active transportation network, the existing John Rowswell Hub Trail was noted as an excellent asset in the active transportation system, serving the community very well. At the same time, there are always opportunities for improvement. Safer crossings at intersections, addressing trail gaps, enhancing wayfinding, and installing amenities like benches, shelters, and washrooms will enhance the trail user experience. Additionally, enhancing access to and connectivity between the hub trail, bicycle lanes, neighbourhoods, and key areas of the city is also critical. This is particularly important in areas of the city with higher proportions of equity-deserving communities.

IMPLEMENTATION PROCESS



Both stakeholders and the community acknowledged and supported the ambitious nature of this plan, but recognize it won't be without challenges to implement. A particular concern heard is the potential inefficiency of the rollout process, especially given competing city priorities over the next two decades. To address this, coordination with capital works and prioritizing active transportation in the annual budget process is essential. Additionally, establishing an active transportation coordinator and committee will ensure a smoother deployment of the network and associated programming.

4 Best Practices and Their Impact

The field of transportation is evolving rapidly. The impacts of electrification, micromobility, remote work, ride-hailing and other emerging technologies are shifting the ways that communities imagine mobility, so it is always a worthwhile exercise to take stock of what emerging trends should be accounted for when developing a new Plan for the long term, such as this ATMP. In the process of developing the Sault Ste. Marie ATMP, the project team reviewed information coming from jurisdictions around North America and beyond as mobility patterns shift and evolve. While it is impossible to predict the next disruptive technology that could emerge in the mobility field, it is possible to develop a Plan that is future-ready and resilient to potential 'shocks' to the mobility landscape. The goal of this Plan is to continuously learn from what others have done, track overall trends and patterns, and center decision-making on core principles in the form of the Vision and Objectives for the ATMP.

To develop this Active Transportation Master Plan, the project team reviewed recently developed transportation and active transportation planning documents from comparable communities, and also created a summary of emerging trends and best practices that should be considered as the project moves forward.

4.1 Case Studies: Comparable Municipalities and Recent Planning Documents

Communities across North America are taking steps towards becoming better places to walk, bike and roll, and the first step in that journey is often the development of a Master Planning document such as an ATMP. When developing the ATMP for Sault Ste. Marie, it is beneficial to consider how comparable municipalities to Sault Ste. Marie have developed their own Master Planning documents, and what lessons can be learned from those plans as this ATMP moves forward.



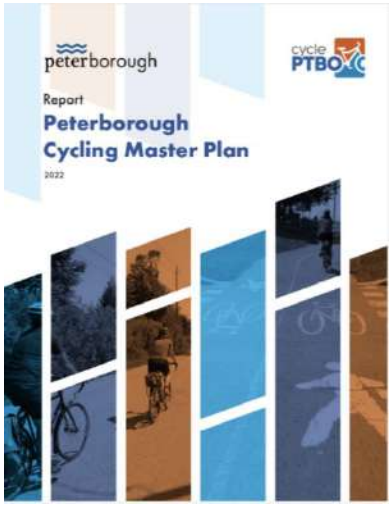
Understanding how best practices and emerging trends fit into the overall Vision and Objectives of this Plan, and into the City's existing planning documents, helps to create a *Future Ready* ATMP that is resilient to future disruptions.

In identifying Case Study communities, the municipalities were considered that:

- Have a similar, four-seasons climate with cold winters.
- Are of a similar scale in terms of population and geography.
- Function as a Regional hub for commercial activities.

Based on these criteria, the project team identified and reviewed recent transportation planning documents from the City of Peterborough and the City of Greater Sudbury in Ontario, and the City of Missoula, Montana as an international example. A summary of the key findings can be found below.

4.1.1 Peterborough, Ontario, Canada



In 2021, the City of Peterborough completed its first Cycling Master Plan. The City has seen rapid growth in rates of cycling since 2001, and developed a plan with the following Vision Statement:

> *"Peterborough is a leader in cycling with a safe, connected and accessible network that serves all ages and abilities by 2041. Cycling for transportation and recreation contributes to a thriving, healthy and resilient community and supports the City's sustainability and climate change goals."*

The Plan was developed using an iterative process, which:

- Identified existing conditions.
- Engaged with the community.
- Established a Vision and Goals for the project.
- Identified new policies and programming ideas.
- Created network development and design guidance.

All of these elements were included in the final Cycling Master Plan document.

Peterborough's plan identified an "Accelerate-Spark" investment scenario, which outlines a series of goals to move Peterborough towards the Plan's Vision. The Goals for the Plan include:

- **Create an Irresistible Network** by upgrading existing facilities, developing a Crosstown Network that includes priorities for implementation in the near term and identifying the Ultimate Cycling Network for implementation in the long term.
- **Encourage Year-Round Riding** by establishing a Priority Winter Cycling Network, considering snow storage and clearing in the development of new designs and supporting programming to encourage year-round riding.
- **Pursue Design Excellence** by planning for and designing all-ages and abilities facilities, including separated cycle tracks and local street bikeways.
- **Build a Cycling Culture** by expanding supports for programs to support cycling.
- **Go For Gold** to establish the City as a cycling leader in Ontario and North America.

4.1.2 Missoula, Montana, United States

The City of Missoula, Montana's Bicycle Facilities Master Plan (BFMP) (2016) is guided by the recommendations in the Long-Range Transportation Plan (LRTP), so both of these documents were reviewed. The LRTP identifies:

- Community Values & Existing Conditions
- Project Goals & Evaluation Framework
- Call for Projects & Project Prioritization
- Project Prioritization & Scenario Development
- Recommended Scenario & Implementation Plan
- Draft & Final Long-Range Transportation Plan

Of particular note, the LRTP also included a Residents' Guide which provides a short summary of the Plan in plain language for residents. While the full report was seventy-five pages, the Residents' Guide was four pages. The Residents' Guide relied heavily on graphics to summarize information in a way that was easy to understand, as shown in **Figure 23**.



Figure 23 | Missoula Long Range Transportation Plan Residents' Guide Total Cost Graphic

Missoula's BFMP explores the community benefits of cycling, identified the design users for improvements and aligns recommendations with those foundational elements. It identified 'low hanging fruit' projects that can be completed in the immediate term with low levels of investment, such as implementing painted bike lanes that only require striping, the neighbourhood greenway network, and wayfinding. It also highlighted where resurfacing projects could be connected to implementation of the network and identifies some of the visionary projects that are meant to build excitement and ridership in the city.

The BFMP also analyzed the existing Level of Traffic Stress (LTS) to determine priority projects to create a high-comfort network across the City. LTS Scores align with the following descriptions:

- LTS 1: Low-stress roadway suitable for all ages and abilities
- LTS 2: Roadway comfortably ridden by the mainstream adult population
- LTS 3: Roadway ridden by "enthused and confident" bicyclists
- LTS 4: Roadway only ridden by the "strong and fearless" bicyclists

The scores were used to develop a map of LTS 1 roadways and trails to determine the gaps in the low-stress network. The low-stress roads were used to develop a Neighbourhood Greenway network (illustrated in **Figure 24**). Neighbourhood Greenways are streets with low traffic volumes and speeds that use signs, pavement markings, and speed and volume management measures to discourage motor vehicles from making through trips. Many of the local streets had basic components needed for safe bicycling and pedestrian use and could be inexpensively enhanced. The Neighbourhood Greenways were used to create a complete network throughout most of the city when combined with existing bicycle infrastructure.



Figure 24 | Southern Portion of Missoula's Neighbourhood Greenway Network
Source: Missoula Bicycle Facilities Master Plan, 2016

4.1.3 Greater Sudbury, Ontario, Canada

The Greater Sudbury Transportation Study Report was developed as an update to the 2005 Transportation Master Plan and proposed policies under a "complete streets" framework. The Study included recommendations for improving walking and cycling within the City in a holistic fashion, including investments alongside strategic efforts to improve the movement of transit vehicles as well as enhance conditions for goods movement.

The study process for developing the preferred active transportation network included significant public engagement and consultation activities and frequent consultation with citizen groups in the city, including the Sustainable Mobility Advisory Panel, Bicycle Advisory Panel, and Sudbury Cyclist Union. The Sustainable Mobility Advisory Panel was an advisory panel established by the city and was frequent advisor throughout the study process, providing background information and feedback throughout the study process. The overall study was divided into three main phases and included public consultation at each phase, as shown in **Figure 25**. The development of the active transportation components of the plan are listed under each of the three main phases. The key steps for the development of the recommended active transportation network were:

1. Collection and Assembly of Background Information
2. Review of Consolidated Base Mapping with Sustainable Mobility Advisory Panel Committee
3. Development of Route Selection Principles
4. Preparation of Candidate Routes Mapping
5. Public Input to the Candidate Network and Route Selection Principles
6. Field Review and Assessment of Candidate Routes and Preparation of Draft Route Network
7. Identification of Appropriate Facility Types
8. Review of Input on the Draft Route Network and Recommendation of the Final Route Network
9. Preparation and Implementation Plan

The Sustainable Mobility Advisory Panel provided input throughout the key steps listed above. They provided base information on existing or previously proposed active transportation facilities in the first step and reviewed base mapping in the second step. They reviewed the draft route network in the sixth step and provided comments on facility types in the seventh step. The panel was further engaged during the eighth step to discuss the draft route network, facility types, and implementation priorities. The Sustainable Mobility Advisory Panel was a citizen group that provided key input and feedback throughout the active transportation network development process.

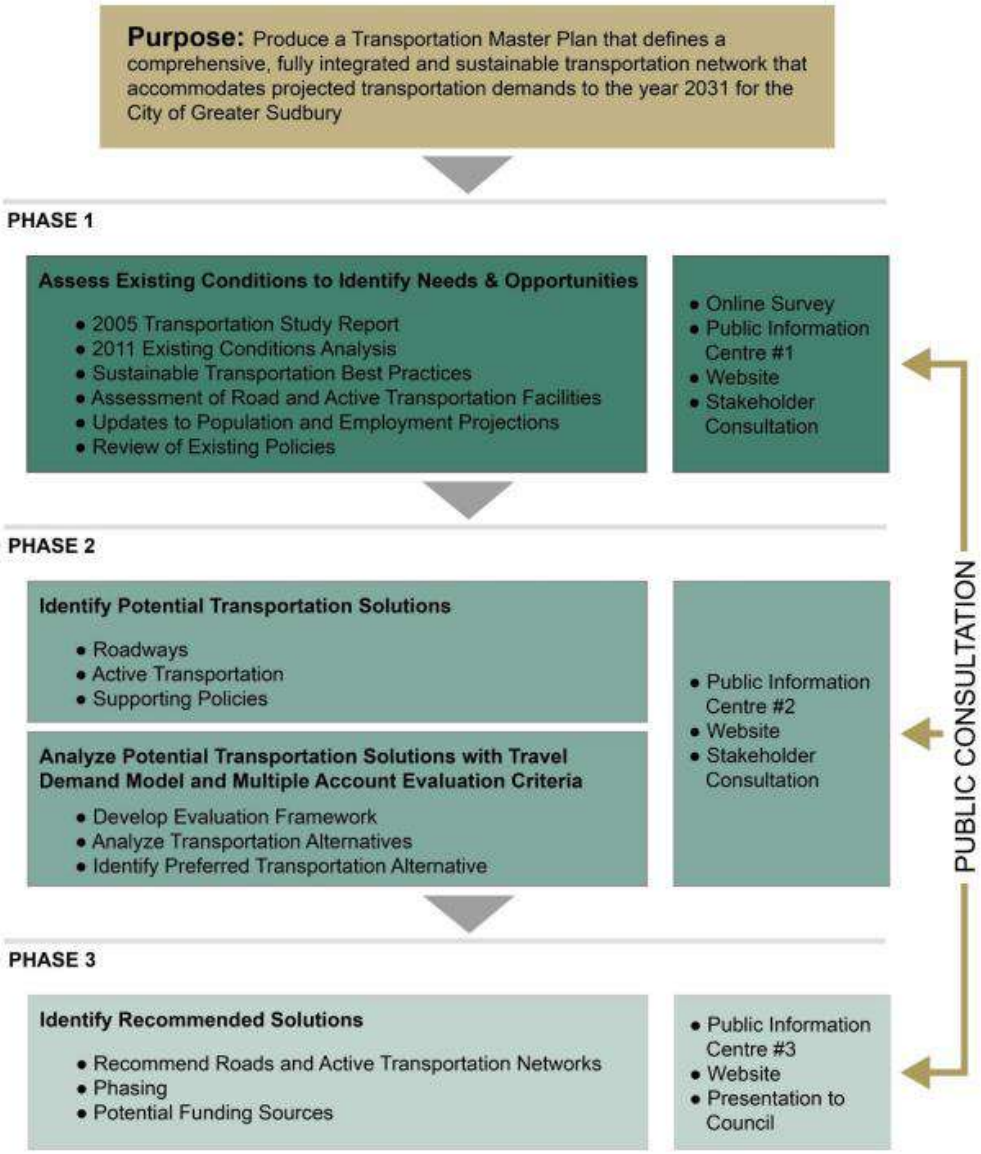


Figure 25 | Transportation Master Plan Process

Source: City of Greater Sudbury Transportation Study Report, 2016

4.1.4 Best Practices Summary

Through the Best Practices review, some of the key takeaways were incorporated into this ATMP process include:

- **Engage local stakeholders and organizations early in the development of the Plan** to strengthen the project team's understanding of the existing conditions of the City.
- **Take engagement to residents in places they are already gathering** rather than expecting residents to come to you. This could include online or in-person engagements, leveraging existing networks or events.
- **Create Plans for All-Ages and Abilities facilities** that both improve upon existing facilities and create new route options, including through the inclusion of Neighbourhood Greenways on existing residential streets.
- **Create report materials that are in plain language**, which could include a project summary or user guide to help community members understand the Plan in 'broad strokes' even if they don't have the time to read and digest the full document.
- **Ensure that maps are easy to read and show the vision for the Plan**. Maps can communicate a significant amount of information, and should be prioritized within the Plan document for legibility and ease of understanding.

4.2 Best Practices and Emerging Technologies

Transportation planning is dynamic and needs to be flexible and adaptable to future trends. This section provides an overview of some of these key considerations for the City.

4.2.1 Complete Streets Approach

Streets are interconnected together to build a network system that allow physical movement, connecting people to different areas and destinations within the City. City streets are important public spaces that provide various social and recreational uses. Well-designed streets shape the urban fabric and image of a city with its own identity, economic function, and social importance.

In shifting away from streets that prioritize only motor traffic and movement, the Complete Streets approach is designed to balance the needs of all road users, including people who cycle, walk, take transit, and drive on that roadway. This approach creates a safe and welcoming environment for all ages, abilities, and mode of travel.

The Complete Streets concept is closely related to the Safe Systems and Vision Zero approaches on road safety. It aims to design a transportation system that anticipates human error and accommodates human injury tolerance with the ultimate goal of eliminating death or serious injury on roadways.

There is no singular solution to implement the Complete Street concept. Every street is different with its own defining elements and characters, in considering the street's location, context, and role within the transportation system. While it may not be appropriate to accommodate every type

of user on the street, the overall objective is to create a well-functioning street network that provides road safety, accessibility, and diverse activities and uses.

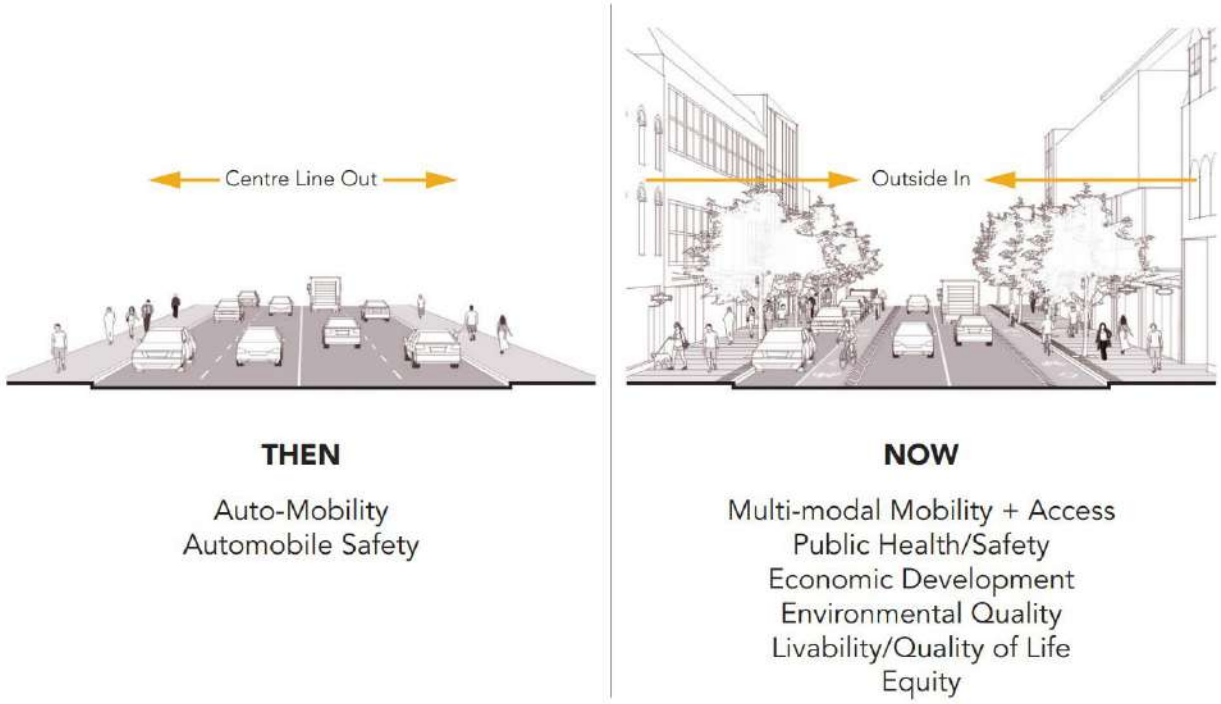


Figure 26 | Changing Design Goals through Complete Street Design
Source: City of Toronto Complete Streets Guidelines

The following approach guided the design to incorporate complete streets to new and existing streets in Sault Ste. Marie.

Consider the Street Context

Where is it located? Who are the main users of this street?

Is the street designed for access or movement?

Every street is designed differently to align with its land-use context, function, and environment. A residential local road has different design features compared to a rural collector.

Create attractive, vibrant places

Attractive and vibrant streets that support pedestrian access create a strong sense of place and identity. Designing the streets with appealing streetscaping and multiple functions encourage pedestrian movement and future visits.



Prioritize transit and active transportation

A street with high mobility is directly linked to the provision and convenient access to transit and active transportation infrastructure. Enhancing pedestrian and cyclists with comfortable, safe, and accessible routes and facilities will discourage the use of private vehicles.



Provide safe and accessible options

Complete Streets aims to improve safety and accessibility for transit users, pedestrians, and cyclists, so they may feel as an equal part of the roadway design. A sense of safety and ease of access increase the desire to walk leisurely along the street.



Prioritize connectivity

New streets should not be isolated from the rest of the road network. The City's roads must be cohesive and well-connected to other roads to encourage new active transportation users. It is important to provide active transportation infrastructure and facilities along streets with many connections to retail, community spaces, and green space.



Consider cost effectiveness

The environmental, social, and economic benefits and costs should be considered in designing a Complete Street. Consider the direct and indirect costs of construction, operation, and maintenance. Designing the street with long-term use can reduce the number of retrofit projects needed in the future.

Typologies

When discussing Complete Streets, the term "Typology" refers to a set of streets that have a similar function and set of objectives. Some streets will prioritize mobility, creating more separation between different road users, limiting access to the roadway and focusing on moving people from A to B efficiently. Other roadways prioritize placemaking, putting an emphasis on the pedestrian realm, providing space for amenities such as patios, seating areas or parklets to create an attractive public space that draws people to it. Regardless of the typology, it is important to have a clear set of objectives for the function of the street so that trade-offs can be evaluated in a consistent and measurable fashion. Below are a set of seven common typologies that could be considered for Sault Ste. Marie, all of which can be evaluated and adapted to fit the local context and community interest. Examples of local streets are also included.



Urban Avenues

Urban avenues are vibrant pedestrian-oriented streets that provide a high amount of people-movement capacity, located in urban areas of the City.

Example: Bay Street



Main Streets

Main streets are placemaking-oriented streets, and include historic main streets found in urban parts of the city. They are pedestrian-oriented with slow motor vehicle speeds and small-or medium-scale mixed-use buildings.

Example: Queen Street



Transitioning Avenues

Transitioning avenues are mobility-oriented streets that extend across urban areas of the city. They are high-traffic streets and often important goods movement corridors.

Example: Trunk Road



Connectors

Connectors serve to link neighbourhood streets with Urban Avenues and Transitioning Avenues. They accommodate moderate volumes of vehicle traffic in a lower speed environment.

Example: Pine Street



Industrial Streets

Industrial streets provide direct land access to industrial and commercial employment areas. They are found in industrial areas of the city and may accommodate significant truck traffic.

Example: Industrial Park Crescent



Neighbourhood Streets

Neighbourhood streets provide direct access to residential dwellings. They are low-volume and low-speed streets that are not intended to serve a through traffic function for motor vehicle traffic.

Example: Biggings Avenue



Rural Roads

Rural roads are mobility-oriented streets within agricultural, natural, or industrial areas of the city. They provide a high motor vehicle capacity and may be important goods movement corridors.

Example: Fourth Line

Complete Streets Audit Tool

A Complete Streets Audit Tool evaluates how the existing or proposed street segment achieves, exceeds, or fails to provide Complete Street elements. It is an interactive tool to select appropriate typology, assess current or proposed street conditions, and evaluate complete street elements based on the desired conditions. It provides an important decision-making tool and accountability tool to demonstrate how Complete Streets principles are being integrated into the City's transportation projects. The audit tool is coupled with the pedestrian realm *Street Element Condition Definitions* matrix from the City of Hamilton Complete Streets Design Manual (2022) (**Figure 27**). These definitions describe the relevant desired conditions per typology and to audit an existing street. Ratings for each element are graded from 1 to 5. The rating reflects the level of accommodation or level of service for that street element.

	URBAN	RURAL
1	• **No sidewalk or multi-use path (MUP)***	• Possible granular/soft shoulder
2	• **1.5 m pedestrian clearway** (may be adjacent to curb)	• **1.2 m paved shoulder**
3	• **1.8 m pedestrian clearway** with **0.5 m edge zone** (measured from back of curb) *or* • 3.0 m MUP with 0.6 m edge zone • Street trees/furnishing zone if feasible	• **1.5 m paved shoulder**
4	• **2.0 m pedestrian clearway** with **1.0 m edge zone** *or* • 3.5 m MUP with 1.5 m edge zone • Street trees and pedestrian amenities in planting/furnishing zone	• **3.0 m MUP, physically separated** from travelled portion of roadway
5	• **2.5 m pedestrian clearway** with • **1.0 m edge zone** • Animated pedestrian corridor with street trees, pedestrian amenities, active street frontages and public art	• **3.0 m MUP, beyond clear zone** of road

** Also known as a multi-use trail (MUT)*

Figure 27 | The Street Element Condition Definitions for the Pedestrian
Source: City of Hamilton Complete Streets Design Manual (2022)

The following is an example of the four-step process for evaluating existing and proposed streets:

Steps	Example
Step 1: Input Data Users provide information about the street being reviewed to inform the selection of the typology. Input data can include the street name, location, functional classification, land use context, right of way width, traffic volumes, and posted speed limits.	**Street name:** Any Street **Location:** Neighbourhood **Functional classification:** Local **Context:** Urban **Right-of-way:** 25m **Traffic volume:** 4,000 ADT **Posted Speed Limit:** 40km/h
Step 2: Select Typology Select the preferred typology based on the information in Step 1. Once the typology is selected, the tool will automatically populate the Desired Roadway Conditions for each Complete Street element for that typology.	Select the type of typology: Urban Avenue, Transitioning Avenue, Main Street, Connector, Industrial Street, Neighbourhood Street, or Rural Road
Step 3: Assess Current/Proposed Street Conditions Refer to the Street Element Condition Definitions for definition of condition values for each street element and assign a score based on the current or proposed future conditions.	Pedestrian realm: 2 Cycling facilities: 1 Transit facilities: 1 Through movement: 4 On-street parking: 2 Green infrastructure: 2
Step 4: Review Results Look at the results, with an example shown in **Figure 28**.	Priorities are balanced if all the street elements are marked within the shaded area. The desired condition is auto populated once the typology is selected in Step 2. If some street conditions exceed priorities, consider reallocating street space to improve conditions that do not meet the priorities. Return to Step 3 and adjust.

	Pedestrian Realm	Cycling Facilities	Transit Service	Through Movement	On-Street Parking	Green Infrastructure
Desired Condition for Complete Streets Typology	3	2	1	1	3	4
Current / Proposed Condition	2	1	1	4	2	2
Exceeds / Fails to Meet Priorities	-1	-1	0	3	-1	-2

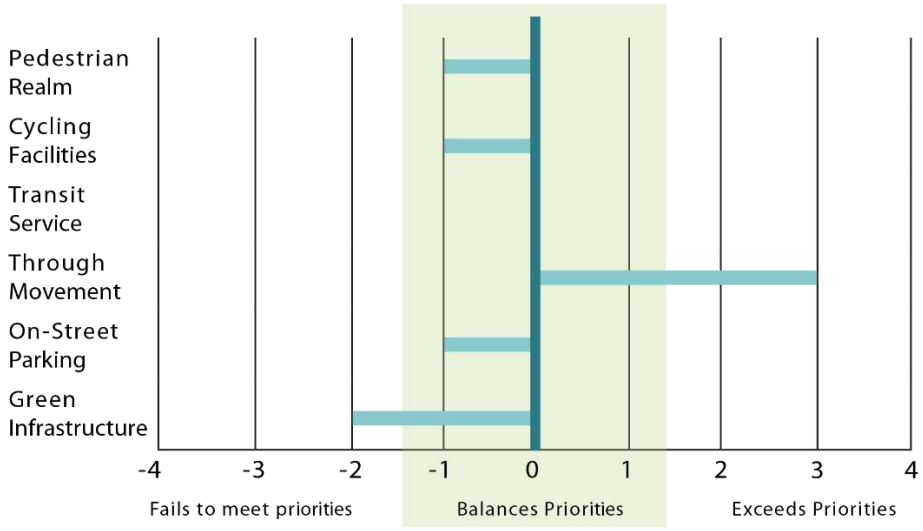


Figure 28 | Example of the Complete Street Audit Tool Results

4.2.2 Vision Zero

The Vision Zero program was initiated by the Swedish government to eliminate death and serious road injuries. It has a simple and clear goal to have zero fatalities or serious injuries on roadways, creating the conditions where no loss of life is seen as an acceptable trade-off for mobility. Vision Zero assumes that human error is a natural part of the road safety equation, shifting the burden of responsibility from individual road users to those who design and build the road systems. Although drivers and humans make mistakes, this approach recognizes that road deaths and injuries can be prevented through education, enforcement, engineering, evaluation, and engagement.

Traditional Approach



- Deaths are inevitable
- Focus on overall collision rates
- Human error identified as the cause of collisions
- Focus on perfecting human behavior on an imperfect road system
- Safety initiatives are costly
- Individual road users are responsible

Vision Zero Approach



- Deaths are preventable
- Focus on fatalities and serious injuries
- Flaws in the transportation system identified as the cause of collisions
- Focus on designing a road system that accounts for human error
- Safety initiatives reduce societal costs
- Road users and system designers have shared responsibility

When instituting a Vision Zero approach, close collaboration between system designers and government decision-makers are required since this approach requires a foundational shift in the understanding of road safety. Vision Zero is a continuous process to create safe roads through engineering changes, new policies, interim safety treatments and educational strategies. Monitoring and evaluation of performance is also essential to assess the conditions of the applied treatments or improved designs.

Vision Zero uses a data-driven and targeted approach to focus on locations that need geometric improvements. This approach recognizes the disproportionate harm caused by our current transportation system to vulnerable users of the road, such as pedestrians, cyclists, children, older adults, and persons with disabilities and takes deliberate action to improve their safety. Streets with enhanced safety that are designed to be pedestrian- or bicycle-friendly will support active transportation and increased mobility while also improving safety for all road users, including drivers. As roads begin to feel safer for these vulnerable users, more people feel comfortable using them for transportation and recreation, creating more vibrant public spaces and further reducing the burden placed on these groups.

4.2.3 Transportation Equity

The transportation system has not been designed in a value-neutral way and underprivileged and marginalized communities have been neglected by implicit and explicit bias in the transportation planning process. Transportation inequities can apply to many groups of the population and some examples are:

- **Women:** Many women report being afraid of being harassed in public spaces. Women who are caregivers walk and take public transit more often.
- **Marginalized groups:** Historically marginalized communities, including Indigenous peoples, that have often been left out of decision-making and may face disproportionate impacts from transportation policies and infrastructure.
- **Low-income Households:** These households have less financial ability to purchase and maintain a vehicle and may even have difficulty covering the cost of public transit.

- **Older Adults:** May struggle with walking up hills and across long intersection crossings, and may also find themselves with reduced mobility choice as they age and are unable to continue to drive.
- **Persons with Disabilities:** They are disproportionately impacted by transportation amenities that are solely designed for able-bodied persons, such as sidewalks without curb cuts, a bus stop without accessible boarding or trails that are not maintained in the winter.
- **Language Challenged Populations:** English or French may not be their first language, and this could create a language barrier to obtain and understand travel information.
- **People Walking and Cycling:** Pedestrians and cyclists are disproportionately represented among traffic deaths. Data indicates an increase in severity of collisions with the growing popularity of taller and heavier vehicles (e.g., SUVs and pickup trucks).

The best practices in addressing transportation inequities are summarized below:



Start by defining equity and embedding it into policy goals

- Define and identify 'equity-deserving communities'
- Embed equity into transportation capital budgeting process
- Include equity strategies in road safety
- Enhance public engagement with a focus on equity



Treat equity as a process

- Continue to build relationships with equity-deserving communities
- Consult with public members by "going to where the communities gather", such as attending upcoming community events

Pursue equitable engagement practices



- Deliberately reach out to communities who have been marginalized and prevented from accessing public consultations
- Go to the community, have flexible community engagement events, establish accountability groups with underrepresented demographics, and build an understanding of the history of the neighbourhood

Apply quantitative and qualitative approaches



- Collect data and assess the current public engagement outcomes
- Identify equity-seeking communities or populations and focus on areas that need improvements and are at risk of displacement



Develop methods to prioritize transportation funding and projects to underserved areas

- Adopt policies to provide more public investments in equity-seeking areas. For example, 50% of funds could be spent in neighbourhoods with lower equity scores and lower access to mobility options

Regularly measure and report on progress

- Report on progress to make sure that the desired outcomes are achieved
- Publish progress reports with the public to build trust
- Acknowledge shortcomings and celebrate successes

4.2.4 E-Micromobility Devices

E-micromobility devices are small, low-speed, electric-powered vehicles designed for short distance travel. Examples of these devices include:

- Electric-assist bicycles (e-bikes)
- Electric scooters (e-scooters)
- Electric skateboards
- Electric Unicycles
- Hoverboards and Segways

Although not necessarily human powered, these small electric devices typically maneuver in similar manner as active transportation modes and often use the same infrastructure, such as bike lanes and multi-use paths. They offer an efficient alternative to traditional transportation options and can complement other means of transport while reducing congestion and carbon footprint. They also provide an alternative for those who may not be able to use traditional bicycles or walk long distances, such as the elderly or people with physical limitations.





Figure 29 | Examples of e-micromobility devices

Currently, Sault Ste. Marie does not permit e-scooters on municipal streets and sidewalks. E-bikes are generally allowed. In spring 2024, the City also began permitting power-assisted bicycles (i.e. e-bikes without a throttle, requiring pedalling) on the John Rowswell Hub Trail.

Planning for e-micromobility devices presents several challenges. Roadway conditions may not provide sufficient safety nor comfort for riding in spaces shared with motor vehicles. Alternatively, along sidewalks or shared paths with pedestrians, there are increased safety concerns, particularly due to their higher speeds. Additional study may be required to determine whether the City wishes to permit e-devices along shared paths with pedestrians.

Permitting these devices along designated facilities intended for cyclists, such as bike lanes, would encourage individuals to use micromobility. Riders feel safer using protected and wider bike lanes, smoother pavements, and designated e-device/bike parking. The City can support and manage regulations, such as speed and dimensions, for the use of e-scooters and e-bikes to prevent and mitigate injuries by following best practices. Some best practices include:

Roadway Usage



- Provide on-street designated facilities shared by bikes and e- micromobility that are separated from traffic.
- Introduce riding prohibitions in specific areas, sidewalks, or public property with regulatory signs.
- Set a maximum operating speed for e-devices that is appropriate for the community. Some cities set a maximum speed of 20 km/h in existing cycling facilities, but that can be reduced to 10 km/h along multi-use pathways or residential areas.
- Night-time riding can be banned from 30 minutes after sunset to 30 minutes before sunrise due to insufficient light and visibility. Riders should be equipped with a front lamp and rear red reflector or light.

User Behavior



- Wear helmet and reflective gear.
- E-scooters should be fitted with all-weather tires, front and rear lights, bell, and braking mechanisms.
- Provide parking regulations for bikes and e-scooters.
- Riders should follow speed limits and road restrictions. If the user fails to comply with the regulations, enforcement penalties can be applied with fines from $25 to $250 or community service.

Regulations for Sharing Businesses



- E-scooters should have standardized built-in features, size, weight, and speed limits, such as including a bell, front and rear lights, and front and rear brakes.
- Set maintenance requirements for deployed devices. Each licensee shall keep records of maintenance, including repairs and replacing the damaged elements.

5 Developing the Active Transportation Network

A key component of the ATMP is the recommended active transportation network. The future active transportation network is intended to provide opportunities for people of all ages and abilities to engage in active forms of travel and recreation in Sault Ste. Marie. Developing the network for the City requires a combination of technical assessment and consultation with City Staff, key technical agencies and stakeholders, and members of the public.

This chapter provides the methodology and outcome from an existing condition review as well as an introduction to the route selection criteria that was used to develop the candidate network, and ultimately the recommended active transportation network.



5.1 Design Principles

Several design principles guided the development of the network to ensure it is safe, equitable, and accessible. These principles are grounded in current best practices and design standards, discussed in **Section 4.2** , as well as informed by input received through consultations with the City, stakeholders, and members of the public to align with the community's needs. These principles not only align with the network development priorities but also have the potential to guide future decision-making beyond this Plan's lifespan.

DESIGN FOR SAFETY AND COMFORT

Establishing a high-quality active transportation network will create an environment that is safe and attractive for users. This is essential for encouraging the use of active transportation modes and plays a vital role in reducing collisions. Incorporating principles of 'Complete Streets' and 'Vision Zero' into the network design will enhancing safety for all road users and create more comfortable spaces. These principles, discussed in further detail **Sections 4.2.1** and **4.2.2**, advocate for an inclusive approach that considers the needs of all road users, thereby creating safer, more accessible streets.

Other guidance central to developing safe and accessible pedestrian and cycling networks are the Ontario Traffic Manual (OTM) Book 12: Traffic Signals, 12A: Bicycle Traffic Signals, 15: Pedestrian Crossings, and Book 18: Cycling Facilities. These manuals provide direction on planning for and designing safe and accessible pedestrian and cycling networks throughout Ontario. Incorporating these design standards and principles into the network design process significantly enhance the safety and usability of the city's cycling infrastructure.

COMPLETE STREET PRINCIPLES

Directions in the City's TMP emphasize the integration of 'Complete Street Design' in all new road developments and in the enhancement of existing roads as opportunities arise. As detailed in **Section 4.2.1**, complete streets are designed to accommodate multiple modes of transportation and optimize the various functions of the street right-of-way. They are about creating spaces that fulfill multiple functions are sensitive to the surrounding environment and encourage travel by multiple modes. Complete Street principles were a central component in the network's design and this Plan's development. Consideration was given to how streets can become more "complete" by rebalancing the uses of the roadway and providing more separation between different road users. It also acknowledges the importance of the placemaking and prioritizing pedestrian realm enhancements to encourage active transportation use.

DESIGN FOR ALL AGES AND ABILITIES

All Ages and Abilities (AAA) design refers to the planning and development of transportation networks that prioritize safety, comfort, and equity. It involves creating low-stress environments where people with a range of abilities and comfort cycling feel comfortable riding. This is achieved by carefully considering the design and operation of these facilities.

The AAA design approach is rooted in inclusivity, considering the needs of all users, with a particular focus on historically underserved groups, such as children, seniors, women, people of colour, low-income users, and individuals with disabilities. AAA facilities may be shared operating spaces where there are low vehicle speeds and volumes that can be effectively controlled, but more preferably they are physically separated spaces for users to further enhance safety and comfortable experience for all.

The proposed route network in this Plan recommends designing active transportation facilities to AAA standards wherever possible, ensuring that the greatest amount of people can use the facilities comfortably and safely.

DESIGN FOR A MORE EQUITABLE NETWORK

Barriers to using active modes are not only physical. They can be derived from differing cognitive abilities and mental processes experienced by potential users, or can be socially-based and stem from issues related to income, language, race, religion, sexual orientation, health, and gender. As discussed in **Section 4.2.3**, building a more equitable transportation network involves providing people with a range of affordable and reliable transportation options based on the needs of the population, particularly populations that are traditionally underserved. Collaborating with the City, stakeholders, community groups, and the public, the development of the active transportation network was informed by the specific needs of various groups and communities. Key efforts to improve equity within the transportation system included expanding active transportation network into areas that are often underserved or overlooked by active transportation and public realm improvements, as well as the extension of John Rowswell Hub Trail into the City's west end.

During the implementation and detailed design phases of the network, it is recommended that equitable design principles are prioritized to support the diverse needs of all community members.

SUPPORT OF THE ECONOMY AND TOURISM

The development of the active transportation network was driven by the goal of connecting both residents and visitors to local businesses while showcasing the City's natural beauty. The plan prioritizes connections to the John Rowswell Hub Trail, the Waterfront, natural and recreational spaces, and the downtown. These connections not only serve residents but also have the potential to attract new tourism investment to the community. Additionally, priority was also given to active transportation connections to commercial hubs, such as along Great Northern Road, to support residents with their daily trips and create opportunities for economic growth. The proposed active transportation network also supports the City's existing initiatives to support small businesses

such as seasonal/sidewalk patios in the downtown, while also improving safety and access to local amenities for people who walk, bike or wheel.

To further enhance these areas, public realm improvements in these areas should be implemented along with the network to encourage active transportation traffic that will benefit the local businesses and contribute to economic vitality.

5.2 Network Development Process

The network development process is a combination of technical assessments and consultation with City staff, stakeholders, and members of the public. The approach used to develop the City's network in the ATMP is consistent with the Ontario Traffic Manual Book 18: Cycling Facilities (2021) process. This six-step, iterative process is informed by current best practices, lessons learned, and input gathered to date. An overview of each step is detailed in **Table 3.**

Table 3 | Active Transportation Network Development Process

Step		Outcome
1	Identify existing conditions and routes that have been proposed in the past planning documents.	• Section 2.1: Existing Policies • Section 2.3: Existing Active Transportation Network
2	Identify a list of route selection criteria to help select, assess and refine candidate routes and prioritize future investments.	• Section 5.2.1 Route Selection Criteria
3	Identify candidate routes to be included in the City's active transportation network.	• Section 5.2.2 Candidate Routes
4	Conduct desktop and field work to verify the candidate routes' existing conditions and facilities. Local surroundings and key destinations are also captured in proximity to the candidate routes.	• Section 5.2.3 Desktop Investigations
5	Verify candidate routes with City Staff, share with stakeholders and the public for input.	• Chapter 3 Engaging Sault Ste. Marie
6	Confirm the City's preferred active transportation network including the proposed facility types.	• Section 5.4 Recommended Active Transportation Network

5.2.1 Route Selection Criteria

A series of route selection criteria was developed based on the vision and objectives of the ATMP, industry best practices adapted for the unique context of the City, and informed by the existing Federal, Provincial and City documents. These criteria, presented in **Figure 30**, form the foundation for identifying and evaluating candidate routes and serve as a tool to prioritize active transportation projects. Prioritized projects should not preclude projects that have a high level of public demand, nor those that have been identified in previous planning processes, from moving forward.

These criteria can also provide guidance beyond the development of this ATMP, such as when new projects are proposed or when conditions within the City change.

Safety & Accessibility	Routes should be designed to improve safety and enhance accessibility and will be prioritized based on their degree of safety improvement compared with current conditions.
Connected & Continuous	Routes should provide a consistent user experience, providing comfortable, continuous routes throughout the City. Routes that close gaps in existing routes or provide an opportunity for a consistent active transportation corridor should be prioritized.
Feasibility	Routes will be evaluated based on the level of capital investment required, their alignment with existing capital works projects and property ownership constraints to ensure that proposed routes have a high degree of constructability.
Support Multi-Modal Needs	Routes that support the development a multi-modal transportation system by providing connections to transit facilities and other key destinations should be prioritized.
Connections to Key Destinations	Routes should provide connections to tourist destinations, parks and green spaces to enhance opportunities for visitors and residents to engage with natural areas on a regular basis. Connections and improvements to the John Rowswell Hub Trail, Fort Creek Conservation Area, the Waterfront District and other primary destinations should be prioritized.

Figure 30 | List of Route Selection Criteria Applied to Identify Candidate Active Transportation Routes

5.2.2 Candidate Routes

The next step in the network development process is to apply the ATMP's vision, goals and objectives and route selection criteria to identify potential candidate routes for improvement from the previously proposed networks in the 2007 Cycling Master Plan (updated in 2014) and 2015 Transportation Master Plan. These plans proposed an active transportation network comprised of the the John Rowswell Hub Trail, Spoke Routes, and other cycling routes. This previously proposed network was reviewed for additional missing links or opportunities for enhancement and further refined to reflect any changes to the community or city's priorities.

Best practices were also considered while developing candidate routes for the new active transportation network. These included the following best practices and principles:

Sidewalk Network

- The recommendations as part of the ATMP focuses on gaps in the sidewalk network that will connect to existing sidewalks and destinations on at least one side of the road.
- Sidewalks were not recommended on local roads that end in dead-ends such as residential cul-de-sacs.
- Rural roads were not considered for sidewalk upgrades as it is recommended that sidewalks be implemented when the road is urbanized.

Cycling and Multi-Use Network

- While many important destinations are situated along arterial roads, they present challenges in developing comfortable cycling facilities due to high traffic speeds and volumes, limited boulevard spaces, and frequent driveway conflicts. Where there is an opportunity to provide a higher-quality cycling facility on a parallel route that maintains direct connectivity to key destinations, these parallel routes are generally preferred.
- Opportunities for trails along hydro corridors and rail corridors were explored for recreational connections.

Once these candidate routes were refined, they were confirmed through technical assessment, conversations with the City staff, as well as consultation with key stakeholders, agencies and members of the public.

5.2.3 Desktop Investigations

After reviewing existing conditions and identifying candidate routes, a desktop analysis of the selected candidate network was performed. Route conditions were assessed, including but not limited to existing curb-to-curb width on roadways and road right-of-way, street function and design, and other physical constraints. The existing surroundings, connections to key destinations, and existing trails are also investigated in proximity to the candidate routes.

Along with the desktop analysis, select locations were chosen for field investigations to verify route conditions. Key aspects reviewed during each visit include slope gradings, surrounding land uses, road and / or trail surfacing, provision of supporting amenities (i.e. directional signage, trailheads, lighting) and lane widths.

5.2.4 Facility Selection

To ensure our City provides safe and comfortable cycling infrastructure, it is important to select context-appropriate cycling facility that reflects the specific conditions of the area and the priorities of the community. Based on the findings of steps 1 to 5, network facilities were determined using the OTM Book 18 Three-step Facility Selection tool. This tool guides practitioners through assessing site-specific conditions for both rural and urban roads, such as roadway operations, characteristics, and feasibility to determine the appropriate level of separation and facility. When a corridor fell on the cusp of two facility types, the facility that provides the greater degree of separation was chosen in most instances to ensure safety was prioritized. For instance, if a corridor landed on the threshold between a shared operating space and designated facility, the designated facility was selected. This approach results in a safer, future-proofed network that encourages more new riders.

Once the evaluation was complete, the proposed facility types were confirmed with City staff, and then presented to stakeholders and the public for further input.

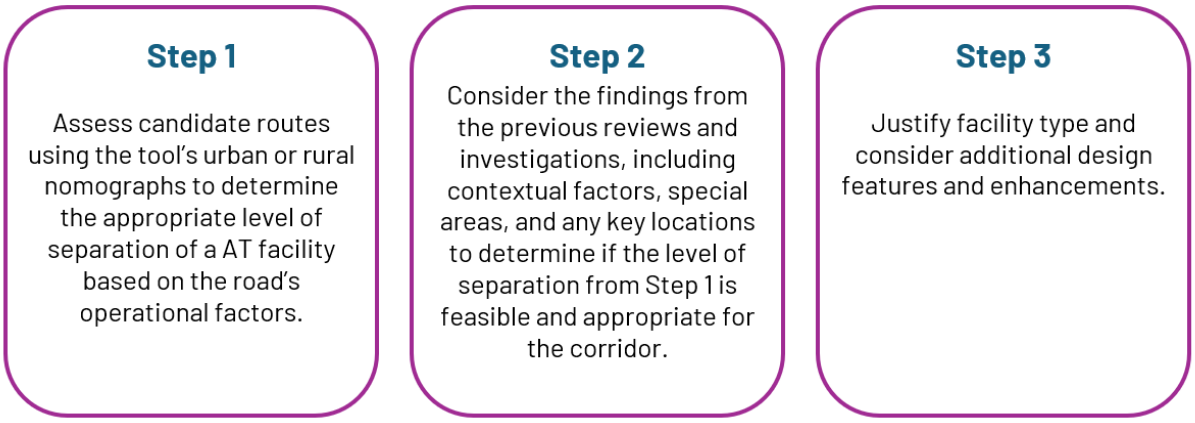


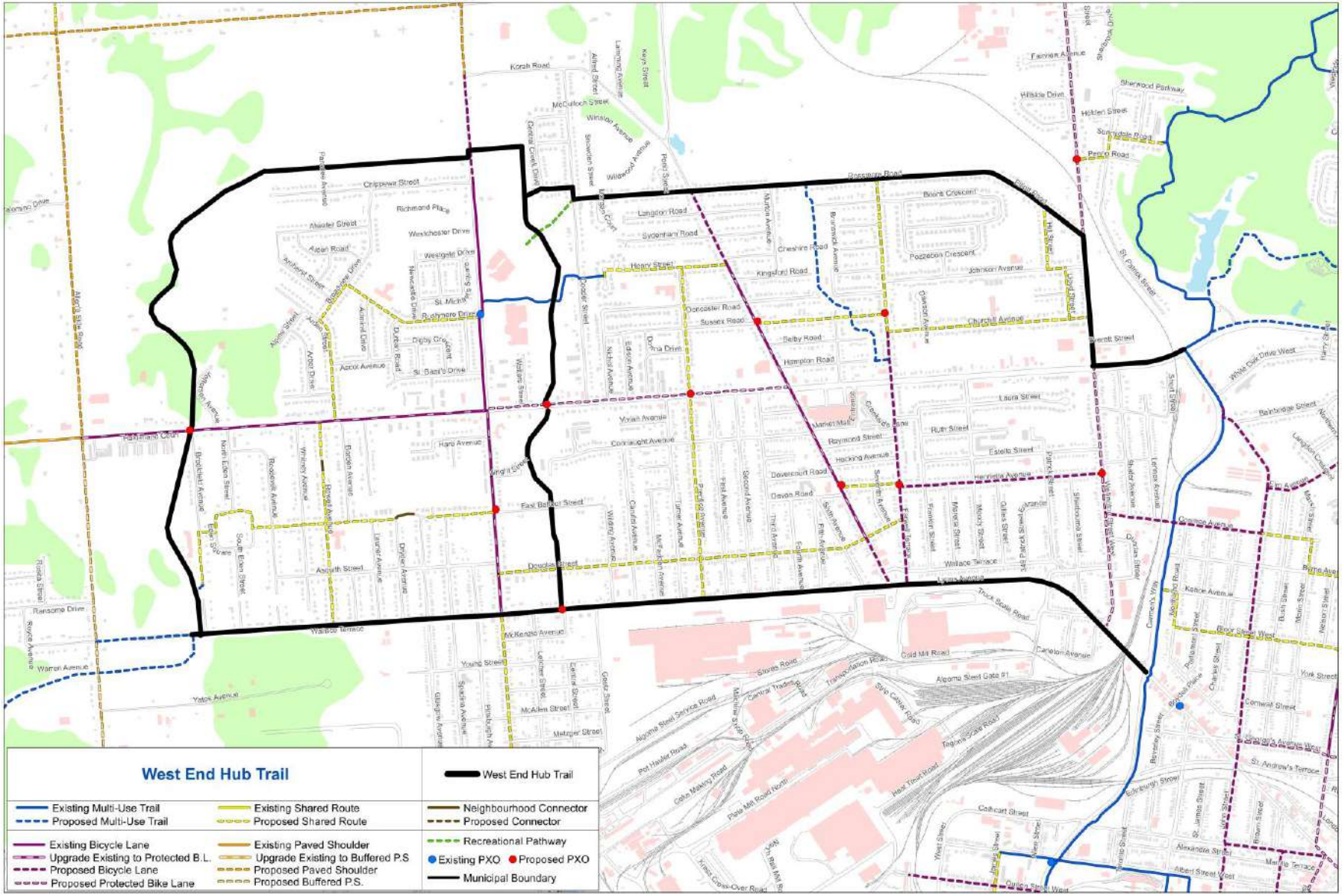
Figure 31 | OTM Book 18 Three-Step Facility Selection Tool

5.3 West End Hub Trail

While there are several existing and planned bike routes and trails in the City's west end, connectivity among them and integration with the broader community could be improved. The area is also experiencing a number of higher-density residential developments, a trend expected to continue due to the availability of serviced, underutilized land.

In light of this, the ATMP proposes extending the John Rowswell Hub Trail to the City's west end, as illustrated in **Figure 32**. Wallace Terrace, Peoples Road, Rossmore Road, and the naturalized areas surrounding the storm channels will serve as the backbone of this extension. However, before construction of the West End Hub Trail can begin, a more detailed technical review and construction plan will be necessary. This review may lead to adjustments in the proposed routes.

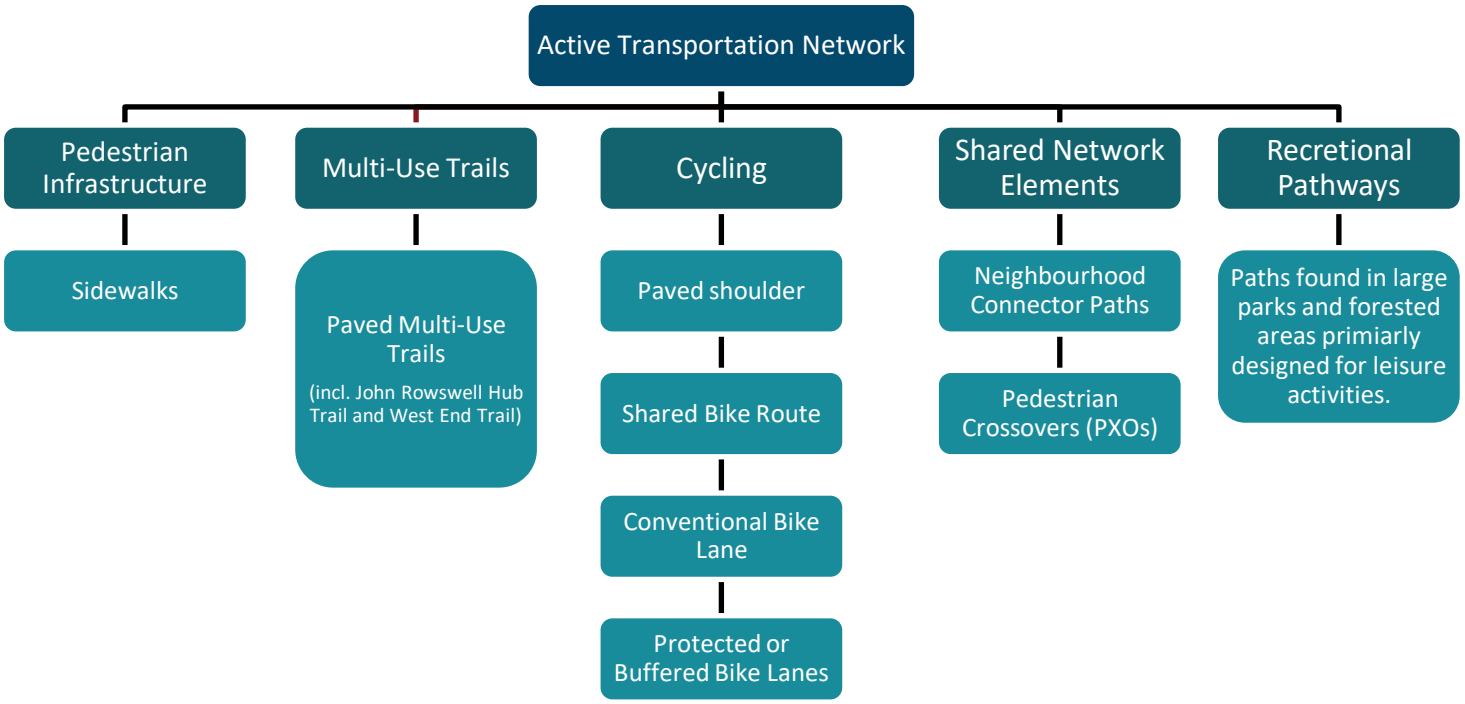
Figure 32 | Proposed West End Hub Trail Extension



5.4 Recommended Active Transportation Network

5.4.1 Network Organization

Sault Ste. Marie's active transportation network is comprised of several types of infrastructure designed to ensure safe, efficient, and accessible travel for pedestrians, cyclists, and other non-motorized users. The network includes pedestrian-focused infrastructure (such as sidewalks), shared network elements (such as pedestrian crossovers), cycling-focused infrastructure (such as bike lanes), multi-use elements (such as paved multi-use trails), and recreational trails. These elements are further explored in **Section 5.4.2**. This structure helps create a user-friendly network that provides diverse mobility options and accommodates users of all ages and abilities.



5.4.2 Existing and Proposed Active Transportation Facilities

The proposed active transportation network is comprised of several active transportation facility types, as assigned through the network development process. Once implemented, this will create an extensive network of active transportation facilities across the City.

Pedestrian Infrastructure

Sidewalks



Sidewalks are facilities for the exclusive use by pedestrians. There are currently 340 km of sidewalks throughout Sault Ste. Maire. The City's Official Plan states that sidewalks are required on both sides of arterial and collector streets within the urban area, and on at least one side of local streets in new residential developments. Given this, this ATMP provides additional pedestrian routes in residential areas, particularly near schools and other key destinations.

Under the City's standards, sidewalks should be designed to at least 1.5 m of width, which aligns with universal accessibility standards directed by the AODA. It is recommended sidewalks exceed this width, when possible, particularly in areas with high pedestrian traffic and commercial areas. Additional considerations should also be given to side-by-side walking whenever feasible, and adequate clearances around fixed objects or furnishing zones.

Shared Network Elements

Neighbourhood Connector Paths



The active transportation network includes pedestrian paths, locally known as "catwalks," which facilitates easier movement through neighborhoods and more vibrant street life. While primarily designed for foot traffic, these paths are also used by bicycles and other active transportation devices. These paths typically serve as direct, convenient shortcuts through neighbourhoods, significantly enhancing neighbourhood walkability and connectivity throughout the city.

Pedestrian Crossovers



A Pedestrian Crossover (PXO) is a designated road crossing where pedestrians, cyclists, and other active transportation users have the right of way to cross (although, cyclists and other active transportation users are required to dismount and walk their bikes across as pedestrians). PXOs are marked with specific pavement markings, signs, and sometimes flashing beacons to alert drivers to stop for crossing pedestrians. They are typically found on low to moderate volume and low speed roadways, often located where there is a significant distance between traffic signals.

PXOs are important help reduce accidents and create safer conditions for everyone by increasing pedestrian visibility, especially during low light conditions, such as at night, when pedestrians can be difficult to see. They also manage unexpected pedestrian movements, such as jaywalking, by providing clear crossing points.

PXOs also enhance multi-modal connectivity throughout the city by offering more crossing options within a shorter distance, and facilitating better integration of walking, cycling, and public transit, making it easier to reach transit stops and other destinations using a variety of travel modes

Cycling Infrastructure

Paved Shoulders (Rural)



Paved shoulder routes are located outside of the urban area where cycling demand is typically low compared to urban areas. Operating speeds on rural roads tend to be higher than urban roads, thereby shared operating spaces are not recommended. These routes will typically be paved shoulders separated by a painted line. They may or may not have a buffer or rumble strip.

Shared Road Routes



Shared routes are cycling connections within neighbourhoods and residential streets that experience low traffic volumes and low speeds where cyclists and motorists share traffic lanes. These shared operating spaces may be indicated using pavement markings and/or signage, along with traffic calming measures that reduce traffic speeds or traffic volumes.

Conventional Bicycle Lanes



Buffered or conventional painted lanes are exclusive bike lanes are placed on roads with lower traffic volumes and/or speeds. They are typically designated from motor lanes by painted lines and pavement markings. It is recommended to implement geometric roadway improvements and adopt protected intersections along these routes. Only in constrained areas should the facility be separated by a solid painted line without a buffer space.

Protected Lanes or Cycle Tracks



Protected lanes and cycle tracks are exclusive bike lanes that provide physical separation from motor vehicles. There are a range of separation techniques, including bollards or concrete barriers (for protected lanes) or separation by curb or in the boulevard parallel to the sidewalk (cycle tracks). These facilities should be designed for all ages and abilities. They are located along roadways with moderate to high volumes of motor traffic, and are preferred along routes which connect to the John Rowswell Hub Trail and other key destinations. It is recommended to implement geometric roadway improvements and adopt protected intersections along these routes, as well as continuous crossings at minor intersections and driveways.

Multi-Use Trails



These routes are typically two-way paved paths that are situated alongside the road right-of-way in the boulevard, separated from the traffic lanes by a curb and buffer. They are shared among many kinds of users, including pedestrians, cyclists, and other active transportation and micromobility modes.

These trails include the John Rowswell Hub Trail and the proposed West End Hub Trail.

Recreational Trails



Recreational Pathways, often found in large parks and forested areas, are designed primarily for leisure activities such as walking, biking, dog walking, cross-country skiing, and snowshoeing. While they do not typically serve a direct utilitarian function, their design, surface material, and level of maintenance can vary significantly depending on location and intended use.

Despite their primary recreational purpose, these pathways play an important role in promoting active lifestyles, enhancing mental and physical well-being, and fostering community engagement. They contribute to a culture of active transportation by providing safe and enjoyable environments for exercise.

Figure 33 | Proposed Urban Area Active Transportation Network Map

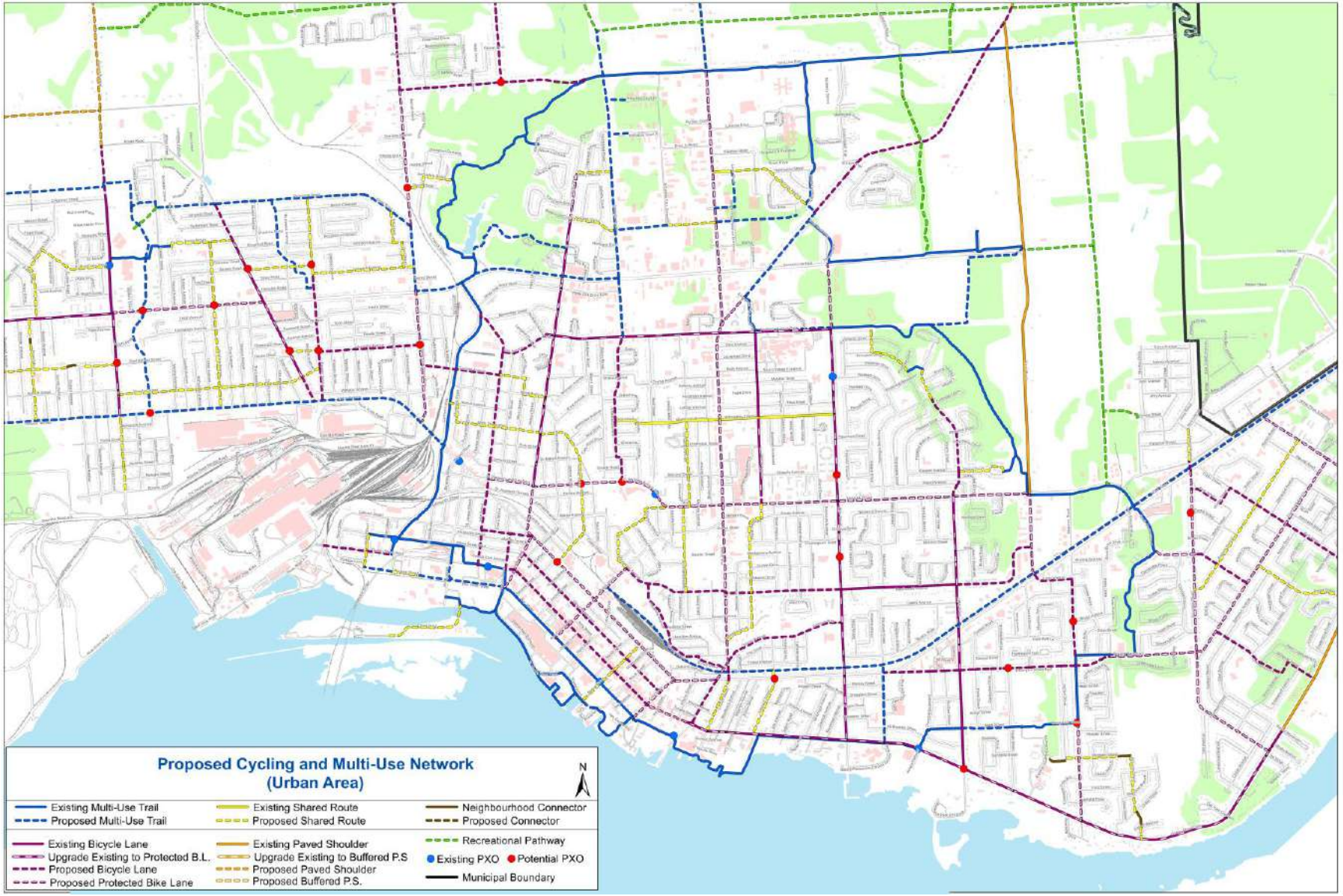


Figure 34 | Proposed City-Wide Active Transportation Network Map

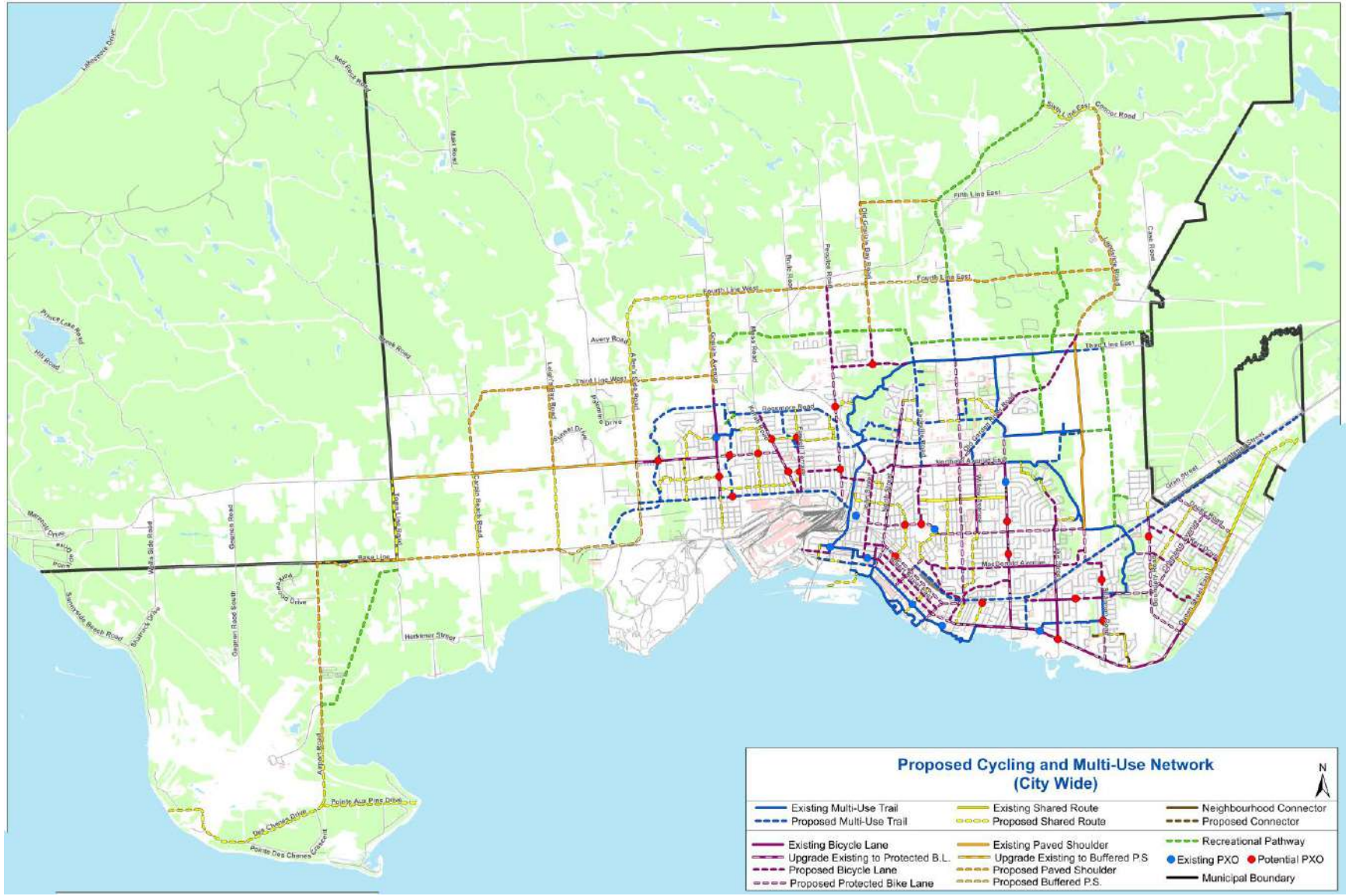


Figure 35 | Proposed Urban Pedestrian Network Map

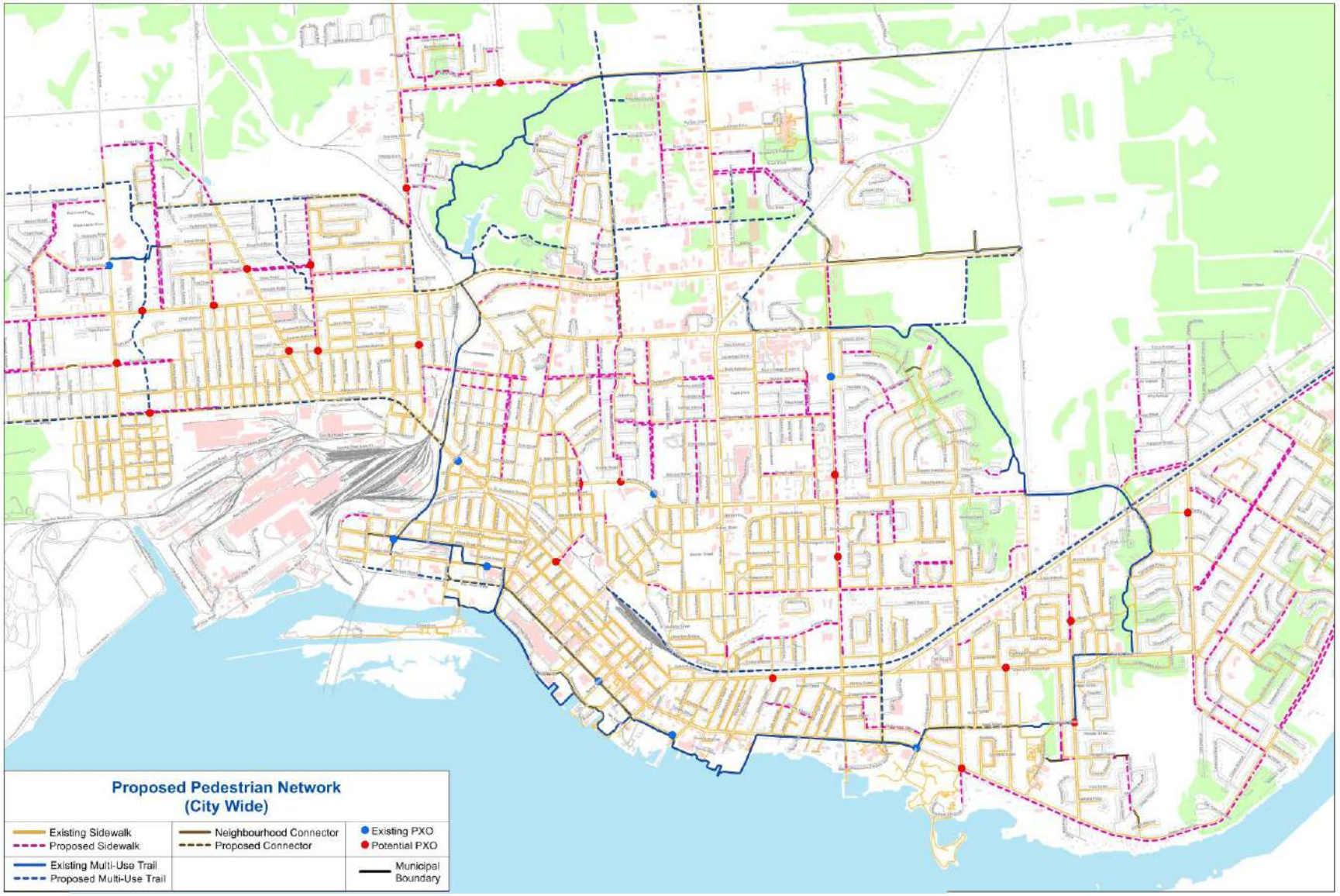
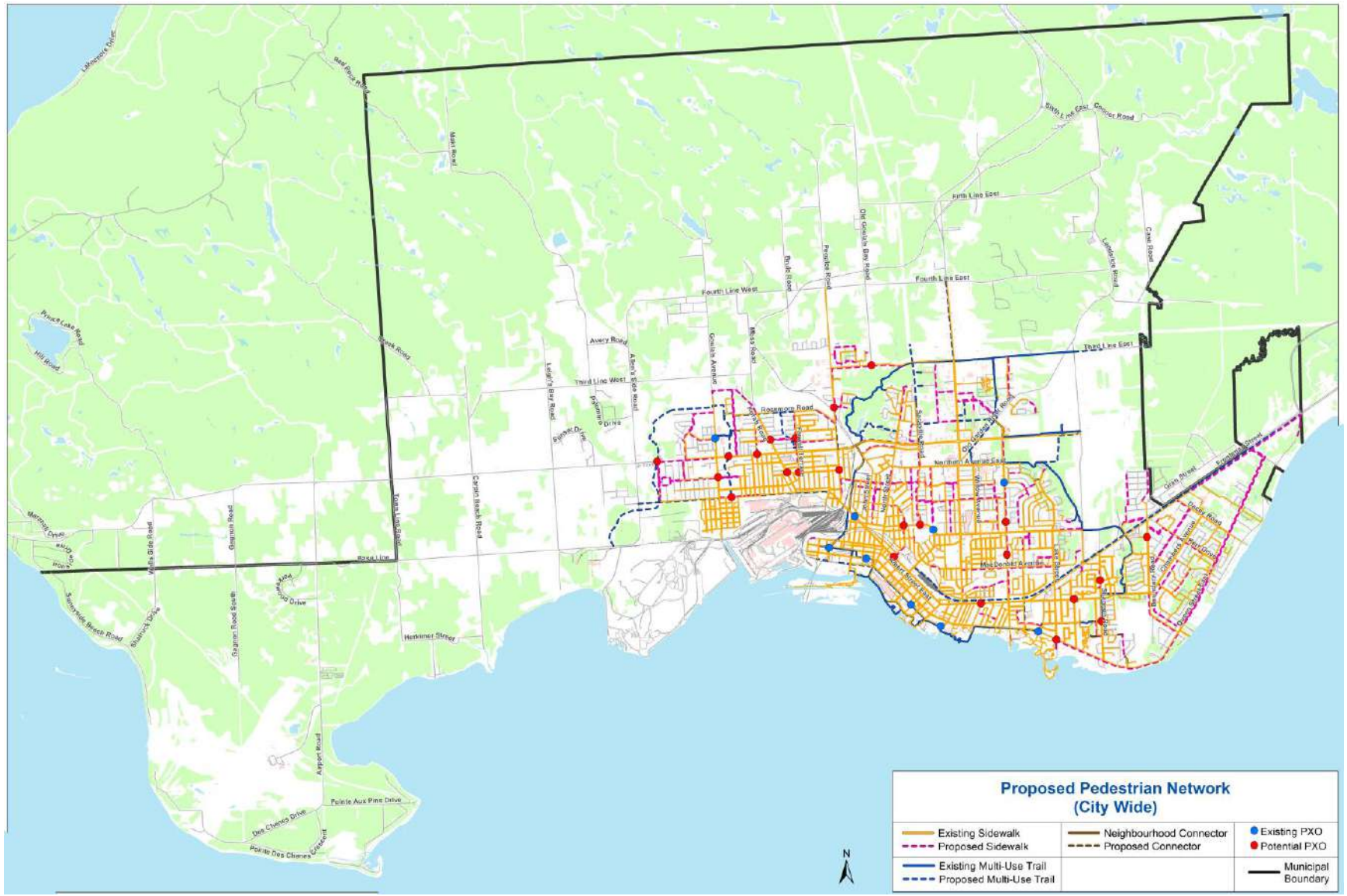


Figure 36 | Proposed City-Wide Pedestrian Network Map



5.4.3 Facility Design

In order to enhance the safety, comfort, and convenience of active travel, each facility type has their own design standards and considerations tailored to the specific needs of the end user and context. **Table 4** presents the recommended one-way widths each facility (two-way for multi-use paths/trails), informed by OTM Book 18 and leading industry references.

Table 4 | Desired Active Transportation Facility Widths Listed within the Proposed Active Transportation Network

Facility	Facility Width	References
Paved Shoulder	1.5 m to 2.0 m	OTM Book 18, section 4.5.4
Buffered Paved Shoulder	1.5 to 2.0 m + 0.5 to 1.0 m buffer	OTM Book 18, section 4.5.4
Shared Routes	Over 3.0 m travel lanes	OTM Book 18, section 4.5.2, 4.5.3
Conventional Bike Lane[1]	1.8 m	OTM Book 18, section 4.4
Buffered Bike Lane	1.8 m + 0.6 to 1.0 m buffer	OTM Book 18, section 4.4.2
Protected Bike Lane or Cycle Track	2.0 m to 2.5m	OTM Book 18, section 4.3
In-Boulevard Multi-Use Path (two-way)	3.5 + 1.5 m dependant on context	OTM Book 18, section 4.3.4
Off-road Multi-Use Trail (two-way)	3.0 to 4.0 m	MTO Bikeways Design Manual, section 5.0 AODA – Built Environment Standards, section 2.2

[1]*This facility should only be considered where there is one motor vehicle lane per direction, and where a buffered facility cannot be accommodated.*

6 Education, Encouragement and Tourism

Developing a complete network of comfortable, convenient active transportation facilities is vital to improving conditions for people to walk or bike, but it must be paired with the parallel development of a system of social infrastructure to support active transportation for Sault Ste. Marie to realize the full benefits of its investments in active transportation.

Sault Ste. Marie is a prime tourism destination in Northern Ontario, both as a scenic city and a gateway to a wide range of outdoor adventures in the surrounding region. The city boasts four seasons of cycling activities for tourists, including city, road/gravel, mountain, and winter 'fat biking'. The Great Lakes Waterfront Trail brings long-distance cycle tourists through the City, and the John Rowswell Hub Trail offers family-oriented off-street routes for all ages. The recently established mountain biking festival "The Salty Marie" attracts visitors of all abilities to the Hiawatha Highlands for its trails and pump track.

A suite of active transportation programs informed by best practices from around North America is proposed to supplement the City's investments in physical infrastructure to support and promote walking, cycling, and wheeling. The recommendations contained in this chapter are based on the successes and lessons learned from comparable municipalities in Ontario and beyond.



Recognizing that a single approach or program does not cater to all, these programs intentionally target a wide range of audiences, including students, women, seniors, tourists, people with disabilities, and other groups with unique perspectives and needs. While the programs described in this Chapter provide an effective starting point for the City, additional consideration should be given to expanding support for priority groups to create programs that address the barriers faced by some groups to participate in active transportation. Future considerations for programming could help to address barriers related to finances, systemic discrimination, language differences, cognitive ability, and risk tolerance.

The programs presented here have been shaped by local expertise – they are designed to support existing initiatives, build on the City's successes, and leverage the relationships that already exist within the community to create more support for, and excitement about, active transportation. The recommendations are based on best practices but are filtered through the local context and the knowledge of key stakeholders within the City, producing a truly made-in-Sault Ste. Marie option to boost the culture of active transportation.

6.1 Programming Recommendations

6.1.1 Approaches and Phasing

The approach taken by this Plan is to provide the City with a list of initiatives that can be undertaken over the next several years, with new programs being added into the City's "toolbox" to support active transportation as the City and its partners expand their reach and capacity around active transportation. The recommendations are organized into three tiers, which provide some guidance for the City with regards to prioritizing their investments. Based on existing capacity, an understanding of the desires of the community and research about best practices relating to active transportation programming, this Plan outlines an implementation plan that scales up the level of effort and investment as the active transportation community continues to grow in Sault Ste. Marie, providing programs that will reach new audiences and grow active transportation for years to come. The three tiers of programming include:

Phase 1: Foundations

Programing initiatives likely to generate the greatest participation that ought to be adopted first to establish a foundation upon which further involvement within active transportation can grow.

Phase 2: Basic Programming

Programming initiatives that maintain the momentum of increasing active transportation involvement and begin the process of facilitating a deeper cultural shift in support of active transportation.

Phase 3: Advanced Programing

Programming initiatives that tailor to a wider range of potential active transportation audiences and help to establish a more mature culture of active transportation.

While there is no single route to becoming more bicycle friendly, it is recommended that the City focus on fully implementing the recommendations in each category before rolling out initiatives in the subsequent categories. For example, when determining how to spend programing dollars, the preference should be given to funding the programs in the "Foundations" category before moving on to programs in the "Basic" category, and programs in the "Basic" category should be fully implemented before initiating programs in the "Advanced" category. The delineation between these programs is based on extensive research and experience with Community-Based Social Marketing and is designed to facilitate both cultural and individual shifts in belief, behaviour and attitude towards active transportation in Sault Ste. Marie. With that said, however, it is important to acknowledge that circumstances may change, so these assumptions and recommendations should be revisited regularly to ensure that they remain relevant. All of the programs outlined in this section will have a positive impact on the City's active transportation culture, so should funding become available to pursue a program that is beyond the tier that the City is actively working on, the City and its partners should still pursue that funding.

The tiers as presented here provide a cost-effective way to deepen the City's connections with its partners and its residents as it relates to active transportation. By investing strategically, seeking funding support from higher levels of government and building on the existing partnerships within the City, Sault Ste. Marie could well achieve all of the goals set out in this Chapter within 5-6 years, firmly positioning the City as one of Ontario's leading communities in promoting a cultural shift towards active transportation.



6.1.2 Potential Partners

Partner	Role
Accessibility Advisory Committee	The Accessibility Advisory Committee can provide input to address accessibility concerns and opportunities as the Plan moves forward in each Phase.
Métis Nation of Ontario	The Métis Nation of Ontario (Region 4) has emphasized that the inclusion of the Sault Ste. Marie Métis Community is vital, noting that it is impossible to tell the true story of Sault Ste. Marie's development without acknowledging the contributions and presence of the Métis people. As such, opportunities for the public to learn about Métis history and culture should be actively supported by the City. Their role as a partner may include providing guidance on culturally relevant programming and interpretive materials, as well as supporting engagement and collaboration on perspectives in active transportation and recreation.
Parks and Recreation Advisory Committee	The Parks and Recreation Advisory Committee understands community interests and can recommend programs, activities and events.
Public Health	Algoma Public Health advocates for a physically active lifestyle to improve the health of the residents. The public health unit can support recreational physical activities and educate the health benefits of active transportation at public events.
Sault Climate Hub	The Sault Climate Hub is a group of concerned citizens advancing climate change mitigation & adaptation to align Sault Ste. Marie with scientific, aspirational, and global targets for greenhouse gas emission reductions through action, education, engagement, & other activities. The Hub has offered to support several initiatives outlined in this chapter.
Sault Ste. Marie Police Department	The police are an important partner in promoting safe road use for all users. Police officers can deliver educational and public awareness messaging, can help with Bike Rodeos and cycling education schools, and can play a role in sharing information about collisions and citations with City staff to better inform infrastructure improvement decisions.

Partner	Role
Sault Trails Advocacy Committee (STAC) and the Sault Cycling Club	STAC is a citizens' committee dedicated to the development of a coordinated non-motorized public trail system. Committee and club members possess a strong understanding of the local context and will be key to marshalling resources to support the implementation of this Plan. They will be able to share their knowledge on the existing conditions and main routes of the active transportation infrastructure. There are opportunities for the club members to advise the City on the implementation of new infrastructure. The club is capable in planning and delivering events in the past, and they will be important partners in organizing and delivering future events to build a stronger culture of active transportation.
School Boards	Sault Ste. Marie's four school boards provide a direct connection to the youth of the community. As teaching and learning organizations, school boards can promote safe walking and biking events and workshops to the students.
Tourism Sault Ste. Marie	Tourism Sault Ste. Marie, under the Community Development and Enterprise Services Department, serves a vital role in promoting the City as 'Ontario's best adventure town'. The department already hosts a wealth of cycling information on its website, presenting an opportunity to further expand the reach of active transportation programs and activities.

6.1.3 Overview of Programs

PHASE 1: Foundations

The first phase of programs includes initiatives with broad appeal that are likely to generate the greatest involvement and establish a strong culture of active transportation within Sault Ste. Marie. While the City and its partners have proven that there is the capacity to run programs to support active transportation through leveraging existing staff resources or relying on volunteers, the programs presented here would represent a significant increase in the level of effort required to deliver them.

As the number of new programs and the number of new partnerships begins to grow, it will be difficult to maintain that growth when work and responsibilities are dispersed across multiple departments and committees. For that reason, it is recommended that the City establish an Active Transportation Coordinator position to serve as a centralized resource for all things related to active transportation. This plan has been developed in a manner that allows for the active transportation Coordinator position to be "scaled up" over time – for example, starting out as a Summer Student contract position, potentially funded by the Canada Summer Jobs program. It could then evolve into a full-time or nearly full-time role as the active transportation portfolio matures within the City.

The recommendations below also assume that both an Active Transportation Committee and the Active Transportation Coordinator will be the primary delivery agents for new programs in the City. The partners listed under each program will serve to either support or co-lead each initiative, but the presence of the Committee and Coordinator as the lead for each program should be assumed. The remainder of the suggestions in the "Foundations" section assume that this resource is in place. If this position is not filed, these programs are less likely to be as successful, although they could still be realized with the support of the City's numerous partners, advisory committees, and volunteer groups.

Program #1: Active Transportation Advisory Committee

The grassroots Sault Trails Advocacy Committee has been effective at advocating for new programs and projects to support cycling within Sault Ste. Marie, but currently no council committees exist to provide an official advisory role on active transportation. The City may consider working with council to establish a formal Active Transportation Advisory Committee, modelled after other council committees, with a mandate to advise city staff and council on investment priorities, organize and deliver programs, and identify funding streams that the City could pursue. It is suggested that the City create a discretionary fund for the committee, to allow them to make small investments or purchases that can support the committee's goals. This funding could be used for purchasing ad space, providing honoraria for speakers or cycling instructors or even investing in amenities like bike parking or seating. Local volunteers, advocates and subject matter experts should be prioritized when selecting members on the committee.

Recommended Partners	• Public Health Unit • City Staff (e.g. engineering, police, tourism, planning)
Inspiration	• County of Essex – County-wide Active Transportation System Committee • Halton Hills – Active Transportation Advisory Committee (Click Here)

Program #2: Routine Community Slow Roll Events

Host regular community walks or bike rides to provide residents with the opportunity to participate in an enjoyable, social activity while also exposing them to the available parks, trails and active transportation network in the City. Key components of a successful community ride or walk program include:

- **Regularity:** walks or rides should be hosted on a regular basis that will allow casual drop ins and outs
- **Visibility:** walks and rides should be distinctively branded, to improve their awareness within the community
- **Accessibility:** walks and rides should be delivered at a slow pace for inexperienced participants and socialization
- **Socialization:** walks or rides should encourage community building, allowing participants to become acquainted with each other and the sites and businesses that make up the local area



Recommended Partners	• Sault Cycling Club • Recreation and Culture Division
Inspiration	• Windsor-Tecumseh Slow Ride (Click Here) • City of Markham – Annual Cycling Day

Program #3: Initiate an Active School Travel Program

Parents and students are increasingly relying on vehicles to commute to school and fewer students are using active modes of transportation. Children and young adults are missing the opportunity for physical activity, fresh air, and social interaction with their friends and caregivers. Implementing an Active School Travel Program shifts car dependence towards active travel, which can improve the surrounding air quality and physical and mental health of the students. With reduced vehicle traffic, streets are safer for the students to walk and cycle to school.

Green Communities Canada funded a program called the Ontario Active School Travel (OAST). The Active School Travel program aims to create a culture of active lifestyles for the students. The program requires cooperation from the school, community stakeholders and residents to address transportation issues that hinder active travel. The OAST Fund offers grants to school boards, municipalities, and student transportation consortia.

Other programs that fall under the Active School Travel program include School Streets, Bike to School Week, International Walk to School Month, and Winter Walk Day.

Recommended Partners	• Public Health Unit • School Boards • Student Transportation Services • Police/By-law Services
Inspiration	• Town of Ajax – Active and Safe Routes to School (Click Here) • Windsor-Essex County – Active School Travel • Ontario Active School Travel (Click Here)



Program #4: Open Streets Events

A growing tradition practiced among municipalities around the world, Open Streets Events feature the temporary closure of a major roadway to cars to create additional space for active travel and recreational programming. Often designed as a large street fair, the event should be held within highly travelled areas, such as commercial main streets, to dual as an opportunity to support local commerce. The event should be held within highly travelled areas during weekends and holidays, such as commercial main streets, to dual as an opportunity to support local businesses. Coordinating the street closure required for Open Streets Events could follow similar arrangements required for Rotaryfest Summer Festival, Soo Pee Wee Carnival, and Downtown Street Party.

Recommended Partners	• Tourism Sault Ste. Marie • Sault Ste. Marie Downtown Association • Rotary club and local organizers • Voyageur Trail Association • Sault Climate Hub
Inspiration	• Town of Kingsville – Open Streets • Peterborough Pulse – Open Streets



Program #5: Active Transportation Distance Wayfinding Maps and Signs

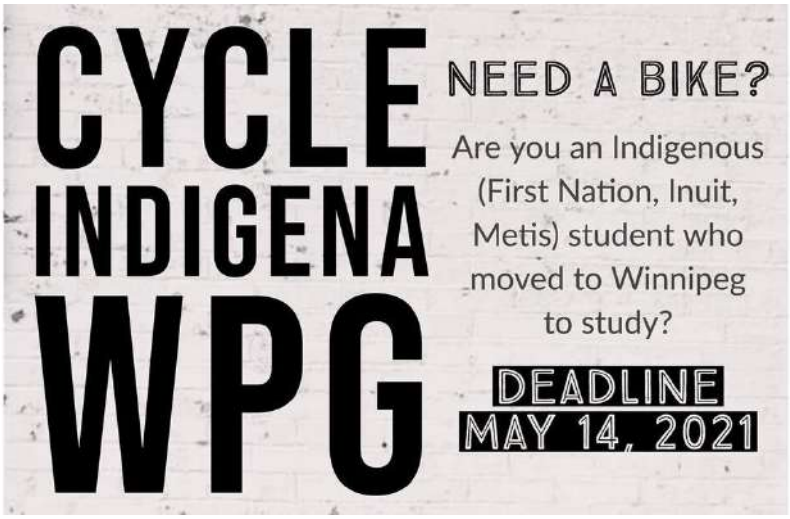
Sault Ste. Marie is a city rich with scenic views of the waterfront and green landscapes. The city is connected to vast networks of hiking trails connecting forests, the Lake Superior coast, waterfalls, hills, and ravines. These hiking and cycling trails are often only minutes away from the downtown centre. One of the challenges with promoting active transportation is that residents may assume that walking or cycling to a destination will take much longer than it actually does. That knowledge gap can be fixed by promoting the large area of town that lies within a 5-, 10-and 15-minute bike ride of popular destinations. Research has shown that wayfinding, when deployed in a way that highlights safe, attractive routes and the relatively short time that it can take to move between destinations, can significantly improve how residents perceive walking and cycling. A detailed wayfinding strategy will help the City to determine the proper placement of signs and identify of key destinations. The development of a consistent design and style will help to develop and reinforce a distinctive Sault Ste. Marie Active Transportation brand, boosting visibility and awareness of walking, cycling and wheeling in the City.

Recommended Partners	• Tourism Sault Ste. Marie • Parks Division • Voyageur Trail Association
Inspiration	• City of Peterborough Active Transportation Wayfinding System

Program #6: Support Marginalized Communities

The City and its partners should consider programs with a more deliberate focus on equity to ensure those residents who lack access to active transportation participation should be prioritized. The City could create a database, in partnership with local service delivery agencies, of people who need a bike – not simply for recreational purposes, but for transportation around their community as well. By connecting with partners with a pre-existing relationship with marginalized communities, the City and its partners can also begin to create additional avenues for those residents to get involved as the City's ATMP is implemented. The Sault Cycling Club partners with the Mountain Bike (MTB) Exchange program to attract more women riders to local trails and hosts multiple social ride groups for all skill levels. Similar to this program, the City should continue to provide programs that support women, lower-income residents and Indigenous people. As more people get involved, the City can consider adding bike maintenance skills training to program offerings to help more residents keep their bikes on the road.

Recommended Partners	• Sault Cycling Club • Accessibility Advisory Committee • Public Library Board
Inspiration	• Government of Canada Cycle Indigena Winnipeg Initiative (Click Here) • Temiskaming Shores – Bike Exchange Program (Click Here)



Program #7: 1M Safe Passing Public Awareness Campaign

In 2015, Ontario's Highway Traffic Act was updated to require motorists to pass cyclists on roadways with at least 1 meter of space between them. Despite these legal changes, many motorists remain unaware of the law and its implications, creating safety risks for cyclists. To address this, the City should host an awareness campaign remind all traffic users of this legal requirement using its various communication channels. This includes online platforms, such as the city's website and social media channels, as well as physical assets such as ads in the local newspaper and posted billboards. As the agents responsible for enforcing such regulations, the City should also partner with law enforcement, including the OPP, by organizing an accompanying education and enforcement blitz. Be sure to make use of existing resources to promote the campaign – developing new materials can be costly and time-consuming!

Recommended Partners	• Transportation/Traffic Department • Police Department • Ontario Ministry of Transportation
Inspiration	• Peterborough County – A Metre Matters Campaign (Click Here) • Ottawa Police Service – Sonar Electronic Device (Click Here)



Program #8: General Public Awareness Campaign

The City should launch a general awareness campaign to promote the safe and respectful use of the active transportation network. This initiative would aim to educate everyone —motorists, cyclists, pedestrians, and other active transportation users —on proper etiquette and safety practices to ensure everyone can enjoy our roads, sidewalks, bike lanes, and shared pathways safely. This campaign would share key messages of safety and proper etiquette across a number of platforms – such as social media, on the City website, over the radio and in newspapers, and integrate key messaging into other city programs, such as those listed in this ATMP. This would ensure consistent and widespread promotion of these principles.

Key messages would emphasize the importance of yielding to pedestrians, maintaining a safe speed, understanding facility restrictions for motor-assisted micromobility, and being mindful of others. This campaign seeks to create a culture of respect for all road users, enhancing the safety and enjoyment of our community's active transportation network for all.

Recommended Partners	• Schools • Police • Media Outlets
Inspiration	• Peterborough County – A Metre Matters Campaign (Click Here) • Ottawa Police Service – Sonar Electronic Device (Click Here)

Program #9: Educational Plaques Along Waterfront

The Métis Nation of Ontario has recommended that the City develop interpretive signage and educational plaques in collaboration with the Sault Ste. Marie Métis Heritage Centre to share Métis history and culture along the waterfront and Hub Trail. This program aims to enhance cultural awareness, support reconciliation, and enrich the user experience through place-based storytelling.

Recommended Partners	• Sault Ste. Marie Métis Heritage Centre

PHASE 2: Basic Programming

Following the implementation of all Phase 1 (Foundations) programming, the City should proceed with adopting initiatives categorized with Phase 2: Basic Programming. These programs seek to build upon the foundation of cultural support and capacity for active travel built during Phase 1 by reaching out to a broader audience of residents. This phase includes educational campaigns, transportation demand management initiatives, promotional events and investments into supportive amenities which begin to solidify active transportation's presence within the community. These programs are meant to supplement the broader initiatives introduced during Phase 1 and give individuals the extra push needed to make a behaviour change.

Program #1: Winter Wheels Program

Winter Cycling is growing in popularity in many communities across Canada from Calgary to Montreal and beyond. As a community that experiences all four seasons, it is important for Sault Ste. Marie to consider how it can support active transportation all year round to reduce dependence on automobiles within the community. A program that has proven effective throughout Ontario is the Winter Wheels Program, first developed in the City of Peterborough. Winter Wheels programs invite residents to apply for support for Winter Cycling – it provides them with a studded front tire, a winterizing bike tune-up and other equipment like fenders, pannier bags and gloves, that are necessary for a comfortable winter riding experience. For selected participants, they are asked simply to try cycling through the winter, and to share their experiences with their families, friends and in promotional materials for the program. The program can help to start the process of normalizing winter cycling in Sault Ste. Marie, creating an environment where more residents would consider trying it even if they are not part of the Winter Wheels cohort for that year.

Recommended Partners	• Transportation/Traffic Department • Public Health Unit • Ontario Ministry of Transportation • Voyageur Trail Association
Inspiration	• Windsor Essex Winter Wheels: Cycle Smart in Winter • Banff, Alberta's Winter Cycling Supports • Ottawa EnviroCentre Winter Cycling Online Resource (Click Here)

Program #2: Lunch and Learn – Active Transportation Workshops at Workplaces

As the community level conversation about active transportation begins to shift, it is important to begin offering more targeted interventions that reach more targeted groups of residents and engage them directly. An example of this type of program would be hosting educational workshops with local workplaces which teach employees about key aspects of active transportation. These programs should be designed to take approximately one hour, and should offer a mix of practical, hands-on lessons and classroom-based lessons. Consider offering incentives to employees who take the courses, including gift certificates for local businesses or a catered lunch during the session, to improve participation and attendance.

Suggested modules are listed in the following:

- **Basic Bike Maintenance:** Learn the basics of maintaining a bike, including safety checks, air pressure and flat tires assessment, brakes tightening, and chain lubrication.
- **Biking in All Weather Conditions:** Be prepared to cycle all-season round. The topics include wearing appropriate gear, bicycle maintenance and storage tips, winter route-planning and safe riding techniques for weather-related hazards.
- **Family Biking:** Share tips on biking with babies and toddlers and teaching children how to ride for the first time.
- **Cycle Commuting:** Bikes serve more than the function of commuting to work. Learn how to commute to work, do a grocery errand, and pick up the kids from school with a bike.
- **Road Rules and Safe Cycling:** Understand the rules of the road and bike with confidence. Topics include laws and fines, navigating shared spaces with other road users, making turns, parking, pass, right of way, equipment and bike fit, and safe riding techniques.

Recommended Partners	• Community Development and Enterprise Services (CDES) Department • Sault Cycling Club
Inspiration	• Cycle Toronto's Street Smarts Workshops (Click Here) • Bike Windsor Essex's Learn to Ride Classes



Program #3: E-Bike Loan Service

Getting more residents to consider cycling not only requires a proper education of its benefits and how to do so safely, but a series of experiences that spark joy and excitement. Although cycling can be exhilarating, it can also feel intimidating for people who haven't cycled in a long time, whose physical ability may be limited or who are worried about hills, wind and other challenging riding conditions. In Sault Ste. Marie, where some steep hills, strong prevailing winds and relatively long distances may discourage people from giving cycling a try, the use of an electric assist bike can significantly reduce these concerns. Electric bikes have a built-in small electric motor to assist the rider, make cycling easier and more accessible to everyone. However, these e-bikes do come with a price tag that can be prohibitive to some users, especially if they have never tried them before. Given that financial barrier, it is suggested that the City purchase a select number of e-bikes for residents to rent out. The service can be provided out of a local institution, such as a recreational facility, community library, or any other location that is easily accessed by residents. This would open up opportunities for people to see what is possible with an e-bike in Sault Ste. Marie and would also provide a unique experience to offer to tourists and visitors to the city as well.



Recommended Partners	• Accessibility Advisory Committee • Tourism Sault Ste. Marie • Public Library Board • Voyageur Trail Association • Sault Climate Hub
Inspiration	• Vermont E-bike / Cargo-bike Rental Service (Click Here) • Markham Bicycle Lending Library (Click Here)

Program #4: Community Cycling / Walking Challenge

An annual community cycling and walking challenge, where residents are encouraged to cycle in contribution of a community wide goal, can provide the residents of the City with an opportunity to come together around walking and cycling in pursuit of a common goal. This goal can be a certain cumulative travel distance as a community, a collective fundraising goal or even a friendly competition between residents of each of the three communities to see who can log the most trips per capita over the course of a month. Hosting a community challenge provides an opportunity to spotlight cycling and walking within the community as well as offers a common, constructive cause that can motivate people to consider the activity themselves. Today, there are an increasing number of free apps available that allow residents to input either their kilometers ridden or number of steps taken, or money fundraised in contribution of the challenge's set goal. These crowd sourcing programs make the organization and tracking of a community cycling challenge both simple and cost effective. As the challenge grows and evolves, consider encouraging workplaces, schools and other institutions to challenge their peers to see who can be the most active workplace or school in Sault Ste. Marie!

Recommended Partners	• Sault Cycling Club • Recreation, Programming, Culture and Tourism Department • Surrounding Municipalities • Voyageur Trail Association
Inspiration	• Town of Halton Hills – Community Cycling Challenge (Click Here) • Forest City Cycling Challenge (Click Here)



Program #5: Implement Designated Amenity Hubs

Designing for comfortable and convenient active travel requires that all stages of a trip be considered – especially the end of a trip. Similar to how vehicle parking is provided when new developments are constructed, the City should be considering how cycling and walking are accommodated at popular destinations within the community. Features should be prioritized at key destinations and at important landmarks along popular routes and should reflect a complete and comprehensive understanding of an active traveller's needs and concerns. When appropriate, existing amenities such as libraries, community centers, parks and other publicly owned land should be leveraged, to minimize the need for new easements. Common features which should be incorporated within these designated amenity hubs include:

- **Bicycle parking units:** short-term and long-term units as well as seasonal "corrals" within highly trafficked areas.
- **Shelters and rest areas:** comfortable seating options with enough coverage to protect users from the natural elements.
- **Lighting:** adequate lighting to ensure user safety and minimize potential hazards due to obscured visibility.
- **Water refill stations:** fountains or water bottle refill machines that allow active travellers to remain hydrated.
- **Signage and wayfinding maps:** to address navigational needs.
- **Bike repair stands:** optional feature, fixture with a series of tools attached.

Recommended Partners	• Public Works Department • Local Businesses • Public Health Unit
Inspiration	• City of Toronto – Scarborough Bike Hub (Click Here) • City of Ottawa – Bike Repair Station (Click Here)



PHASE 3: Advanced Programming

The third and final category of programming recommendations includes measures appropriate to implement once a strong active transportation culture has been established. These programs serve to both leverage the momentum of past initiatives as well as tailor the growing diversity of audiences now consider active transportation as either a mode of travel or recreational activity. Often requiring a higher degree of financial and human resources, programs should rely on either existing partnerships or establish new ones among local institutions and services, for support with planning, funding, and coordination. These types of programs should be undertaken once all the items in the "Foundations" and "Basics" are underway but could be expedited if an opportunity for an injection of resources from external funding sources arose.

Program #1: Bike Valet at Community Events

Bike Valet is a highly visible, effective way of showing a community's commitment to making cycling easier, safer and more convenient. Sault Ste. Marie should host Bike Valet at the Farmers' Market while it is in season, offer the service at regular festivals and events downtown. This would provide a benefit to the community – providing people on bikes with a safe place to lock their bike while at community events and providing an opportunity for Municipal representatives to talk with riders about cycling in Sault Ste. Marie. The City could also consider integrating bike valet into the special events permitting process to ensure that all special events in Sault Ste. Marie include provisions for Bike Valet. This could be accompanied by a small fee for event organizers to pay for staffing at the bike valet, and could help the community make bike valet a more reliable element of special events in Sault Ste. Marie.

Recommended Partners	• Parks and Recreation • Tourism Sault Ste. Marie
Inspiration	• Town of Saugeen Shore – Bike Valet (Click Here) • City of Toronto – Bike Valet (Click Here)



Program #2: Monitoring and Evaluation Scheme

One common challenge faced by smaller cities like Sault Ste. Marie relates to the lack of data on active transportation to inform meaningful planning decisions. Failing to understand who is cycling and walking, where they are doing so, prevents the City from understanding where investments should be made and whether past decisions were effective. While there are many data collection methods available, a common approach involves installing trail counter devices to identify a baseline figure of the number of people using the trails every day. Within Sault Ste. Marie, counters would be particularly essential along key segments of the John Rosewell John Rowswell Hub Trail. In addition to trail counters, consider an annual in-person count program, potentially by partnering with a high school to offer volunteer hours for students who participate in observational counting. The in-person counting can be used to supplement and verify the data collected by the automated trail counters. Using this data, the City is advised to monitor ridership trends on an annual basis, as one indicator of the efficacy of past active transportation investments.

Recommended Partners	• Local Schools
Inspiration	• City of Owen Sound – Trail User Counters • City of Waterloo – Bicycle Counter (Click Here)



Program #3: Bike Equipment Giveaways

In addition to empowering cyclists with a proper education of road and traffic safety, the City should also assist them with procuring vital safety equipment. A common concern among all road and trail users is the lack of visibility of people walking and cycling, especially at night and during periods of poor visibility. Despite being required under the Highway Traffic Act, many cyclists lack a working light or bell on their bike to safely travel. To address this, the City should work with community partners to inform and distribute basic safety equipment. This can be achieved through a series of "pop-up" giveaways at local festivals or key points in the active transportation network (e.g. along the John Rowswell Hub Trail), where cyclists are intercepted and given such materials for free. To support local active transportation branding efforts, it is also suggested that such materials be custom-designed and procured to feature the City's logo. Suggested items that ought to be distributed include:

- Small, easy attachable bike lights
- Bicycle bells
- Adhesive light reflective bands
- Water bottles

Recommended Partners	• Local Bike Shops • Public Health Unit • Sault Cycling Club
Inspiration	• City of Ottawa – Lights on Bikes (Click Here) • City of Thunder Bay – Light the Night



Program #4: Bike Rodeos

One of the most effective ways to create a stronger culture of cycling is to start with the youth in the community. With a small number of elementary schools, Sault Ste. Marie can feasibly ensure that all local students receive cycling education through Bike Rodeos for a relatively small investment. Led by the active transportation coordinator, the City should strive to have young students participate in a Bike Rodeo every school year. This will give all local students proper instruction in basic bike handling, helping to encourage safer cycling practices later in life, and healthier active lifestyles. Students can learn about road safety, bike maintenance and helmet fit. To minimize costs and provide students with an opportunity to apply skills learned from the Bike Rodeos, the initiative should be coordinated with the Active School Travel Program.

Recommended Partners	• Local Schools • Ontario Active School Coordinator • Public Health Unit • Police Service
Inspiration	• Peel Children's Safety Village – Bicycle Rodeo Community Kit (Click Here) • Waterloo Region – Cycling into the Future (Click Here) • Ontario Active School Travel – Bike Rodeo Toolkit (Click Here)



6.2 Implementation Summary

The suggested programs and prioritization detail a strategic approach that the City can take to support a cultural shift in support of active transportation in Sault Ste. Marie among residents and visitors. To support these initiatives, additional staffing capacity will be required within the City, which is why a foundational recommendation is to create an Active Transportation Coordinator position. The gradual scaling up of program offerings outlined here allows the City to slowly expand the role, starting off with a summer student position and eventually scaling up to a full-time position where the coordinator can support both the programming and the development of new infrastructure within the City. With this additional staffing support, the City will be well equipped to achieve the desired goals and objectives of this ATMP. A summary of the anticipated staffing resources, proposed programs and estimated costs for Phase 1, Phase 2 and Phase 3 proposed programs / initiatives, is presented within **Table 5**, **Table 6**, and **Table 7**, respectively.

Table 5 | Summary of Programs for Phase 1: Foundations

Phase 1 Programs	Estimated Costs	Cost Frequency
Routine Community Slow Roll Events	$2,500	Annual
Initiate an Active School Travel Program	$10,000	Annual
Open Streets Events	$5,000	Annual
AT Distance Wayfinding Maps & Signs	$20,000 (initial) $10,000 (additional signage)	One-time cost
Active Transportation Advisory Committee	$2,500	Annual
Support for Marginalized Communities	$5,000	Annual
Total Costs	$25,000 plus $30,000	Annual Wayfinding Strategy and signage

Staffing resources required: 0.25 FTE

Table 6 | Summary of Programs for Phase 2: Basic Programming

Phase 2 Programs	Estimated Costs	Cost Frequency
Winter Wheels Program	$5,000	Annual
1m Safe Passing Public Awareness Campaign	$2500	Annual
Lunch and Learn Workplace Active Transportation Workshop	$0	One-Time
E-Bike Loan Service	$10,000	One time
Community Cycling Challenge	$5,000	Annual
Implement Designated Amenity Hubs	$5,000	Annual
Total Costs	$17,500 $10,000	Annual One-time cost

Staffing resources required: 0.25 - 0.4 FTE

Table 7 | Summary of Programs for Phase 3: Advanced Programming

Phase 3	Estimated Costs	Cost Frequency
Bike Valet at Community Events	$5,000	One-time
Monitoring & Evaluation Scheme	$5,000	Annual
Bike Equipment Giveaways	$1,000	Annual
Bike Rodeos	$1,000	Annual
Total Costs	$7,000 $5,000	Annual One-time costs

Staffing resources required: 0.5 – 1.0 FTE

7 Implementation Plan

The Sault Ste. Marie ATMP is a long-range, functional document that will shape the development, design, execution, and ongoing management of the active transportation network, along with supportive programs and initiatives for the long-term. It provides flexible guidelines to help city staff foster a culture of active and sustainable travel through the establishment of new routes, improvements to existing ones, and the creation of supportive infrastructure and programs.

Creating a safe and accessible network for all users, regardless of age or ability, requires meaningful financial investment and supportive resources. Implementing this plan will require ongoing collaboration between the City, its partners, and the public at large. This is to ensure that the plan's recommendations are realistic for Sault Ste. Marie and have broad community support. Collaborative efforts will encompass planning and implementing physical infrastructure, educating users on proper facility use, and promoting the City's existing assets. These efforts aim to maximize the economic and social potential of active transportation in Sault Ste. Marie.

This chapter is intended to be used as a resource for City staff. It aims to guide the day-to-day decision-making that will drive short-term progress while encouraging long-term initiatives. It should also be considered when determining policy amendments or additions, and as a tool for budgeting annual capital and operating budgets. It contains:

- A proposed phasing strategy
- Costing estimates in implementing the ATMP
- Potential partnerships & funding opportunities
- Supportive Policies and Implementation Considerations for implementing the network
- Other considerations to guide future decision-making, policy, and planning processes



7.1 Phasing the Network

7.1.1 Network Phasing

Developing an appropriate phasing strategy for the proposed network is an essential element of an Active Transportation Master Plan to ensure the City's vision is implemented within a suitable timeline. A phased approach to implementation has been divided into two stages: **Short-term** and **Long-term**. Each segment of the proposed active transportation network was categorized based on several considerations below.

Upon adoption of this ATMP, staff should begin with the implementation of the short-term projects, as these are of the greatest importance to the City and its residents. As the proposed active transportation network is rolled out across the City, it is recommended for staff to review and confirm the proposed facility or enhancement at each location. The phasing plan should also be updated annually to reflect changes in the budget and align with the annual resurfacing program.

The city's priorities are dynamic and can change over time. It is important that the rollout of the network remains flexible and adapts to these evolving priorities. As a result, some projects initially planned for the short-term may need to be extended to the long-term, and vice versa. While budgetary constraints may arise, it is imperative the implementation of this ATMP **remains a top priority**.

Short-Term Projects

Short-term routes will roll out of key elements in the active transportation network to ensure the most critical components of the network are established quickly, so that people can start enjoying and utilizing these networks as soon as possible.

The bulk of short-term projects involve implementing cycling and multi-use facilities since this is one of the greatest barriers to active transportation use in the City. While sidewalk improvements aren't deemed under the short-term projects in this phasing plan, addressing priority gaps in the sidewalk network should be an annual consideration.
short-term routes were selected based on the following considerations:

- **Key Gaps**: Routes that close key gaps in current routes, including the John Rowswell Hub Trail, to support network connectivity and continuity throughout the city.
- **Quick Wins**: Low investment routes and "quick wins". These investments focus on low-cost, high impact elements that establish critical links to close gaps in the existing transportation network and enhance network continuity. This includes traffic calming/Shared Bike Routes that offer connections to existing active transportation facilities. These investments improve pedestrian and active transportation user safety and network connectivity along streets with lower vehicle volumes and speeds. They also provide alternative or parallel routes in areas where higher-tier cycling facilities may take longer to implement.

- **Bundled projects**: Routes along areas of proposed capital/road resurfacing projects within the next year that can be bundled with these works for efficiency and cost savings.
- **Priority Areas**: Segments in priority and high-demand areas identified by the City and through equity analysis. This includes connections to the City's west end, James Street and Downtown Neighbourhoods, routes near schools, and corridors like Boundary Road and South Market Street, Great Northern Road.
- **Safety**: Routes in areas with a high number of incidents areas, where there are a greater number of collisions or near-misses.
- **Major Destinations**: Links to major destinations, such as educational institutions, employment centres, and the waterfront.
- **Initial implementation of the West End Hub Trail**: While the ultimate facility for the expansion of the John Rowswell Hub Trail in the city's west end is a multi-use path, this may not be immediately feasible along Peoples Road, Elliott Road, Rossmore Road, and Korah Road. In the short term, the City can explore building other facility options, such as shared, designated, or protected facilities, to establish a direct east-west connection between Peoples Road and Goulais Avenue.

Long-Term Projects

The period after the initial roll out of the network will focus on implementing the remaining facilities that require more time, planning, and resources to implement, or those that will occur alongside other capital projects not scheduled in the short-term.

Long-term projects will continue the momentum that has grown to build a stronger culture of active transportation in Sault Ste. Marie. When planning the long-term implementation of these facilities, it is necessary to adopt a strategic approach that balances community needs, strategic priorities, costs, and available resources. These projects can be scheduled for future implementation as resources and funding become available. Periodic reviews of routes identified for long-term implementation will help determine the optimal phasing based on available budgets, resources and opportunities, such as infrastructure grants or community partnerships.

Projects are identified as long-term projects based on the following considerations:

- **Substantial investments:** Facilities that require more substantial investment and infrastructure, such as physically separated and off-road facilities.
- **Ultimate West End Hub Trail**: Implementation of the ultimate facility determined for the John Rowswell Hub Trail's expansion in the city's west end, given it will require substantial investments and further studies to determine the appropriate ultimate facility.
- **Additional study**: Routes that will require additional investigation and studies to confirm feasibility/design.
- **Long-term Road Reconstruction:** Segments that should be implemented when a roadway undergoes full reconstruction in the future (i.e. not anticipated within the next 5 years).
- **Sidewalk improvements**: Improvements to the sidewalk network.

- **Further study**: Routes that will require additional investigation and studies to confirm feasibility/design, including projects that require additional discussions with the Ministry of Transportation before they can proceed.

In addition to several shared routes and bike lanes along local and collector roads, the following are the arterial corridors recommended to undergo active transportation improvements or upgrades in the near-term:

- Wellington Street West/Peoples Road, between Lyons Avenue and Elliot Road
- Second Line East, between North Street and Peoples Road
- Bruce Street, between Bay Street and Pim Street
- Gore Street, between Bay Street and Wellington Street East
- Bay Street West, between Huron Street and Gore Street
- Pim Street, between Wellington Street East and Summit Avenue
- Church Street, between Queen Street East and Wellington Street East
- Wellington Street East, between East Street and Pim Street
- Great Northern, between Willoughby Street and Industrial Park Crescent
- Pine Street, between Queen Street East and Wellington Street East
- Black Road, between Trunk Road and McNabb Street

Figure 37 | Phasing of the Active Transportation Network (Urban Area)

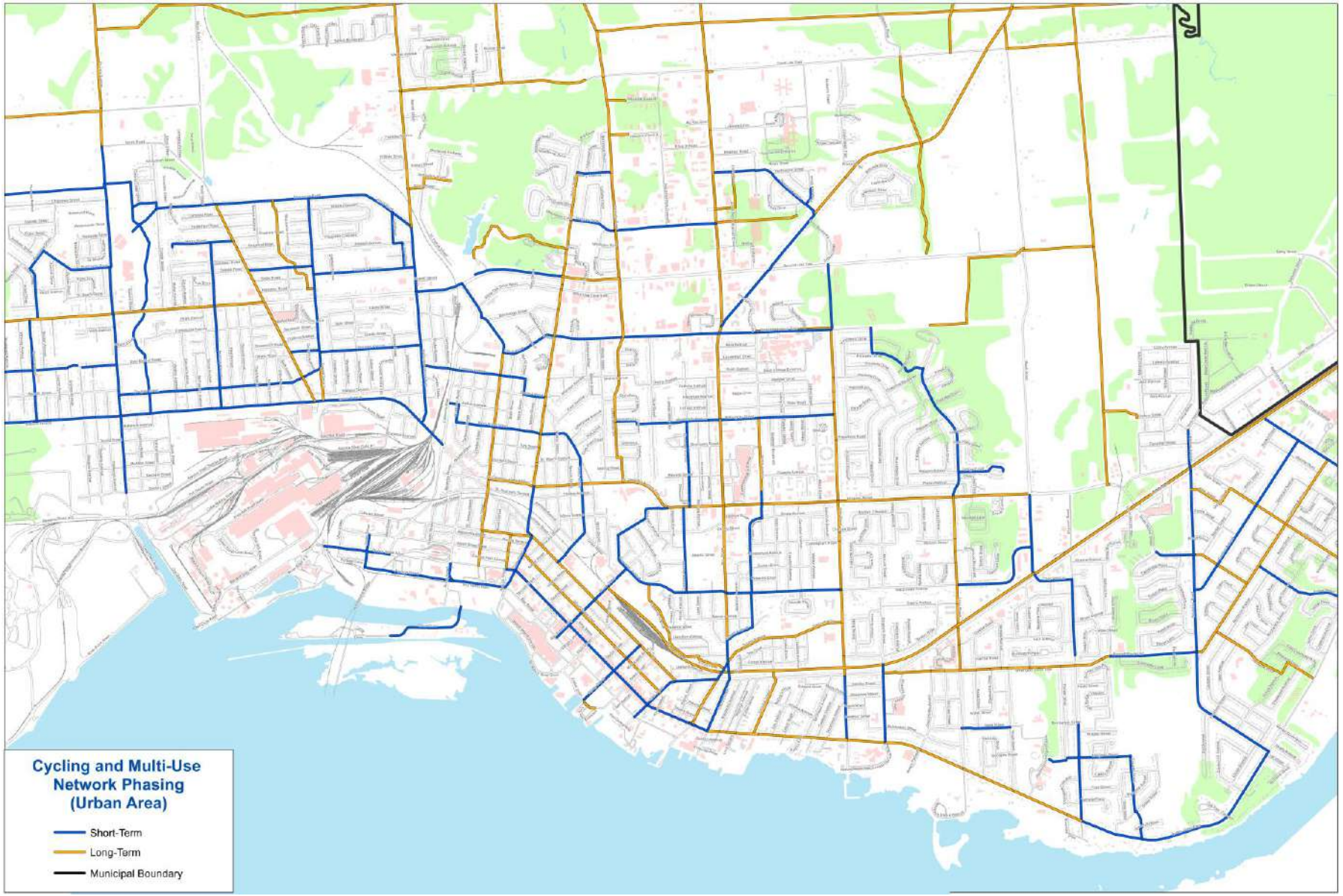
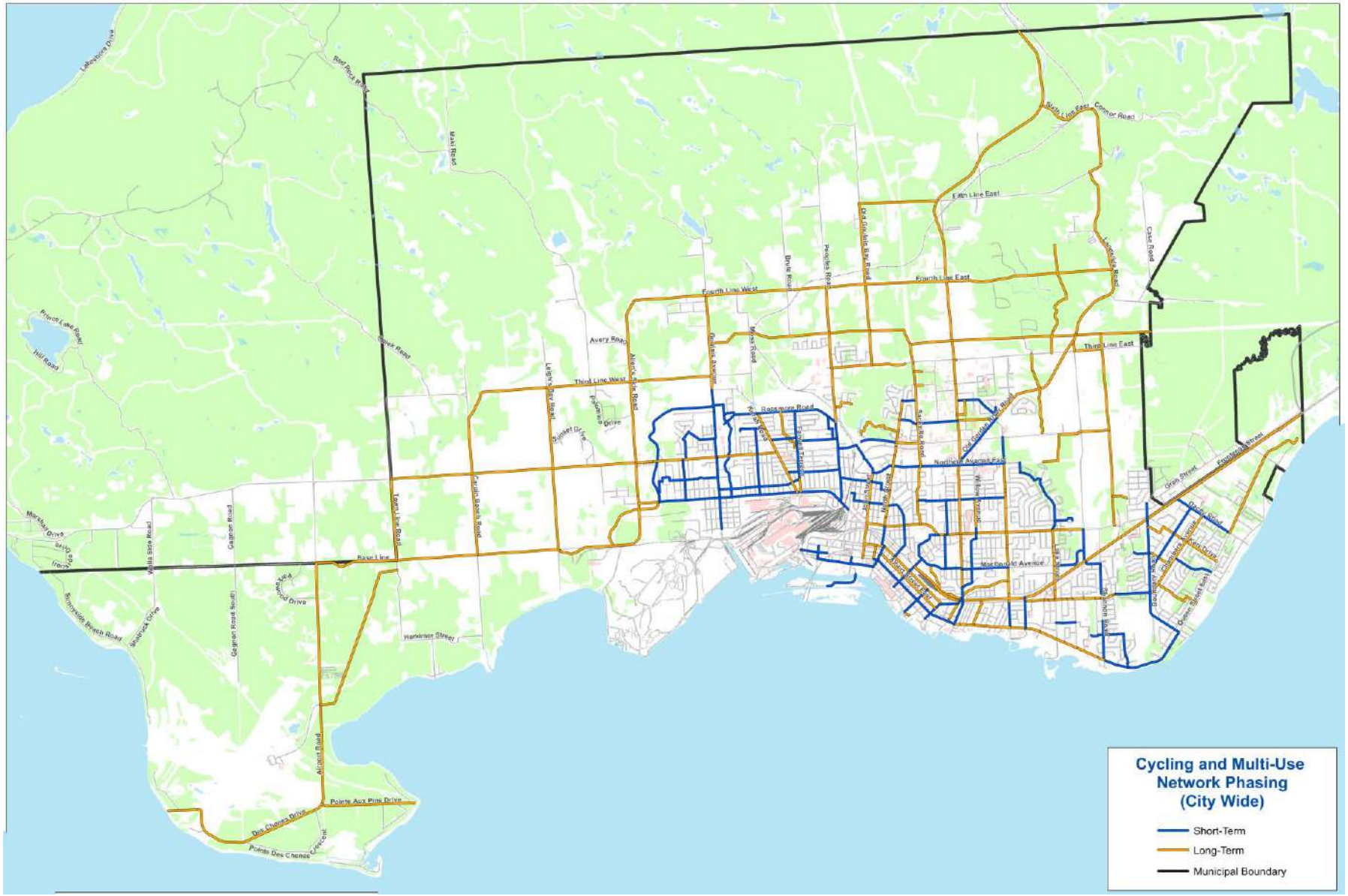


Figure 38 | Phasing of the Active Transportation Network (City-Wide)



7.1.2 Interim Solutions

The active transportation network cannot be implemented overnight. Interim tactical solutions are a valuable consideration for projects that face immediate implementation challenges due to logistical or resource constraints, or those that require rapid deployment in response to safety concerns or high demand. These solutions are cost-effective, short-term, and efficient interventions designed to enhance the safety of pedestrians and cyclists. Interim solutions are typically implemented in scenarios where there is:

- Insufficient space to accommodate the preferred facility type.
- Need for an assessment of environmental impacts and constraints.
- Routes that will be part of total road reconstruction in the long-term.
- Land is not available to accommodate the facility type.
- The budget to implement the preferred facility is not available within the desired timeline.

Interim tactical solutions offer a practical and effective approach to address immediate needs while planning for long-term improvements. They also offer the ability to trial street configurations temporarily without committing substantial investments.

Tactical solutions for enhancing pedestrian and active transportation user safety can be seen in cities across Canada. Sault Ste. Marie could consider similar interventions tailored to the specific needs of the area. For example, the use of modular or pre-fabricated curbs or flexible delineators can be used to clearly define bike lanes that are separate from vehicle traffic, extend curbs that calm traffic and shorten crossings distances, and enhance pedestrian spaces (illustrated in **Figure 39**). These basic yet effective measures can significantly contribute to the safety and efficiency of active transportation infrastructure. It is recommended that the City explore interim active transportation and pedestrian improvements to allow for faster implement of the active transportation network.



Figure 39 | Examples of tactical interim interventions

7.2 Costing Estimates

To help inform future capital budgets and decision making, a high-level cost estimate to implement the updated active transportation network and recreational trails was developed. These estimated costs are based on 2024 unit costs facility per kilometre, contingency, and design and approvals costs. The 2024 unit costs were identified are based on best practices and recent tenders and projects of similar scope in Ontario and are not intended to be prescriptive.

Appendix C presents the standalone cost summary for the implementation of the active transportation network planned for near- and long-term network implementation.

Overall, the estimated **standalone cost** to implement the proposed **313 km** of active transportation facilities is approximately $145 million. This estimate includes a 45% markup to account for contingency, design and approvals, and other ancillary costs. This includes:

- $4 million in recreational pathways;
- $50 million in bicycle facility infrastructure;
- $49 million in multi-use infrastructure and John Rowswell Hub Trail expansion; and
- $40 million in sidewalk network expansion.

Bundling the construction of the active transportation network with other road projects, such as road reconstruction, can significantly lower the overall implementation cost due to several factors, such as more efficient use of resources and minimized disruption to traffic and the community. It is highly recommended that the city considers implementing this network with other road projects to leverage existing resources and reduces redundant expenses.

The portion of the network recommended for short-term implementation represents 20% of the estimated total network costs, with the remaining 80% of the costs allocated to the network development in the long-term.

A substantial portion (27%) of the estimated implementation cost is dedicated to sidewalk improvements, additions, and replacements. These projects will aim to enhance accessibility and ensure pedestrians have safe spaces to walk and roll. As a result, it will be necessary to integrate sidewalk investments into the annual budgeting processes from the outset to achieve significant cost savings.

Another 34% of the estimated implementation costs focus on expanding the multi-use path network. This includes the expansion of the John Rowswell Hub Trail and its extension into the City's west end, which accounts for 11% of the estimated total costs, and extending a multi-use network along Trunk Road.

Bicycle infrastructure, excluding paved shoulders, accounts for 10% of the estimated implementation costs, yet it covers almost 37% of the total length of the proposed active transportation network. This demonstrates that investing in bicycle infrastructure is a cost-effective way to enhance the connectivity of the transportation network.

7.3 Partnerships and Funding Opportunities

7.3.1 Partnerships

Successful implementation of this ATMP will require collaborative partnerships across the several groups identified throughout the report. City staff will work alongside other levels of government and stakeholders to build, maintain, and promote active transportation assets and programs to achieve the Plan's vision and goals.

Sault Ste. Marie has a number of existing partnerships that can support the implementation of this Plan. A key partnership is the one between the City staff and the public transit services. Public transit serves as the foundation for a more multi-modal future for the Sault Ste. Marie and presents the opportunity to enhance the overall active transportation network by providing active transportation supportive amenities like bicycle parking and benches and shelters at bus stops. These enhancements improve user comfort and encourages the use of multiple modes in a trip, while broadening the potential customer base for Sault Ste. Marie Transit Services. This supports first-mile, last-mile travel and ultimately contributing to the culture shift needed to reduce private vehicle use.

Leveraging these existing partnerships, the City can also establish new partnerships to further support active transportation and the implementation of the ATMP. Sault Ste. Marie's unique balance of access to natural areas and urban amenities gives it a competitive edge. The City's commitment to enhancing the quality of life for its residents and enriching the experience for tourists is evident through its investments in active transportation. This commitment not only reinforces the culture of active transportation but also positions the city to establish more partnerships and attract investors, setting the City up to become a leader in active tourism in Ontario.

A table of proposed partners and their anticipated role is presented in **Table 8**. This is not an exhaustive list. It is essential to remain open to new partnerships that present themselves in the future. The City should leverage any future opportunities for additional partners to support implementation of the ATMP.

Table 8 | Proposed Partners and Roles

Potential Partners	Anticipated Roles							
	Planning	Design	Policies	Construction	Maintenance	Enforcement	Education	Promotion
City of Sault Ste. Marie Staff (Recreation, Public Works, Transit, Planning, Engineering)	●	●	●	●	●		●	●
Sault Trails Advocacy Committee & Sault Cycling Club	●	●			●		●	●
Accessibility Advisory Committee	●	●			●		●	●
Environmental Sustainability Committee	●		●					
Sault Ste. Marie Downtown Association								●
Sault Ste. Marie Chamber of Commerce								●
Local organizations and advocacy groups							●	●
Sault Ste. Marie Police Department						●	●	
Algoma Public Health			●				●	●
Provincial Stakeholders	●	●	●				●	●
School Boards							●	●
Sault Climate Hub							●	●

7.3.2 Additional Funding Options

The City is encouraged to monitor available funding opportunities within and external to the City, and to use the information contained within this plan to support funding applications. Given the various initiatives and programs highlighted in this plan, is important for the City to seek a diverse range of funding sources.

Development charges can help cover initial costs to develop the active transportation network infrastructure. Through a by-law, the City may be able to impose area-specific development charges to fund these enhancements.

Leveraging external funding sources are an effective way to reduce the City's costs while being an opportunity to develop new partnerships. **Table 9** presents a list of potential external funding sources that could be explored. These sources may be subject to change, and should be reviewed again prior to applications for any updates or changes.

Table 9 | Potential Funding Opportunities

Funding Opportunities	Additional details
Federal Active Transportation Fund	For additional details regarding the Active Transportation Fund refer to: https://www.infrastructure.gc.ca/trans/active-actif-eng.html
Canada Community-Building Fund / Provincial Gas Tax	For the federal Canada Community-Building Fund program please refer to: https://www.infrastructure.gc.ca/plan/gtf-fte-eng.html For the provincial program refer to: http://www.mto.gov.on.ca/english/service-commitment/gas-tax-program.shtml
Federation of Canadian Municipalities Green Municipal Fund	For additional details regarding the Green Municipal Fund and potential funding alternatives refer to: https://fcm.ca/home/programs/green-municipal-fund.htm
Federal and Provincial Infrastructure / Stimulus Programs	For Federal Government infrastructure stimulus fund details refer to: https://www.canada.ca/en/office-infrastructure.html For Provincial Government infrastructure stimulus fund details refer to: https://www.ontario.ca/page/ministry-infrastructure
Ontario Trillium Foundation	For details regarding potential funding alternatives refer to: https://otf.ca/
Ontario Rural Economic Development Program	For details refer to: http://www.grants.gov.on.ca/GrantsPortal/en/OntarioGrants/GrantOpportunities/PRDR006918
Ontario Sport and Recreation Communities Fund	As part of the Ontario Sport and Recreation Communities Fund: https://www.ontario.ca/page/rural-economic-development-program
Tourism Economic Development and Recovery Fund	For additional details regarding the Tourism Development fund refer to: https://www.ontario.ca/page/available-funding-opportunities-ontario-government#section-26
Service Club Support	Lions, Rotary and Optimist clubs who often assist with highly visible projects at the community level.
Corporate Environmental Funds (e.g. Shell, TD, MEC, etc.)	For example refer to: https://www.shell.ca/en_ca/sustainability/communities/funding-guidelines-process.html for Shell Canada's Social Investment Program or https://www.td.com/corporate-responsibility/fef-grant.jsp for TD's Friends of the Environment Foundation Grant
Private Citizen Donation / Bequeaths	Can also include tax receipts for donors where appropriate.

7.4 Supportive Policies and Implementation Considerations

This section presents a series of proposed policies and considerations for City staff to consider when implementing the active transportation network. These are designed to complement and enhance the integration of active transportation within the city, thereby promoting a cultural shift towards the increased use of active modes of travel.

7.4.1 Complete Streets & Safety

Street Retrofits and Urban Design

- All new streets and street retrofit projects (i.e. the redesign or modification of existing streets) within the urban area should consider complete street principles in their design to better accommodate pedestrians and active transportation users. This includes constructing sidewalks on both sides of the road; however, where significant barriers exist, a sidewalk can be constructed on one side of the road.
- Priority of street retrofitting projects should be based on implementing the active transportation network outlined in this Plan.
- Even along streets with no plans for active transportation infrastructure, the City should design pedestrian and bicycle-friendly streets. This includes geometric safety improvements, crosswalks, wider sidewalks, traffic calming measures, and well-lit pathways.
- Streets should also be designed to reduce pedestrian crossing distances by considering narrower lanes and implementing curb extensions or median islands, where feasible.
- Planning/design studies and development reviews should encourage street design that incorporates active transportation friendly streetscaping and urban design, and active transportation-oriented land development.
- Ecological function of streets should be enhanced through green infrastructure, landscaping, and natural and sustainable materials to reduce flooding and improve visual appeal.

Safety and Traffic Calming

- The City should adopt a Vision Zero initiatives and Safe System approach to prioritize safety and emphasize human-centered design.
- Streets with shared bike routes should undergo an assessment to determine the appropriate street design interventions, in accordance with the City's Traffic Calming Policy. This includes integrating a range of design features, including signage, pavement markings, traffic calming, and geometric safety improvements. After implementation, regular evaluations of the effectiveness of these measures should occur, with necessary adjustments based on user feedback and traffic data.
- Assess whether specific locations within the network should be designated as Community Safety Zones.
- The City should continue to monitor collision hot spot locations and identify safety mitigation measures, as needed.
- The City should conduct an evaluation of speed limits city-wide to identify where reducing posted speed limits would be most beneficial.
- Along corridors where active transportation facilities are being proposed, the City should consider speed limit reductions (and reductions in the design speed of those corridors) to

improve safety for all users along those routes. Corridors where shared facilities are recommended should consider speed limit reductions to a maximum speed of 40 km/h to improve safety for all roadway users.

7.4.2 Intersection and Trail Crossings



- The design of intersections and crossings must accommodate for various users including pedestrians, cyclists, motor vehicles, trucks, and people using transit.
- Given the potential for conflicts at these locations, it is important that best practices in intersection and crossing design (i.e., OTM Books 15 and 18, and the OTC Protected Intersection guide) be referenced whenever a path or cycling facility crosses a roadway. Wherever feasible, it is strongly advised the City implement protected intersections to enhance the safety and comfort for all road users, guided by the OTC Protected Intersection Guide.
- The City should establish a program to review pedestrian crossings and crossrides through ongoing traffic operations studies or annual corridor reviews. The program would aim to identify the most effective treatments for pedestrian crossings and seek opportunities to increase the frequency of pedestrian crossings at significant barriers, such as mid-block pedestrian crossings for trail access and rail corridor crossings.

7.4.3 Equitability and Accessibility

Engagement

- Targeted communication and on-going engagement with underrepresented groups should be developed to ensure their specific needs are being addressed in the planning and design of the proposed projects in this ATMP.
- Continue to collaborate with immigrant, refugee, and other community organizations to educate and promote active transportation as a comfortable, safe, and inexpensive transportation option.

Accessibility and Inclusivity

- ATMP projects in neighbourhoods with higher equity needs should be prioritized.
- Sidewalks should be designed in accordance with the highest accessibility standards and regulations. This ensures safe and easily accessible pathways for all users.
- Both unsignalized and signalized intersections should be assessed for potential upgrades that meet AODA standards, as warranted.
- The City should prioritize upgrades, maintenance, and programming that address accessibility barriers to network access and usage.
- Future active transportation facility design and programming needs to consider mechanisms for mitigating barriers to use for a diverse range of people, not just those with physical impairments. This includes barriers related to differing cognitive abilities, issues related to income, language, race, religion, sexual orientation, health, and gender.

7.4.4 Active Transportation-Supportive Amenities



- An inventory of current amenities that support active transportation users should be conducted within the current network.
- Work with businesses and provide safe and secure bicycle parking at key destinations, commercial hubs, and transportation hubs, and along waterfront routes.
- Bicycle parking should be included on every street type, with priority along Urban Avenues and Main Streets and near key destinations like community hubs, commercial areas, and tourist areas. Exceptions may be given to neighbourhood streets and rural roads. Consideration should be given to seasonal changes or events, in which case seasonal or temporary bicycle parking should be explored.

Comfort and Safety

- Incorporate places along multi-use paths and off-road multi-use trails for people to rest and take refuge, like washrooms, sheltered areas, or formal or informal seating.
- In urban settings, seating or rest areas should be provided every 200 to 400 meters, depending on the context to ensure that users have frequent opportunities to rest. More frequent seating should be provided in areas with a higher potential for users with mobility impairments, such as near seniors' homes and at viewpoints. Providing frequent rest areas makes using active modes of transportation easier and more appealing, particularly for those with mobility challenges.
- In more natural and secluded settings, fewer seating areas may be appropriate and implemented at trailheads and viewpoints/points of interest.
- Urban routes should be properly lit to remove barriers to recreational and commuter use at all times of the day; in particular, along routes that facilitate connections to transit, amenities and community services. In areas where full lighting is not feasible, the City should consider 'refuge' lighting key areas at regular intervals, as well as solar lighting options.

Wayfinding

- The City should expand and implement wayfinding along the John Rowswell Hub Trail and active transportation routes in tourist and commercial areas. Wayfinding should provide information on other nearby routes and destinations to help users navigate the active transportation network easily.

7.4.5 Integration with Rail Corridors

- The City should assess the feasibility of using rail corridors within Sault Ste. Marie for active transportation. The rail corridor along Trunk Road presents an opportunity to provide an uninterrupted east-west connection through the urban area of the City. These facilities should be built to established multi-use path design standards, however, they require safe separation between the rail tracks and the pathway, such as fencing, vegetation buffers, or grade separations, to prevent conflicts between trail users and trains. Consider referencing guidance from Rails to Trails Conservancy.

- The City has faced challenges in determining how to establish railway crossings. It is advisable to conduct an evaluation to identify the best options for addressing this issue.

7.4.6 Zoning by-law

- When a new zoning by-law is developed, or as part of a municipally initiated zoning by-law amendment(s), language supporting active transportation should be strengthened.
- Zoning by-law amendments should focus on enhancing active transportation amenities in private developments. This includes increasing the number of minimum bicycle parking spaces in residential, commercial, and institutional developments, as well as building features that accommodate covered-walkway structures that protect pedestrians from the weather and elements, like awnings.
- Modifications to the zoning by-law could gradually incorporate design elements into new developments over time and create a public realm that encourages and supports active travel.

7.4.7 New Developments

- New communities and parks should be planned and designed to encourage safe and accessible active travel. This includes constructing sidewalks on both sides of all new roads within urban contexts to improve the accessibility and connectivity of the pedestrian environment within the City. In areas with low to very low density, or for short sections of local streets, it may be acceptable to have sidewalks on one side depending on the specific context and pedestrian traffic volumes.
- New development area applications and site plans should be reviewed to identify opportunities for connecting future communities to the city's active transportation network.
- Traffic calming features should be considered during the planning stages of all private development, capital construction and capital reconstruction.
- The City must work with the development community to proactively integrate active transportation linkages and supportive amenities. Development applications should specify how they will support active transportation and amenities, including the provision of secure bicycle and micromobility parking.

7.4.8 E-Micromobility and Emerging Technologies

- The City should conduct a study to assess how emerging micromobility trends and technologies will affect the active transportation network and influence the use of active modes. This could provide valuable insights into potential challenges and opportunities to take advantage of when implementing the network.
- Consider evaluating the feasibility of introducing a public bike sharing program and/or an electric scooter sharing program through external partnerships with private operators, particularly in the Downtown.
- Existing by-laws should be reviewed and amended as necessary to provide clear definitions and guidelines regarding the permitted and prohibited uses of electric bikes, electric scooters, and power-assisted bicycles, informed by MTO's five-year e-scooter pilot program. As part of this initiative,



MTO has addressed legal definitions and operational concerns which should considered prior to establishing or amending a by-law.

- Consideration could be given to installing publicly accessible charging outlets for e-bikes and e-scooters within the City to support the use of e-micromobility devices and contribute to the decrease in private vehicle use.
- Implement safety measures, such as strict e- micromobility device speed limits along shared paths and bike lanes. In high pedestrian traffic areas, restricting the use of e- micromobility devices may be considered.

7.4.9 Future Policy Tools

Transportation Demand Management

During public consultation, several active transportation advocates emphasized the importance of Transportation Demand Management (TDM) and the concept of induced demand. While this Plan focuses on infrastructure and programming to support walking, cycling, and rolling, it is recognized that meaningful shifts in transportation mode share will also require complementary policies and strategies. TDM is one such example.

TDM refers to a set of programs, policies, and services that influence how, why, when, and where people travel, thereby encouraging long-term use of options such as walking, cycling, transit, and carpooling. Its key goal is to reduce reliance on personal vehicles. Examples of TDM interventions include increasing parking fees, providing employer-based incentives for alternative transportation, supporting work-from-home policies, converting vehicular travel lanes to active transportation lanes.

Relating to TDM is the concept of induced demand. Induced demand highlights the limitations of road expansion as a solution to traffic congestion. A notable example is increasing road capacity to solve congestion issues, resulting in more people choosing to drive, ultimately leading to the return of congestion. A sort of 'rebound effect'. Adding new lanes or roads may initially reduce travel times, but over time, people who had avoided the route begin using it, while others shift away from transit or cycling toward driving. The result is a return to congestion and continued car dependency. And the congestion cycle continues.

TDM and induced demand highlight the importance of investing in multi-modal networks and supportive policy tools as opposed to just road expansion.

Speed Management

Speed management is a key component to creating safe, comfortable streets that support walking, cycling, and other forms of active transportation. Throughout a number of engagement sessions, even those not specific to active transportation, many people have noted the excessive vehicular speeds make streets feel less safe and comfortable to walk or cycle. Lower vehicle speeds reduce the chances and severity of collisions for all road users. By calming traffic through design features , appropriate speed limits, and other interventions, streets become more

welcoming, safer, comfortable, and accessible to people of all ages and abilities. This all supports the goals of making active forms of travel more attractive and helps to reduce the dependence on personal vehicles, especially for shorter range trips.

7.5 Operations and Maintenance

As new infrastructure is commissioned, the City accepts the responsibility of operating and maintaining the infrastructure to ensure that the infrastructure is safe and reliable. The operations and maintenance of active transportation infrastructure is a crucial consideration when implementing the ATMP. Regular maintenance of these facilities through refurbishment or replacement of components prolongs the service life of the facilities.

Maintenance practices for active transportation facilities can include:

- Snow clearance / ice control
- Sweeping
- Surface repairs
- Pavement markings and signage
- Vegetation management
- Drainage improvements and drainage grates

Clear guidance on asset management and maintenance is provided in the City's Asset Management Plan. The plan outlines level of services standards, asset management strategies and actions for sidewalks and roads in compliance with O. Reg. 239/02 – Minimum Maintenance Standards (MMS). The MMS outlines various aspects of road maintenance and operations including the frequency of road inspections, weather monitoring, ice formation on roadways, snow accumulation and sidewalk trip ledges. It is recommended that as the City rolls out their active transportation network, the strategies outlined in the Asset Management Plan also be applied to the active transportation infrastructure.

Table 10 outlines asset management assumptions and typical service life for various elements of an active transportation network. This information is based on best practices outlined in OTM Book 18: Cycling Facilities; however, it is recommended that City review this information and consider the various strategies to manage their active transportation network.

Table 10 | Asset Management Strategies Source - OTM Book 18 Update

Type	Useful Life	Asset Management Strategies
Asphalt bikeway	25 years	• Minor repairs • Resurfacing • Rehabilitation • Full-depth replacement
Concrete bikeway	50 years	• Minor repairs • Replace deteriorating segments • Full replacement
Bridge (active transportation or motor vehicle)	25–75 years	• Bridge repairs • Minor rehabilitation • Full replacement
Culvert	25–50 years	• Culvert repair • Minor rehabilitation • Full replacement
Painted Line Markings and Symbols	1–2 years	• Refresh annually or depending on wear
Durable Line Markings, Symbols and Green Surface Treatments	3–7 years	• Depends on type, weather conditions, amount of wear, preparation of surface during application
Signage	20 years	• Replace damaged or faded signs
Physical separation (bollards, curbs, planters, etc.)	Until damaged	• Repair or replace damaged or missing bollards and other separators

7.5.1 Winter Maintenance

The City of Sault Ste. Marie provides snow clearing on its sidewalks and along some sections of the John Rowswell Hub Trail. As the City invests in the active transportation network, it is recommended that winter maintenance policies be adopted to ensure that priority cycling facilities remain open and accessible all year round. Many communities in Ontario have established priority winter cycling networks which identify key routes to receive enhanced snow clearing to ensure that those routes are clear and passable, comparable to the level of service to that which is provided on arterial roadways for motor vehicles. These routes should be comprised of a connected grid of high-comfort facilities that connect to the City's key destinations. Establishing a priority winter cycling network provides a safer, more predictable network and sets clears expectations, providing users with a sense of confidence that their route will be clear and passable.

Establishing a Priority Winter Cycling Network should start as a small pilot project where the City can assess staffing needs and determine what snow clearing equipment may be required. The pilot project will also give the community the opportunity to experience the winter maintained cycling routes and, when coupled with the programming recommendations in **Chapter 6**, may help to grow the City's winter cycling culture. Ongoing evaluation of the pilot will determine whether to expand, maintain, or discontinue the Priority Winter Cycling Network.



8 Monitoring and Evaluation

After the implementation of the network, a monitoring plan is an important component to evaluate the success of a route, and guide investments through data-driven measures. Research indicates that meaningful performance measures can help to prioritize future projects and appropriately allocate resources. The following approaches should be further explored and considered for inclusion in operational staff workplans.

MONITORING OF ACTIVE TRANSPORTATION ASSETS

As part of the successful implementation of this plan, City staff should conduct additional monitoring efforts to gain a better understanding of the active transportation network and its usage. Stakeholders and the public emphasized prioritizing walkability and bikeability by addressing sidewalk infrastructure like potholes and cracked surfaces, as well as consistent maintenance to promote and support active transportation. Similar to how the road network is monitored for issues such as potholes and broken streetlights in need of repair, sidewalks, bike lanes, and trails also require monitoring to ensure issues are promptly addressed. Doing so ensures that active transportation facilities remain in a state of good repair and can continue to meet the needs of the people using them.

UNDERTAKE SURVEY OF RESIDENTS

Another method for monitoring the overall active transportation network involves conducting regular surveys of Sault Ste. Marie residents which could be carried out on a biennial basis. These surveys would gather feedback on residents' preferences and concerns related to the network. The survey results could then inform short-term actions that address immediate needs and requests, depending on the project's scale. Surveying of residents ensures ongoing dialogue between City Staff and the users of the network.

PROVISION OF PERMANENT DATA COLLECTION TOOL

Permanent automated data collection tools can allow City Staff to effectively monitor the active transportation network in real time and collect a significant amount of data with which to inform decision making. Two permanent data collection tools - automated trail counters and intersection cameras - could aid in the monitoring of the network and enhance decision-making through real-time data. Automated trail counters track pedestrian and cyclist numbers on off-road trails, providing long-term data for facility assessment, as well as for scaling short-duration counts. LTE and Wi-Fi-enabled intersection traffic cameras could be placed at select intersections within the City to monitor the volumes of pedestrians and cyclists using on-road infrastructure in real time.

REPORT ON IMPLEMENTATION AND PROGRESS

Given the short-term timelines for implementation of a significant portion of the City's active transportation network, it is recommended that the City of Sault Ste. Marie issue annual progress reports, providing a snapshot of the state of active transportation in Sault Ste. Marie. These

reports would highlight the progress towards achieving the goals and objectives by evaluating the impact of new infrastructure investments and the effectiveness of new programs and partnerships in reaching a broader community, while measuring shifting trends in active transportation usage within the City. This process would not only provide valuable insights for City planners and decision-makers, but also raise public awareness surrounding active transportation and create community excitement as the culture of active transportation grows.

These reports could serve as a powerful accountability tool for the City, helping to build trust and awareness about the ATMP implementation and the impact of the investments. The report could also act as a marketing tool to highlight the City's leadership role in advancing active transportation in Ontario. For example, modern infographic-style sheets, such as those produced by the Bicycle Coalition of Greater Philadelphia and Holly Foxcroft & Jen Cook of Vancouver, B.C. (**Figure 40**), can effectively communicate the results of an intervention to the overall cycling network.

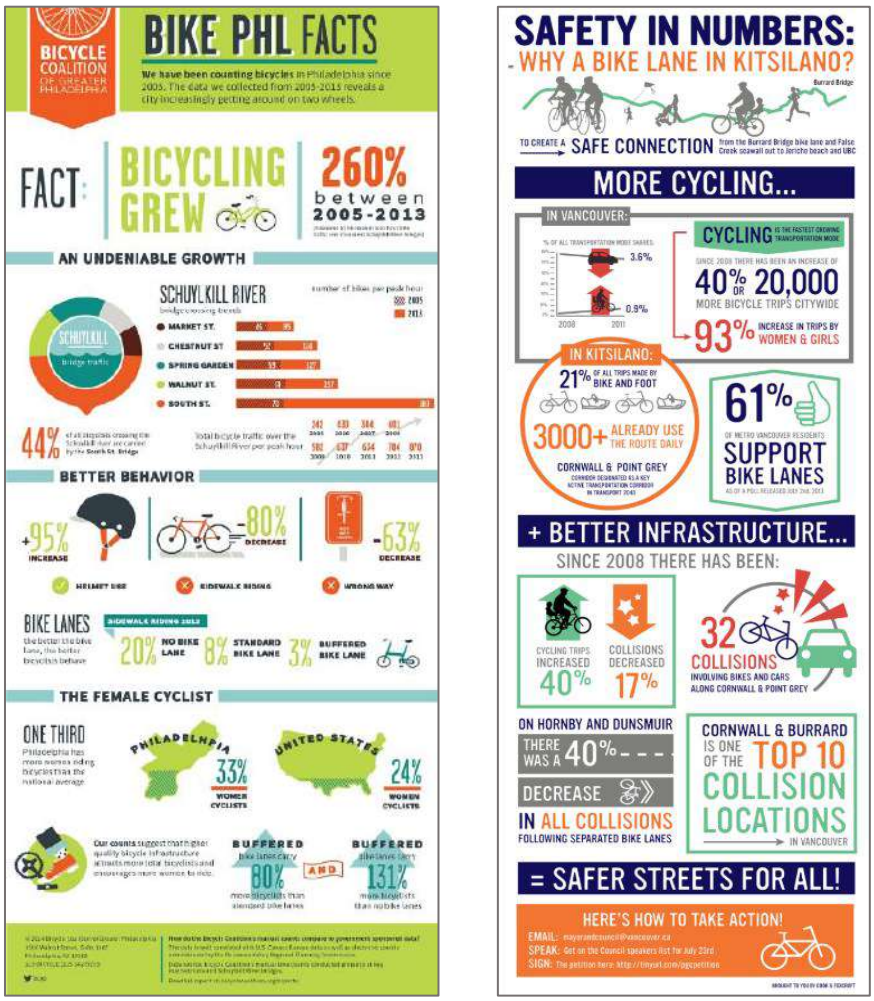


Figure 40 | Example of count program data presented in a visually engaging and easily comprehensible manner.
Source: Bicycle Coalition of Greater Philadelphia, Holly Foxcroft & Jen Cook

9 Funding this Plan

Funding for active transportation primarily comes from two sources: the roads budget, supported by local property taxes, and various grants from higher levels of government. The absence of a dedicated funding stream for active transportation poses a significant challenge to executing the Active Transportation Master Plan.

ROADS BUDGET

Active transportation infrastructure is sometimes incorporated into capital road projects, such as reconstruction, repaving, and resurfacing. This is an effective method to construct infrastructure at cost effective rates while minimizing disruption.

INTER-GOVERNMENTAL FUNDS

Funding from various government levels is available, at times automatically or through a competitive application process. Examples include the Federal Active Transportation Fund, the Canada Community Building Fund (gas tax), and the Ontario Trillium Foundation.

While these funding sources are beneficial, they should not be relied upon for long-term sustainability as these programs may be intended to serve a temporary purpose or are susceptible to change with different political landscapes. Some of these programs also require cost-sharing arrangements with the local municipality.

Staff will need to actively monitor these funding programs to ensure the City can effectively leverage inter-governmental funds.

10 Active Transportation Committee

Active transportation plays an essential role in shaping our community, influencing various aspects such as urban planning, infrastructure, tourism, the economy, the environment, accessibility, health, and safety. Therefore, decisions and budgeting related to active transportation should involve a broader range of departments and stakeholders. Establishing an *Active Transportation Committee* within the Council is an effective way to integrate these diverse perspectives and foster collaboration across different sectors.

Committee Options

The Ontario government notes that municipal governments typically have four types of committees.

- **Standing Committees**: Councillors typically sit on these committees, with municipal staff as advisors. Can include members of the public.
- **Ad Hoc Committees**: Created by standing committees for a particular matter. No statutory powers.
- **Executive Committees:** Usually part of a budget or policy committee.
- **Citizens' Advisory Committees:** Typically includes citizens and experts, alongside councillors and municipal staff.

Committee Considerations

As Sault Ste. Marie contemplates its preferred approach to governance of active transportation initiatives, there are several committee structure considerations:

- **Mission, Goals, and Objective:**
  - Purpose and mandate of the committee
  - Scope
- **Composition:**
  - How many members
  - Level of public and expert participation
  - Should councillor(s) be included
  - Voting vs. non-voting members
  - How to achieve representation
  - Length of terms
- **Resources:**
  - Budget availability
  - Municipal staff / clerical services
- **Legal / Statutory Framework:**
  - Formality of committee relationship to council
  - Advisory versus advocacy
  - Reporting & accountability mechanisms
  - Relationship to other committees
- **Logistics:**
  - Meeting frequency and location

Examples from other Jurisdictions

City of Markham

The City of Markham created a Cycling and Pedestrian Advocacy Committee (CPAC), whose stated purpose is to:

- Advise staff and Council on the design, development and delivery of cycling and pedestrian policies, programs and facilities to promote and enhance cycling and walking in Markham;
- Work with local neighbourhoods to collect and distribute information related to cycling and walking and to increase public awareness of cycling and walking as environmentally friendly forms of transportation; and
- Assist in integrating bicycle and pedestrian facilities into significant development proposals. (City of Markham, 2019)

It is composed of 10 to 20 members, including at least 1 councillor, up to 8 members of the public (one per municipal ward), up to 4 members representing stakeholder groups, and members representing accessibility committee, school boards, Conservation Authority, Public Health, police, and public transit. It includes four working groups: Network Planning & Facilities; Education, Public Outreach, and Promotion; Program Development & Travel Demand Management; and Policy & Safety. Members serve 3 year terms, with an annually rotating chair.

Town of Aurora

The Town of Aurora has an Active Transportation and Traffic Safety Advisory Committee. Its purpose is to:

- "...support and advise Town staff in various issues relating to the development and implementation of the Transportation Master Plan and the Active Transportation Master Plan, Aurora Connects. The Committee will provide support and advice in all aspects of traffic safety issues that affect the Town of Aurora as a whole."

It is composed of seven members, including one member of council and six citizen members selected by council, each of whom is appointed for a two-year term.

City of Brampton

Brampton's Active Transportation Advisory Committee exists to advise City Council and staff on active transportation policies, programs and infrastructure that support its ATMP's vision and help the city achieve the ATMP's objectives. It is composed of 8 to 12 citizen members, along with one councillor. Citizen members represent each of the four quadrants of the City (two per quadrant). Membership draws from residents with demonstrated work, life, educational or traditional experience, and/or general interest in active transportation, and the city notes that members should not act as representatives of any agencies, organizations or interest groups. Finally, the committee's membership aims to reflect the diversity of the City, including in such areas as age, gender, language, race, and abilities

Its committee meets every other month, and is supported by City Clerk's Office (meeting management), an Active Transportation Project Manager (subject matter expertise), and other staff as warranted.

Recommendation for Sault Ste. Marie

Based on the project team's review of Sault Ste. Marie's municipal committee structure, its existing culture of vibrant participation and advocacy from the local community, and discussions with key stakeholders, the following approach is recommended.

Committee Structure

- Citizens' Advisory Committee (no formal decision-making authority, but can pass resolutions for council to consider as formal advice)

Scope

- Focus on active transportation (not transportation in general), but may consider combining with traffic calming and road safety
- Duties could include:
  - To support and advise City staff on items pertaining to the implementation of the Active Transportation Master Plan
  - To advise staff on issues or opportunities raised by various stakeholders such as Council, advocacy groups, residents, businesses, and other interested parties.

Composition & Meetings

- Seven or nine members, including:
  - One councillor
  - Six or eight citizen members selected by Council (may include representatives of stakeholder, business, or advocacy groups)
- Two-year terms
- Meetings approximately every other month

Resources

- City staff may attend (non-voting) for the purposes of providing technical expertise and meeting management support.
- A nominal budget may be allocated for meetings, but no remuneration would be provided.

Implementing these recommendations does not imply the dissolution of any existing committees or groups. For example, the Sault Trails Advocacy Committee (STAC) could maintain its presence as a key stakeholder group with long-term members; the Active Transportation Committee would have more frequently rotating membership but would consult closely with STAC and other groups.

11 Key Recommendations

The Sault Ste. Marie ATMP serves as a flexible guide that provides the City and its partners with directions and tools to enhance active transportation within the city. The goal is to build a safer, comfortable, more accessible and more equitable transportation network for people of all ages and abilities to provide them with a range of viable transportation options. This ATMP outlines an achievable path towards a complete network of walking and active transportation facilities, while building upon and expanding partnerships to support the culture of active transportation in the City. At its core, this Plan contributes to many of the City's broader policy goals through increased support for active transportation.

To bring the ATMP's vision into reality, a set of recommendations have been developed to guide City leadership, in partnership with internal and external stakeholders. These recommendations include the various policies, programs, and procedures discussed in this Plan that contribute to the development of physical and social infrastructure to support active transportation in the Sault Ste. Marie. City staff are encouraged to take into account the key considerations discussed in this Plan and work closely with key stakeholders to implement new programs, policies, and infrastructure, while promoting the unique assets of Sault Ste. Marie as part of the Plan's broader implementation.

Table 11 | Recommendations of the Plan

#	Policy, Planning, and Implementation Recommendations
1	Adopt the proposed active transportation network and implementation plan as identified in this ATMP and include it as a schedule in the City's Official Plan when updated. The ATMP should be reviewed and updated through a public process every five years.
2	Review and consider this ATMP when municipal roads, trails, and other capital infrastructure projects are identified and scheduled during the development application process. Efficiently implementing the proposed pedestrian and active transportation network will require coordination with other capital infrastructure projects.
3	Use this ATMP to inform prioritization of the pedestrian and active transportation network projects during the annual capital budget review process.
4	Consider ATMP recommendations prior to proceeding with capital works projects, including road resurfacing and rehabilitation projects.
5	Include the implementation of cycling and pedestrian infrastructure, including on and off-road routes, as part of development proposals and the park development process for new development areas.
6	Establish an Active Transportation Coordinator to serve as a centralized resource for all matters related to active transportation.
7	Establish a formal Active Transportation Advisory Committee that will provide input to advance infrastructure and policy opportunities as the Plan moves forward.

8	Reassess and modify the City's policy framework to require bike parking and supportive amenities within the City's Zoning By-law.
9	Establish a Priority Winter Cycling Network for winter clearing to provide a more predictable, safer route for people on bikes, providing them with the sense of confidence that their route will be clear and passable.
10	Develop a monitoring program to assess sidewalk and active transportation facility condition to identify priority areas for improvement, so lifecycle needs are considered as part of the City's asset management program.
#	**Complete Street and Infrastructure Design Recommendations**
11	Encourage complete street design, active transportation-friendly streetscaping, urban design, and active transportation-oriented land development in planning and design studies and development reviews.
12	Reference the guidance provided by the OTM Books 15: Pedestrian Crossing Treatments and 18: Bicycle Facilities when designing and implementing active transportation facilities, as the best practice for the planning, design and operation of cycling facilities in Ontario.
13	Reference the guidance provided by OTM Books 12: Traffic Signals, 12A: Bicycle Traffic Signals, 15: Pedestrian Crossings Treatments and Book 18: Cycling Facilities, and the OTC Protected Intersections guide when enhancing and reconstructing intersections and crossings. Adopt protected intersections, wherever feasible.
14	Sidewalks should exceed the minimum width (1.5 m) where possible, particularly in areas with high pedestrian traffic and commercial areas.
15	Undertake a study on pedestrian crossing treatments to improve the frequency of pedestrian crossing of major barriers, including consideration of mid-block pedestrian crossings to access trails, crossings of rail corridors, and to improve overall walkability in the City for all ages.
16	Prioritize the implementation of the network in neighbourhoods with higher equity needs.
17	Consider speed limit reductions and traffic calming design measures along roads proposed for shared bike routes in the urban / built-up areas. The City should also evaluate reducing speed limits along all roads to improve conditions for all users.
18	When capital reconstruction projects are scheduled in high traffic areas not proposed for the active transportation network, priority should be given to expanding and enhancing spaces for walking and active transportation-supportive amenities, while narrowing vehicle lanes and parking facilities.
19	Explore tactical interim active transportation and pedestrian improvements using quick-build materials to allow for faster implement of the network.
20	Work with businesses and landowners to provide secure bicycle parking and other active transportation -supportive amenities at key destinations, commercial hubs, and transportation hubs, and along waterfront routes.

#	Programming Recommendations
21	Support the uptake of social infrastructure programs and initiatives outlined in this ATMP to build a culture of active transportation within the City.
#	**Operations and Maintenance**
22	The City is encouraged to initiate a Winter Maintenance Pilot Project to assess the costs and effectiveness of providing winter maintenance to active transportation paths, especially those that connect to key destinations within the community.
#	**Funding and Partnerships Recommendations**
23	Council should incorporate the proposed phasing into the annual budget process for active transportation network implementation, operations, and maintenance.
24	Continue to explore external funding sources and partnerships to help fund implementation of the ATMP.
25	Allocate the necessary funding to deliver the programs listed in Chapter 5 on an ongoing basis to help build a stronger culture of active transportation in Sault Ste. Marie.
26	Leverage existing partnerships between other levels of government and partners to build cost-sharing commitments for specific sections of the network. The implementation of this ATMP requires consistent funding.



Appendices

Soo Moves: Active Transportation Master Plan

APPENDIX A: Policy Review Summary

Existing Policies and Initiatives

Federal Policies and Documents

The Government of Canada has several policies and funding programs designed to help municipalities transition to more sustainable modes of transportation. Recently the Government of Canada has began integrating language supporting active directly into their policies.

Policies And Documents Reviewed:

- National Active Transportation Strategy (2021)
- Federal Sustainable Development Act (2008)
- Federal Sustainable Development Strategy (2019 – 2022)
- Transport Canada 2021 – 2022 Departmental Plan (2021)
- Transportation 2030: A Strategic Plan for Transportation in Canada

Policy Considerations:

- The National Active Transportation Strategy (2021) created a $400 million Active Transportation Fund that is provided by the federal government for municipalities to use. The purpose of the fund is to aid municipalities in creating active transportation facilities and education programs and outreach programs. The strategy notes that to qualify for the fund, municipalities must demonstrate that their planned projects will create community connections, improve user experience, assist in a modal shift, and increase equity across the municipal region.
- The Transport Canada 2021-2022 Departmental Plan (2021) and Transportation 2030: A Strategic Plan for Transportation in Canada (2016) includes actions for improving the safety, accessibility, efficiency, and environmental sustainability of Canada's transportation systems. The Transportation 2030 (2016) plan acts as the overarching blueprint for developing Canada's transportation systems over the next decade and it highlights the need for a mode-shift to sustainable transportation methods.

Provincial Policies and Documents

The Province of Ontario has a suite of policies that support the adoption of active transportation. These policy documents provide guidance to local municipalities which can range from suggested actions to legislated requirements. However, legislated requirements for active transportation are seldom used, as most documents provide suggestions, guidance and support for active transportation development.

Policies Reviewed:

- Provincial Planning Statement (2024)
- Northern Ontario Growth Plan (2011)
- Tour By Bike: Ontario's Cycling Tourism Plan (2017)
- Ontario Province-wide Cycling Network (2018)
- Accessibility for Ontarians with Disabilities Act (2005)
- Minimum Maintenance Standards for Municipal Highways O.Reg.239/02 (2018)

Policy Considerations:

- Support achieving complete communities by accommodating appropriate multimodal transportation options to meet long-term needs and improving accessibility for people of all ages and abilities. (Provincial Planning Statement, 2024 s. 2.1.6);
- Efficient use should be made of existing and planned infrastructure, including through the use of transportation demand management strategies, where feasible. (Provincial Planning Statement, 2024 s. 3.2.2.);
- Multimodal transportation systems should plan for connectivity within and among transportation systems and modes, maintained and improved where possible, including connections which cross jurisdictional boundaries. (Provincial Planning Statement, 2024 s. 3.2.3);
- Healthy, active, and inclusive communities should be promoted by planning public streets, spaces and facilities to be safe, meet the needs of persons of all ages and abilities, including pedestrians, foster social interaction and facilitate active transportation and community connectivity (Provincial Planning Statement, 2024 s. 3.9.1.a);
- Plan and provide for the needs of persons of all ages and abilities in the distribution of a full range of publicly accessible built and natural settings for recreation, including facilities, parklands, public spaces, open space areas, trails and linkages (Provincial Planning Statement, 2024 s. 3.9.1.b);
- Promote the use of active transportation and transit in and between residential, employment (including commercial and industrial), and institutional uses and other areas (s.1.8.1.b – Provincial Policy Statement).
- The Northern Ontario Growth Plan (2011) supports the transition to a multi-modal transportation system that prioritizes enhancing connectivity between road-based, rail, marine and air transportation options (Northern Ontario Growth Plan, 2011, s. 5.3.2.d).

- Increase collaboration between governments and industry partners to develop and enhance products and experiences that support cycling tourism (e.g. heritage trails, trail tourism programs), particularly in rural regions of the province (Ontario's Cycling Tourism Plan, 2017).
- Technical and legislative requirements outlined in the Accessibility for Ontarians with Disabilities Act built environment guidelines and O.Reg.239/02.
- Ensure that sidewalks and bicycle lanes are safe and accessible for pedestrians and cyclists, even during adverse weather conditions, including during the winter. Further guidance on snow removal, ice, and regular maintenance is included in the O. Reg. 239/02: Minimum Maintenance Standards for Municipal Highways.

Municipal Policies and Documents

The ATMP is closely informed by policies at the municipal level. The City's Official Plan provides the most guidance on future development, as it is a statutory document required under the Planning Act and the Provincial Policy Statement. Policies and supportive guidance that have the highest degree of relevance to the ATMP are referenced in Table 1**.**

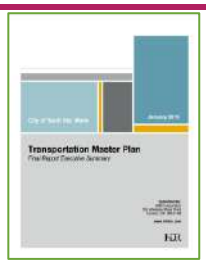
Policies Reviewed:

- City of Sault Ste. Marie Official Plan (1996, currently being updated)
- City of Sault Ste. Marie Transportation Master Plan (2015)
- City of Sault Ste. Marie Corporate Strategic Plan 2024 – 2027
- City of Sault Ste. Marie Cycling Master Plan (2007)
- City of Sault Ste. Marie Parks and Recreation Master Plan 2020 – 2025 (2019 and draft 2024 update)
- Sault Ste. Marie Community Greenhouse Gas Reduction Plan (2020)

Table 12. Relevant Policies and Support from Local Policy Documents
**Bolded ideas identify common themes among the documents*

Policy	Relevant Vision(s), Objective(s), and/or Plan Purposes
Official Plan (1996, currently being updated)	**Relevant Fundamental Principles** • "Explore and promote the **social opportunities** and learning potential of our unique northern location and climate (i.e. "Winter City" experience)." • "The lives of all residents **regardless of age or skill**, can be enhanced through the provision of **diverse leisure and recreational opportunities**." • "Promote the value of recreation and leisure to the **health and quality of life**; and develop **diverse recreation opportunities** for citizens and visitors."

Policy	Relevant Vision(s), Objective(s), and/or Plan Purposes
	• "Public **access to the waterfront** and the development of waterfront parks sites is a primary objective." • "Inequalities of access within the parks system should be eliminated. The open space system should be integrated for **linear recreational opportunities**." • "To maximize the **environmental, social and economic benefits** derived from protecting, maintaining, enhancing and developing natural environmental features and resources." • "Streetscape improvements and the upgrading of existing building facades, signage, sidewalk improvements, lighting, street furniture, parking areas and landscaping shall be encouraged." **Relevant Active Transportation Objectives** • "Site design shall consider the impact on street functions and pedestrian, cycling and vehicular access. The effects of traffic noise, vibration and odour shall be assessed." • "Pedestrian and cycling **access to parks, bus stops and schools** shall be encouraged." • "Alternative transportation and **energy efficient** forms of transportation such as public transit, cycling and walking shall be supported." • "A strong focus shall be placed on creating good pedestrian and cycling routes throughout the **Downtown and along the waterfront**." • "**Alternative Transportation Modes** will be considered as part of the development approval process for large scale residential, commercial, institutional and industrial projects, and should include provisions for Public Transit, Pedestrian and Cycling Travel." • "**On & Off-Road Bicycle Routes and Facilities** shall be encouraged and developed. … The City will require, where feasible, that all new development or redevelopment provide cycling facilities. This may include bicycle parking spaces that are located in highly visible and lighted areas and sheltered from weather." • "**Recreational Transportation System** shall be developed by a comprehensive system of multi-use, shared trails throughout the City."
Transportation Master Plan (2015)	**Relevant Goals, Objectives, and Recommendations** • "Build **Multimodal Networks**" • "Invest in active transportation; continue with the **implementation of the Cycling Master Plan** and **extension of the John Rowswell Hub Trail** including proposed "Spoke" routes"

Policy	Relevant Vision(s), Objective(s), and/or Plan Purposes
	• "Build **complete streets** and consider "road diets" to **meet the needs of all modes**" • "Maximize Operational Efficiency " • "Consider building roundabouts instead of signalized intersections" • "Consider road diets where provided capacity exceeds traffic levels" • "Provide **Safe and Accessible Network**" • "Provide a **safe pedestrian environment**" • "Establish minimum pedestrian crossing standards along the John Rowswell Hub Trail and high demand pedestrian corridors" • "Continue with the implementation of traffic calming measures" • "Continue with the completion of the **John Rowswell Hub Trail and spokes** to provide cyclists with their own travel space" • "Review the City's design guidelines to ensure roads, cycling facilities and sidewalks are **built for all users** including persons with disabilities" • "Promote **environmental sustainability**" • "**Promote active transportation** & transit use" • "Actively promote the reduction in usage of single occupant vehicles" • "Manage travel demand by providing and supporting non-auto travel choices (**investing in transit and cycling**)" • "Increase density and promote mixed-use developments in downtown and along key arterial roads."
Corporate Strategic Plan 2024 – 2027 	**Relevant Vision** • "Sault Ste. Marie is a thriving, safe, and inclusive community where you belong" **Relevant Values** • "Responsible Growth: We will grow responsibly to ensure a healthy, sustainable, and prosperous community for future generations" Commitment to Citizens & Community" • "Integrity: We will be accountable, transparent, and fiscally responsible to meet the needs of our community" **Relevant Focus Areas and Goals** • Community Development. Related Goals: Social Equity: Support the full participation of **user groups of all abilities**; Support programs that foster a **safe, welcoming and inclusive community**. • Infrastructure: Related Goals:

Policy	Relevant Vision(s), Objective(s), and/or Plan Purposes
	○ Current Assets: Monitor, maintain, and **redevelop existing infrastructure**; Leverage funding opportunities; **Improvements** to transportation network; **Accessible and barrier-free**; Upgrade assets for energy efficiency and **climate resilience** ○ Future Assets: Invest in maintaining an attractive and **vibrant downtown core** with a world-class waterfront; E**xpand active transportation network**. ○ Environment: Net zero emissions by 2050; Seek opportunities to **implement sustainable solutions**. • Service Delivery. Related Goals: Community Partnerships: Facilitate **collaboration with neighbouring communities and community groups** to achieve shared goals

Cycling Master Plan (2007) 	**Relevant Goals & Objectives** • Education: "To encourage and enhance the development of educational opportunities and program initiatives that **promote safe and healthful cycling**, and increase the knowledge and skills of cyclists, and other road and trail users across the City." • Enforcement: "To create a **safe cycling environment** and instill / increase respect amongst all road and bicycle users through responsible traffic behavior and adherence to the Ontario Highway Traffic Act." • Encouragement ○ "To promote increased, **safe bicycle usage** as an alternative means of transportation and exploration of the City that can be undertaken by **people of all ages, skill levels and abilities**." ○ "To increase ridership and appreciation of bicycling as a safe, **enjoyable, practical and sustainable** means of transportation that contributes to the **quality of life, the environment, economy and community**; and, showcases and attracts people to the City of Sault Ste. Marie" • Engineering ○ "To provide a **safe, friendly and convenient cycling environment** for recreational and utilitarian cyclists through improvement and development of the existing road and trail network, and designation of alternative routes to major arterial roads in order to better meet the needs of cyclists and accommodate riders of **all ages, skill levels and abilities**." ○ "…integrate cycling into the local transportation network based on relevant traffic engineering principles, applications and best

practices providing for an **intuitive network** of routes that connects riders to destination areas across the City."

Relevant Principles

- "All traveled roadways are cycle routes and cycling should be accommodated for any reconstruction. The Cycling Master Plan advocates that roadways support bicycle use and provide for bicycle friendly facilities / amenities."
- "The Cycling Master Plan facilitates **safe and responsible cycling** practices amongst all **ages, skill levels and abilities**."
- "The Cycling Master Plan facilitates Creation of Partnerships"
- "The Cycling Master Plan Supports the Quality of Life: **recreation, health and fitness benefits**. It provides a **sustainable transportation** alternative that is practical, energy efficient, cost-effective and non-polluting.

Community Greenhouse Gas Reduction Plan (2020)



Relevant Goals & Objectives

- Achieve Net Zero in Sault Ste. Marie by 2050.
- Transportation identified as one of 7 key sectors for reductions. "The majority of transportation emissions come from on-road transportation which is often one of the highest emitting sectors in Ontario due to the heavy reliance on personal vehicles with combustion engines. 90% of Sault Ste. Marie residents commute to work by car, 5% walk, 4% use transit and 1% bike. This presents ample opportunity to improve upon active transportation in Sault Ste. Marie.
- Introduce a Climate Lens policy to evaluate and consider the climate impacts of all major City decisions, including financial decisions, to ensure City investments, policies and programs are supporting climate change goals.

Relevant Actions

- Increase education and awareness about the **environmental, economic and health benefits** related to active transportation.
- Develop and **maintain bike friendly infrastructure** (e.g. bike lanes, trails and racks make cycling a **safer, more attractive option** for travel and commuting.
- Initiate a commuter challenge.
- Encourage local companies to reward cyclists.
- Create an inventory of bike trails, including shortcut trails.
- Review potential actions that align with existing City Plans.
- Encourage land use planning that **reduces the distance** people have to drive by car.
- Monitor Active transportation infrastructure installed annually.

Parks And Recreation Master Plan 2015 – 2025 (2019 Update)



As of summer 2024, this plan is in the process of being updated.

Quality of Life Objectives

- "Enhance or curtail programs and services to address gaps and meet the changing needs of the community."
- "Implementation of the Cycling Master Plan"
- "Implement a Bike Rental Program at the Roberta Bondar Tent Pavilion"
- "Implement proactive strategies that accommodate the unique and growing **parks and recreation needs** with an emphasis on '**walkability'** and **improved accessibility**."

"Implement strategies for providing amenities that enhance and enrich the lives of community members."

APPENDIX B: Consultation and Engagement

Background

To build this sense of community ownership that is necessary to support a plan of this scale, residents and stakeholders will have had several opportunities to engage in the process of developing the ATMP. The ATMP will also create an accountability process that will allow the City and any relevant partners to check the progress of the actions against the baseline assessment and the goals contained within the Plan.

This memo outlines the results of a series of engagements conducted to identify best practices, strengths, opportunities, and aspirations by community organizations, leaders and members of the public that will be essential for ensuring that the ATMP reflects community needs and desires.

Objectives

This project was developed using International Association of Public Participation (IAP2) process and practices, as illustrated in **Figure 41** below. The IAP2 Process outlines the preparation, management, and evolution of engagement tactics based on a spectrum of involvement tailored to the wants and needs of the anticipated or desired audiences. There are five levels of commitment, which are known as the IAP2 Spectrum of Public Participation.

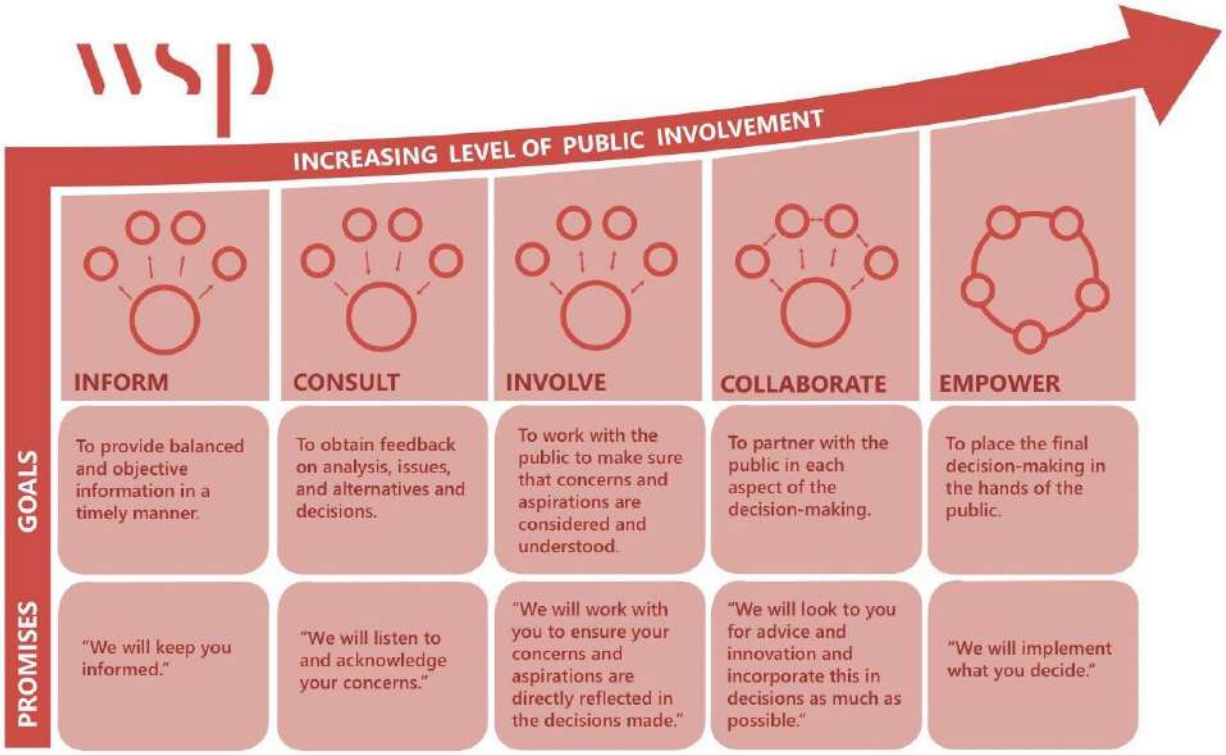


Figure 41| IAP2 Spectrum of Audience Involvement

The amount of information sharing, gathering and integration increases as you "move up" the spectrum. The intent is to recognize that not all stakeholders will have the same level of involvement in the project or need the same amount of information to inform their involvement. The IAP2 approach emphasizes the importance of a consultation plan which is tailored to the understanding, commitment, and contribution of each of the unique groups. By identifying the stakeholders early in the study process the project team will be able to anticipate, identify, plan for and communicate the expectations based on the intended audience.

When developing the scope of engagement for the City of Sault Ste. Marie's ATMP the project team identified key audiences that were required to be consulted throughout the project. The identified audiences include:

- Algoma Public Health
- Bicycling advocacy groups
- Chamber of Commerce
- Conservation Authority
- Downtown Association
- Environmental advocacy groups
- Members of the public
- School Boards
- Sault Trails Advocacy Committee (STAC)
- Neighbouring First Nations
- Accessibility Advisory Committee
- City Departments:
  - Planning
  - Engineering and Public Works
  - Recreation and Culture
  - Sustainability Committee
  - Tourism

Stakeholder and Public Engagement Approach

From fall 2022 through spring 2024, WSP worked with the City of Sault Ste. Marie to facilitate several engagement activities with the identified audiences noted above to inform the development of the ATMP. These activities were completed to gain an understanding of the existing conditions and to identify active transportation strengths, gaps, concerns, and opportunities across the City.

The following activities informed WSP's recommendations for priority areas for the City of Sault Ste. Marie to focus the rollout of active transportation infrastructure and initiatives.

Stakeholder Interviews

Throughout February 2023 WSP conducted a series of stakeholder interviews with local organizations and City staff. This included an interview with the Sault Ste. Marie Tourism and Community Development department, the Construction and Engineering team, and the Downtown Association. The sessions were used to identify existing strengths and assets that pertained to Sault Ste. Marie's existing active transportation network, identifying strengths for the City's physical and social infrastructure. Each interviewee was also asked to identify priorities for the ATMP and to note existing barriers to improving active transportation in the city.

SOAR Model

Following the completion of the interview series and advisory committee workshop, feedback was compiled using the *Strength, Opportunities, Analysis, and Results* (SOAR) model. The SOAR model highlighted existing realities and aspirations for the ATMP. These were then analyzed to produce tangible actions and recommendations that can be used to shape the policy and implementation sections of the report. Detailed summaries of the SOAR model exercise can be found in **Figure 42** to **Figure 45**.

STRENGTHS

What are the elements that make active transportation in Sault Ste. Marie great? What are unique elements? What can be built upon?

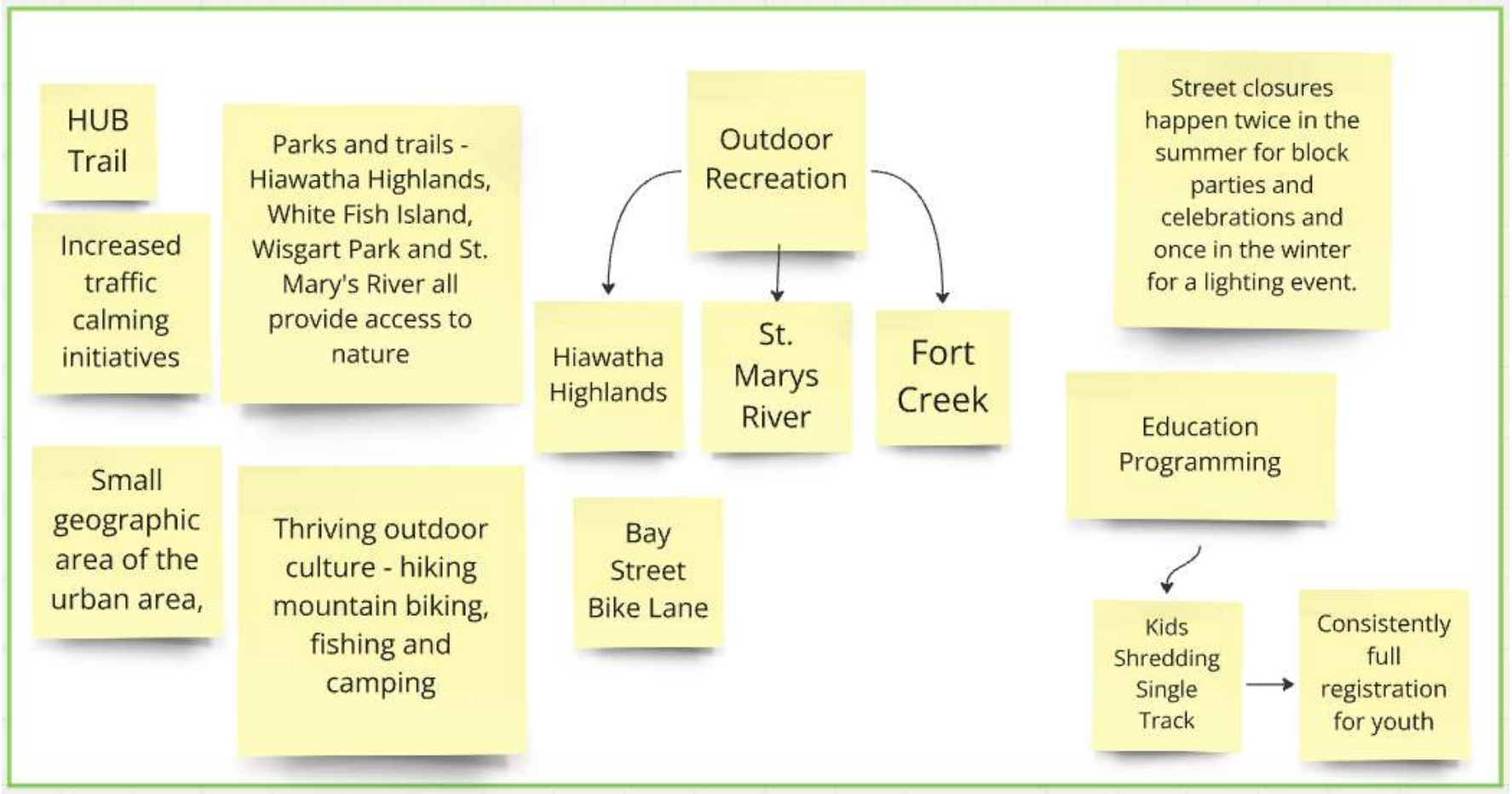


Figure 42 | SOAR Model - Strengths

OPPORTUNITIES

What partnerships would lead to better outcomes? What changes or trends can be capitalized upon? Are there areas where we could see quick wins or major benefits?

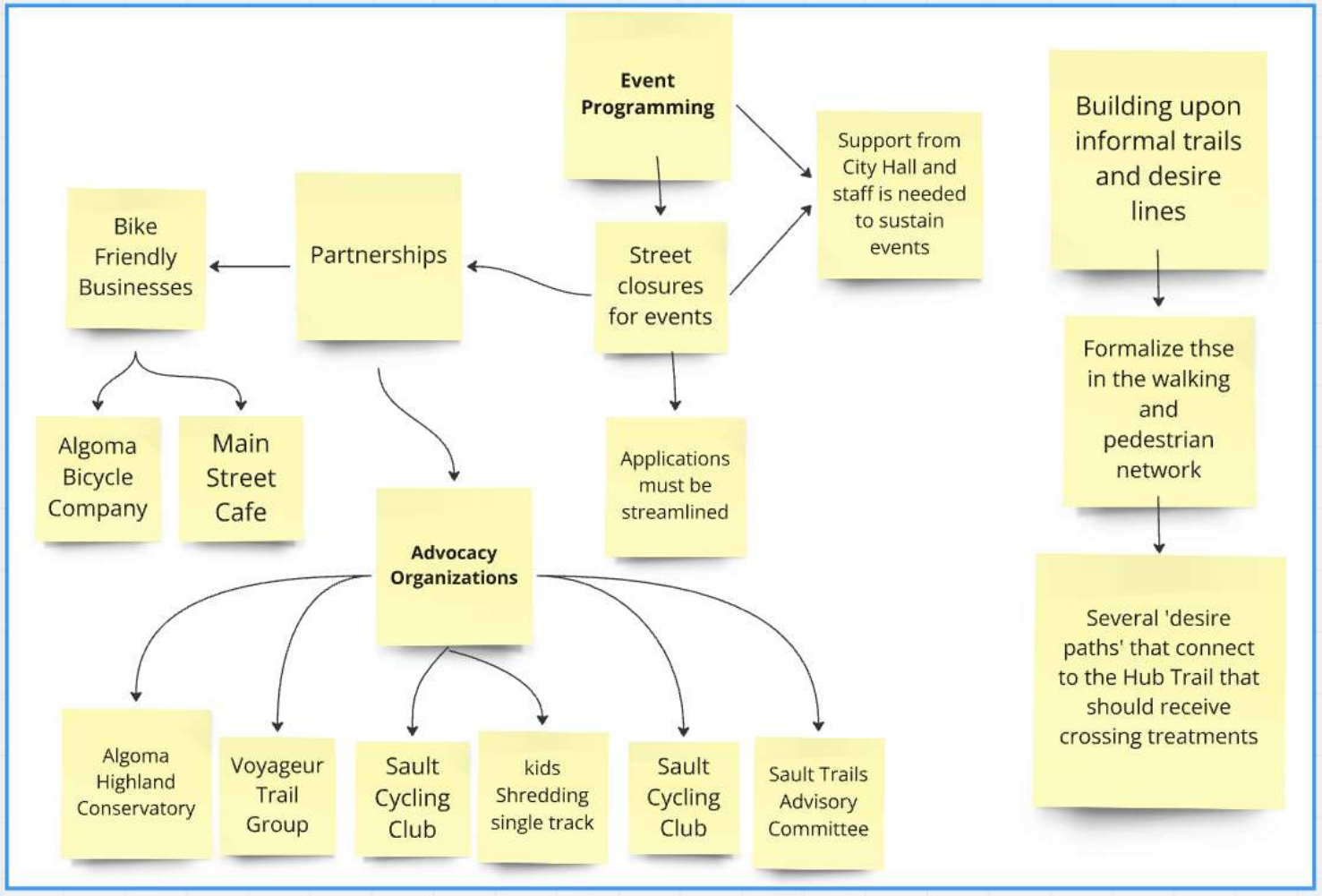


Figure 43 | SOAR Model - Opportunities

ASPIRATIONS

What do we want to achieve in the future? What are the 'Big Picture' goals? Who do we want to serve?

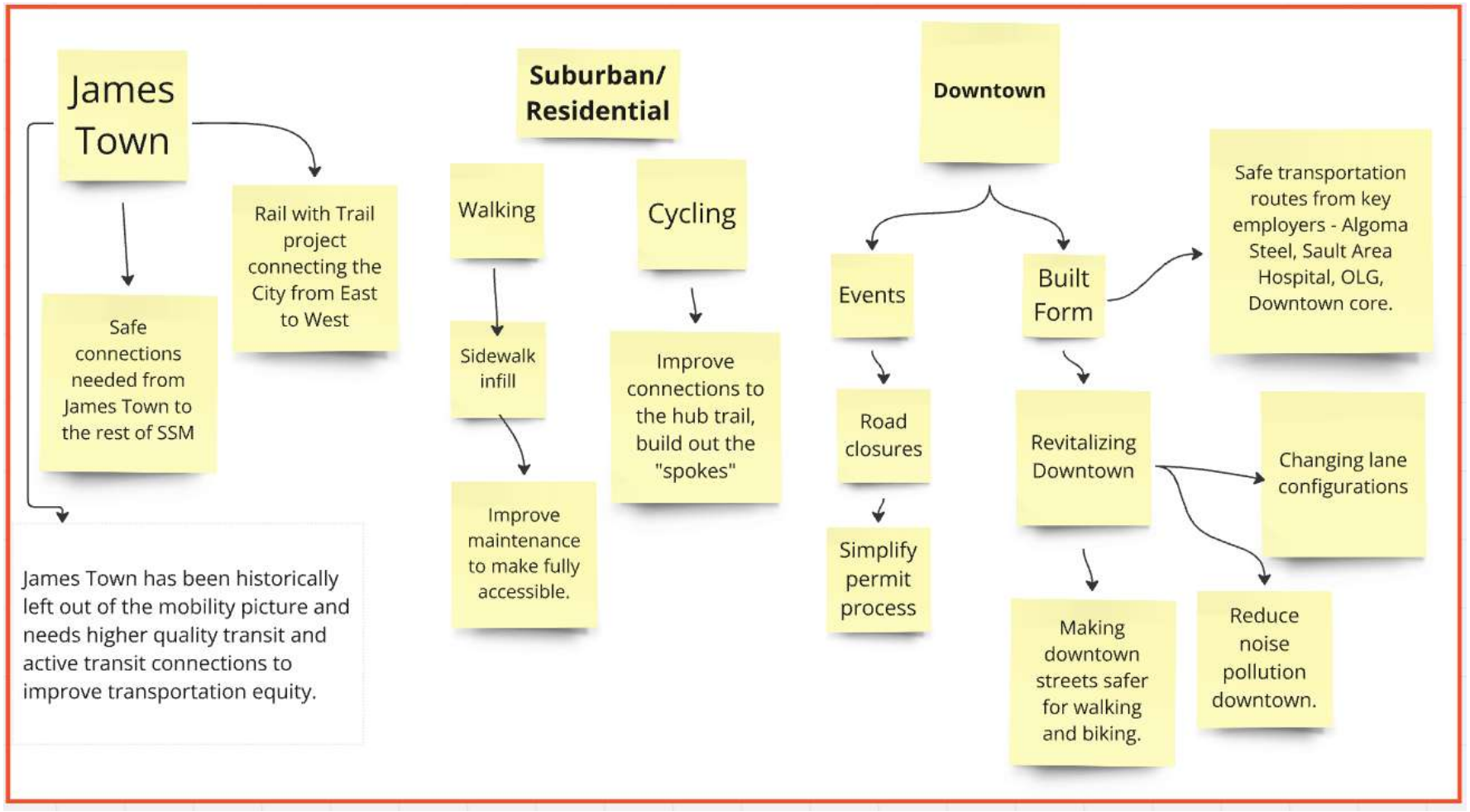


Figure 44 | SOAR Model - Aspirations

RESULTS

What measures will let us know if we're achieving success? What tools or techniques do we need to be able to measure those items? How do we report on our progress?

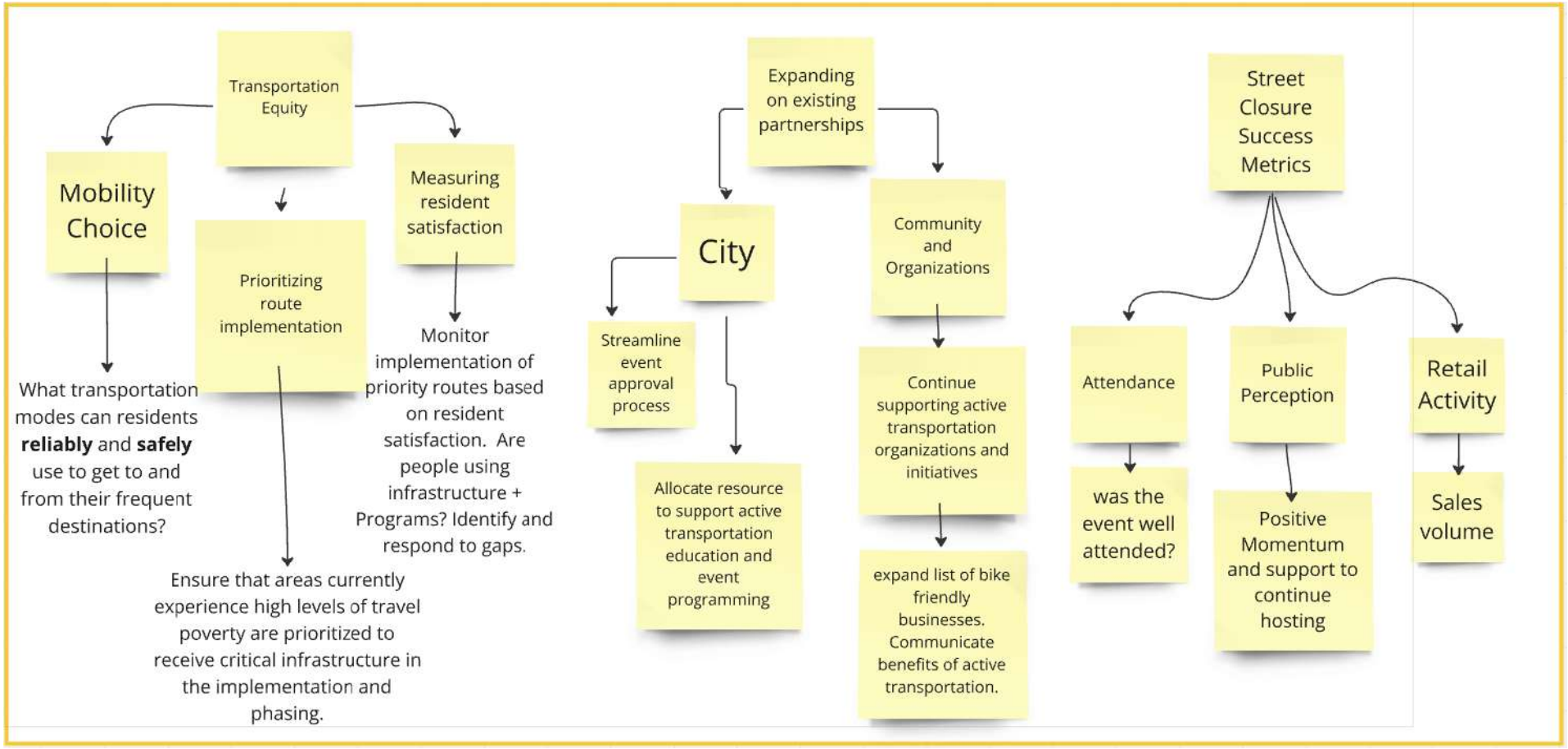


Figure 45 | SOAR Model - Results

Trails Committee Workshop

In April 2023 the Sault Trails Advocacy Committee (STAC) was convened to participate in an hour-long workshop and focus group session. The committee was asked similar questions to those during the stakeholder interview series and were provided with an interactive virtual whiteboard where participants could pin-point location specific comments, concerns and desires for the ATMP.

Community Survey

Two public online surveys, administered on the Project website, were conducted to gather input from those who couldn't make it out to the public open houses, or those who wished to provide additional feedback on the ATMP. These included:

- Public survey #1 (November 2022 to March 2024): aimed to understand how the community uses active transportation and what opportunities they see for improving active transportation. The survey included both open and close ended questions, as well as an interactive map activity where participants could identify areas of concern and opportunity in regard to using active transportation. There were approximately 161 participants.
- Public survey #2 (June 2024): aimed to share and gather feedback on the proposed pedestrian and active transportation networks and programming. The survey included both open and close ended questions. This survey had approximately 7 participants, as most input was provided in-person at the associated open houses.

Public Open Houses

In June 2024, two Public Open Houses were held to present updated project information, the proposed Pedestrian and Active Transportation networks, and programming. The public was encouraged to attend these meetings to ask questions, share their thoughts on the proposed network with City staff, and provide any additional feedback they had regarding the ATMP.

What Was Said

Stakeholder Interview Series

Algoma Public Health

Algoma Public Health provided valuable insights during the stakeholder interview meeting. They emphasized the importance of using "walkability" as a measurement of neighborhood and city usage, suggesting the incorporation of tools like Walk Score for assessment. They also highlighted the need to engage with STAC for long-term planning, shifting away from a car-centric culture and focusing on active transportation. Collaborating with relevant groups such as Sault Cycling, Voyager Trail Association, Finnish and Nordic Ski Club, and Sault Conservation Authority for trail

development and advocacy was seen as essential. Exploring concepts like the "15-minute city" and Jeff Speck's walkable city rules was also recommended.

Additionally, Algoma Public Health addressed the lack of access to the John Rowswell Hub Trail in low socio-economic areas of the city, particularly in the west. They stressed the need to improve access to the John Rowswell Hub Trail and bike lanes in these neighborhoods to benefit residents who cannot afford vehicles. Addressing areas with high crime rates, addiction problems, and food deserts to promote community building, social connection, and healthy lifestyles was another priority mentioned. They also called for revamping the transit system to be more inclusive and climate-friendly.

The roles of the city and other agencies/partners in improving active transportation conditions were discussed, highlighting the importance of communicating the city's vision and plans to local contractors and construction companies to ensure alignment with active transportation goals. Collaborating with community partners, including public health organizations, and involving school boards, tourism offices, social services, and other relevant agencies in the planning process was seen as crucial. They also emphasized the need to address railway-related challenges that can segregate communities within the city.

Algoma Public Health expressed overall support for active transportation initiatives and highlighted the lack of specific restrictions or barriers preventing active transportation infrastructure advancement.

Downtown Association

Representatives of the Sault Ste. Marie Downtown Association, the city's business improvement area (BIA), shared their perspectives during the stakeholder interview meeting. They discussed various best practices and elements that should be considered in the development of the ATMP.

Raised crosswalks were suggested as a potential best practice, while challenges with the diversity of transportation options were highlighted, particularly in relation to biking and parking infrastructure. Main street was identified as challenging due to on-street parking. They emphasized the importance of safe biking infrastructure and highlighted the lack of bike infrastructure on Queen Street, which leads to people biking on sidewalks. Safety concerns were raised due to collisions caused by people cycling on sidewalks, posing risks for pedestrians and patrons. They also mentioned the need for improvements in intersection safety, such as addressing the prevalence of dangerous right turns on red.

The Downtown Association discussed the roles of the city and other agencies/partners in improving active transportation conditions, suggesting event programming, such as open street events, as a way to improve conditions. They mentioned their involvement in applying for permission to close the road for events and discussed the permitting process for street closures, noting that the city supports these initiatives. Metrics were mentioned as a means to measure the success of events, including retail activity on closure dates and satisfaction with the event.

Department of Engineering and Construction

Sault Engineering and Construction provided valuable insights and recommendations during the stakeholder interview meeting. They discussed various best practices and considerations for the development of the ATMP, including the importance of the John Rowswell Hub Trail Network, painted bike lanes, sidewalks, pedestrian bridges, waterfront boardwalks, and road diets. They highlighted specific projects and initiatives, such as the successful transition of Bay Street from a 4-lane to a 2-lane road and the ongoing delay in the Wallace Terrace Road diet. They identified opportunities for improvement in the city's active transportation system, such as addressing the lack of sidewalks on heavily trafficked Pine Street, improving cycling facilities at intersections along Great Northern Road, and prioritizing remaining road diets across the city.

The roles of the city and other agencies/partners in improving active transportation conditions were discussed, emphasizing the need to collaborate with engineering, planning, and operations departments within the city. They also mentioned the need to consider winter maintenance, especially clearing snow from sidewalks, bike lanes, and trails. Road safety and traffic calming measures, such as the installation of speed bumps, were highlighted as essential components of the ATMP.

The Department of Engineering and Construction emphasized the need for improved biking infrastructure and necessity of having at least one sidewalk on roads as a best practice, unless there are physical impediments. Several relevant physical infrastructure City assets and initiatives were highlighted by the team, such as the citywide Speed Management Task Force (including holistic speed management zones, community safety zone, and traffic calming policies), pedestrian crossings, speed safety educational campaign, and a Construction Association and Police Service media blitz for Construction Zone Safety.

The team then identified several opportunities for improvements in the active transportation network. They support the prioritization of sidewalks along bus routes and heavily trafficked areas like Pine Street near McNabb Street, and the enhancement of pedestrian crossing facilities such as at the Second Line and Great Northern Road intersection. They also mentioned the opportunity to close gaps in the sidewalk network, such as along Eastern Road and Queen Street East, as well as in the cycling network, like the east-west gap at intersections along Great Northern Road. Prioritizing the remaining road diets across the city was also discussed. The team expressed support for compromising traffic to implement a quality active transportation network, however, but stressed the importance of not affecting truck routes and corridors.

When discussing role of the City and other agencies for improving active transportation conditions, they advocated for more collaboration between school boards, social services, public health, tourism, large employers, and other agencies in the planning process. One policy suggestion they proposed to include in the ATMP is the winter maintenance of the John Rowswell Hub Trail. They also raised several challenges faced by their team and other teams regarding implementing and maintaining the active transportation network, including budget constraints and funding limitations that affect prioritization over other projects.

Mayor's Youth Advisory Council

Staff met with the Mayor's Youth Advisory Council (MYAC) to gather youth perspectives on cycling and active transportation. While nearly all members indicated they ride bicycles, none currently bike to school, and only a few did so in elementary school. Comfort with bike lanes was mixed, with only a couple of members feeling safe using them. The group expressed strong support for separated infrastructure like the Hub Trail, stating that such facilities would encourage more cycling. Safety concerns around school parking lots and the lack of secure bike parking, especially at high schools. Was also noted. Members also emphasized the need for winter maintenance and appreciated being consulted. Parental concerns was also cited as a major barrier to biking to school, with many being instructed to ride on sidewalks for safety.

Sault Trails Advocacy Committee

The Sault Trails Advocacy Committee (STAC) provided insights and recommendations during the stakeholder interview meeting. They emphasized the importance of leveraging best practices from other cities and regions as case studies for the development of the ATMP. They suggested building bike paths and formalizing desire trails to enhance connectivity and accessibility for pedestrians and cyclists. Making neighborhoods more walkable by improving sidewalk infrastructure, particularly in areas lacking sidewalks, was another key recommendation. They stressed the need for safe bicycle storage, including rolling activities and secure bike parking, to encourage active transportation.

The committee mentioned the opportunity to set clear goals for trail development, such as the expansion of the John Rowswell Hub Trail, and to collaborate with other agencies, including Conservation Authorities, to protect and maintain existing trails. They discussed the need to establish a trail development and maintenance fund and mentioned the importance of engaging with the community and local trail users to gather insights and address concerns effectively.

Sault Ste. Marie Tourism and Community Development

Sault Ste. Marie Tourism and Community Development shared their perspectives during the stakeholder interview meeting. They highlighted the significance of funding allocations for trail development, the Mountain Bike Systems Plan, and the Waterfront Development Plan. They mentioned the ongoing partnership with the Sault Cycling Club and the significant potential for Sault Ste. Marie to become a cycling destination. The challenges of separated bike lanes and seasonal barriers were identified, and they suggested exploring innovative solutions to address these issues. The assets of Sault Ste. Marie, including the John Rowswell Hub Trail, Waterfront Trail, and existing supportive groups, were recognized as valuable resources for promoting active transportation and attracting visitors. They also mentioned the importance of events, such as the Tour the Sault event, which showcase the city's cycling infrastructure and potential.

Batchewana First Nation

In June 2024, Planning staff met with staff representatives from Batchewana First Nation (BFN) to present the Active Transportation Master Plan project. BFN staff viewed this initiative as a valuable opportunity to enhance connectivity between the two communities. The rail line along Trunk Road was identified as a significant barrier to safe pedestrian access. As mentioned previously, Planning staff are in discussions with the rail authority about implementing a multi-use path along the south side of the rail line, as well as strategically located pedestrian railroad crossings, such as 'wigwags.'

Additionally, extending Batchewana Street to connect with Trunk Road was highlighted as a key improvement, facilitating greater access to the City and providing a direct route to White Pines Public School. The need for an east-west connection was also discussed, which would support their future development opportunities westward along Bittern and Metig Streets.

Before constructing infrastructure aimed at connecting Batchewana and enhancing access for both communities, consultation and technical discussions will be required between our two communities.

While several other suggestions were raised, they were primarily related to drainage and traffic issues, which have been forwarded to the Engineering Department for further consideration.

Sault Ste. Marie Region Conservation Authority

In June 2024, the project team met with the Sault Ste. Marie Region Conservation Authority (SSMRCA). The Conservation Authority noted benefits and risks regarding the placement of trails in flood plains, including practices for protecting user safety in the event of flooding, ensuring maintenance vehicle access, and managing municipal exposure to liability. SSMRCA staff highlighted the importance of engaging the Conservation Authority post-ATMP when refining the alignment and design of specific trails. Any active transportation infrastructure on SSMRCA lands will require a review to ensure technical, safety and operational feasibility, particularly the maintenance of flood channels.

The discussion highlighted ample precedent elsewhere in Canada for including active transportation infrastructure in flood plains, with design and policy measures tailored to the specific site. For example, bridges can be constructed to accommodate high water levels, signage can warn users to take caution during flooding events, and trail segments prone to flooding can be closed during specific periods.

Online Public Survey Engagement

Public engagement ensures that the ATMP is developed with the voices and support of the community. As mentioned, WSP prepared two online surveys that was posted on the project website which gave those who live, work, and regularly visit Sault Ste. Marie a chance to share how

they use active transportation throughout the community, and understand their thoughts and desires in relation to the future of active transportation in the City.

This survey was available November 2022 to March 2024. Participants were also given opportunities to share in their own words their lived experience when using active transportation across Sault Ste. Marie. The first survey had a total of **161 participants**, 96% of whom were residents of Sault Ste. Marie. Respondents provided over 1,000 geographic data points of feedback through an online mapping tool. The second survey had 7 participants, which provided insightful feedback through both open and close-ended questions.

The following is a summary of the results of these surveys.

Survey Results - Survey No.1

Mobility Patterns

The majority of the respondents commute by driving alone to and within Sault Ste. Marie. Approximately 42% of participants also use a bike and 31% walk or use a mobility device at some point in the year for commuting purposes, as illustrated in **Figure 46**. These figures indicate that, as expected, responses skew towards active transportation users, considering that only 5% of Sault Ste. Marie residents reported walking or cycling as their primary commuting method in the 2021 census.

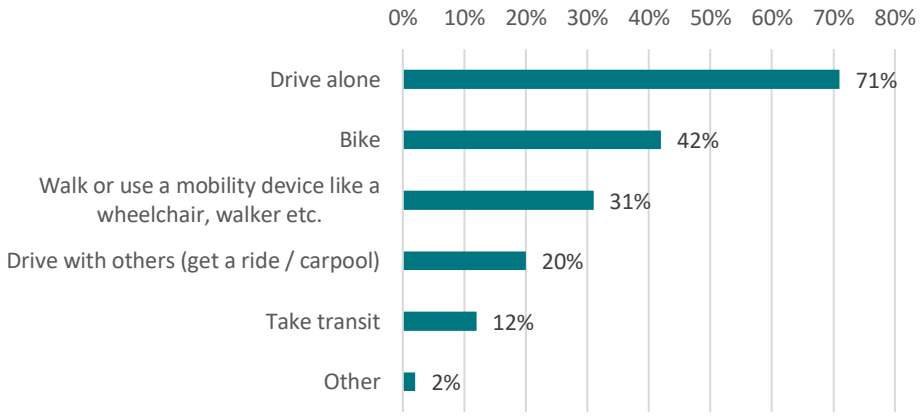


Figure 46 | Commute modes among survey respondents

Responses add to over 100% as respondents could select multiple modes.

Walking

In this section, participants were asked about walking or traveling using a mobility assistive device such as a walker, wheelchair or cane.

SUMMER	WINTER
62% Walk daily or near daily	**46%** Walk daily or near daily
85% Walk at least once weekly	**77%** Walk weekly or more

Main reasons for walking or using a mobility device included:

- Enjoying nature, parks, and trails
- Exercise
- Time with Family/Friends
- Access shops, services, and connecting with the community
- Dog walking
- Commuting to work

Safety & Barriers to Walking

Residents were asked about safety, comfort, and the main barriers when walking in Sault Ste. Marie (**Figure 53**). When asked what the main barriers are to walking or using a mobility device more often, respondents mentioned the speed and noise of traffic, poor or inaccessible conditions of sidewalks/trails, intersection safety, and the lack of infrastructure as the top five reasons. Other common reasons included time constraints, far distances, weather conditions, and lack of rest areas.

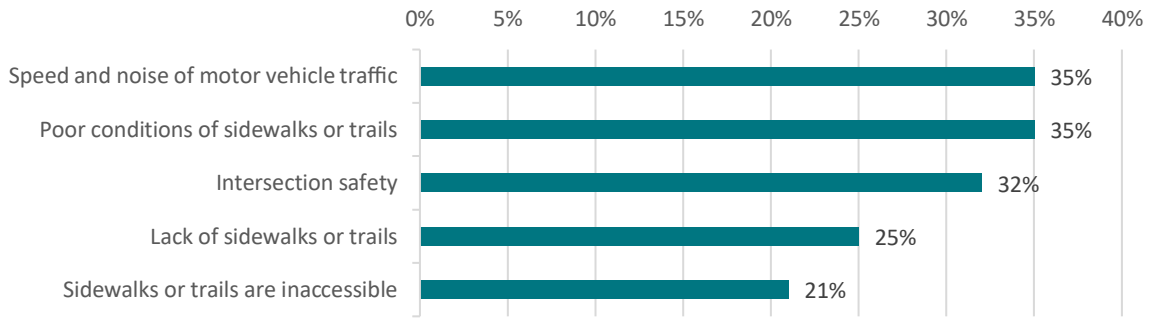


Figure 47 | Top Five Barriers for Walking or Using a Mobility Device

More than half of respondents (54%) also said they usually do not feel safe/comfortable while walking or using a mobility device in the City. The key reasons why respondents may not feel safe or comfortable were often the same as the main barriers to walking or using their mobility devices mentioned above. These reasons included:

- **Auto-centric Infrastructure & Culture:** There is a strong sentiment that the City is designed for cars rather than pedestrians, resulting in a culture of vehicle dominance. This creates dangers at intersections with drivers not checking for pedestrians, drivers not observing stop signs and going through crosswalks, and speeding.
- **Crime Concerns**: Some residents expressed concerns about crime, drug use, and being approached by strangers while walking.
- **Infrastructure Issues**: This includes concerns about sidewalks being incomplete or non-existent, and the conditions of sidewalks, with many parts in disrepair, not maintained in winter, or being blocked by garbage bins, making it difficult for pedestrians to navigate by foot or mobility device.
- **Maintenance**: There is a consensus among respondents that sidewalks were not well maintained, and that better maintenance of sidewalks and other pedestrian infrastructure is needed to enhance the walking experience in the city.
- **Walking distances**: Respondents note that the far distances and time constraints to key destinations prevents them from using the sidewalk network. However, many respondents are willing to walk more than 20 minutes to shops, services, community facilities and parks/trails.

Cycling

This section asked participants about cycling, including traditional bikes, e-bikes, tricycles etc.

SUMMER		WINTER	
38%	Cycle daily or near daily	**10%**	Cycle daily or near daily
88%	Cycle at least once a week or more	**34%**	Cycle at least once a week or more

Main reasons for using a bicycle included:

- Exercise & Recreation
- Enjoying nature, parks, trails
- Time with Family/Friends
- Access shops & services Connecting with community
- Commuting to work

When asked what the main barriers are to walking or using a mobility device more often, respondents mentioned gaps in the active transportation network, motor vehicle traffic, lack of bike parking, unsafe existing facilities, and time constraints as the top five reasons. Other reasons mentioned quite a few times included intersection safety, routes not connecting to areas people need to go, and weather conditions, among others.

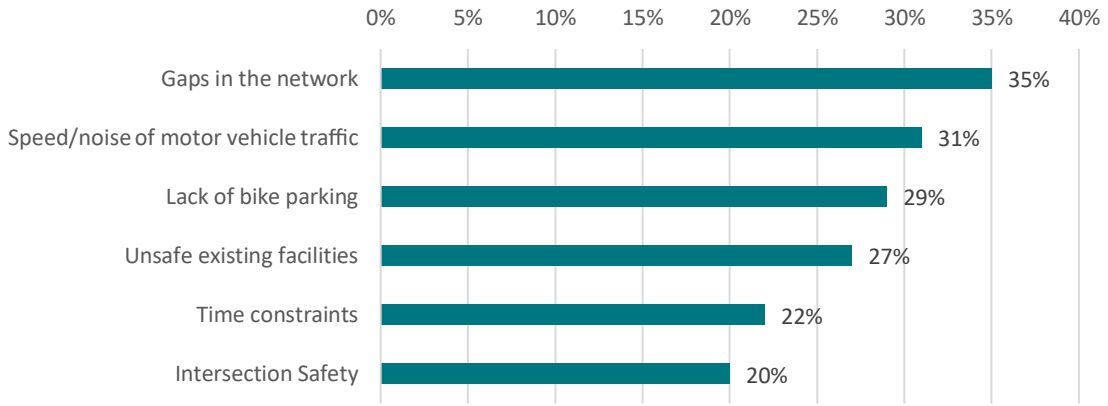


Figure 48 | Main Barriers Preventing Participants from Cycling More Often

Participants were also asked whether they feel safe or comfortable cycling in Sault Ste. Marie. Approximately **90% of respondents reported not feeling safe/comfortable cycling** in the City. Many of the reasons were similar to those as walking. Key reasons include:

- **Safety**: Many participants mentioned a lack of consideration from drivers towards cyclists, making the roads and intersections extremely unsafe. Aggressive driving behavior, lack of space, and disregard for cyclists were common concerns.
- **Lack of Bike Lanes**: The existing cycling infrastructure (such as the John Rowswell Hub Trail) was praised, but participants found it inefficient for commuting or getting around town. Participants mentioned the active transportation network has existing gaps and emphasized the need for continuous bike lanes, particularly those that are protected.
- **Intersections**: Intersections were specifically mentioned often as unsafe for cyclists, and vehicles often traveled too fast or failed to share the road.
- **Secure parking**: Respondent were concerned about bike theft and the lack of secure bike parking specifically at businesses and public services were raised.

Participants were asked what would encourage them to use active transportation to access public transit more. Many of the same themes discussed above were mentioned, including:

- Safer cycling and pedestrian connections to transit stops and facilities.
- Better connections to the John Rowswell Hub Trail.
- Enforcement of traffic rules for drivers.
- Better integration of cycling and transit (i.e., secure bike parking at transit stops, bike racks on buses).
- Clearer signage for pedestrians to understand bus routes.

Despite these challenges, participants recognized the potential for Sault Ste. Marie to become an excellent city for cycling.

The John Rowswell Hub Trail

Respondents were then asked to answer questions about their experiences using the John Rowswell Hub Trail in Sault Ste. Marie (**Figure 55**). More than half (53%) of respondents use the John Rowswell Hub Trail at least once a week.

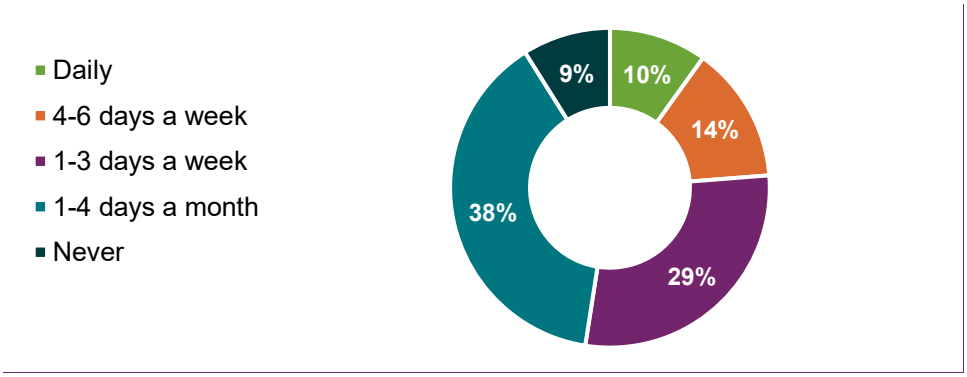


Figure 49 | Survey responses to "How often do you use the John Rowswell Hub Trail?"

Key suggested recommendations to improve user experience on the John Rowswell Hub Trail include:

- Safer intersections crossings (i.e., better pavement markings, cross-rides, automatic pedestrian signals etc.)
- Close gaps in the trail
- Add amenities like rest areas (benches, shelters etc.) and public facilities (washrooms)
- Improve wayfinding and signage
- Better maintained trails (address potholes/cracking, trail grooming, winter clearing)
- More direct active transportation connections to downtown

Top priorities

Participants identified the top 5 priorities for improving active transportation in Sault Ste. Marie include:

1. Build more cycling facilities separated from motor vehicles (e.g. cycle tracks, physically separated bike lanes)
2. Build more off-road trails and/or in-boulevard multi-use paths
3. Improve maintenance on existing sidewalks, multi-use paths, and cycling facilities
4. Improve safety at intersections for pedestrians and cyclists
5. Provide more amenities along active transportation routes (benches, access to washrooms, water fountains, bike racks etc.)

Participants also emphasized the need to prioritize active transportation and vulnerable road users (pedestrians, cyclists etc.) over vehicles, with a focus on creating safer, more efficient and accessible routes and connections for these users.

They also highlighted the importance of maintenance and winter clearing for active transportation, including sidewalk and trails, as well as further promotion and education regarding active transportation use around the city.

Mapping Tool

The survey also included a virtual mapping tool for participants to highlight and comment on specific locations throughout Sault Ste. Marie as areas of concern and/or opportunities for improving the active transportation network, while also noting positive aspects. Respondents provided approximately 1,070 pinned areas or comments, as seen in **Figure 50**. A summary of the key locations with concerns or challenges is included per each category.

Bike lanes or bike facilities are needed or require improvements	There were numerous locations where bike lanes or bike facilities are needed or require enhancements. Areas that received multiple comments and key messages within this category included: • A need for cycling facilities along Pine Street, Queen Street East and West, Pim Street, Boundary Road, Wallace Terrace/Lyons Avenue, Trunk Road, the rail corridor, and other key arterials/corridors • Improvements to the shoulder along Fourth Line East and West, which can be washed out making it difficult as a route for cyclists • Cycling access to and bike parking at popular shops, services, and public buildings • Connections between Manitou Park, Batchewana First Nation, and the John Rowswell Hub Trail • Address gaps in the John Rowswell Hub Trail • More connections to the John Rowswell Hub Trail from neighbourhoods and key destinations, such as the train station • Need to plow and maintain bike paths in the winter, notably along Bay Street
Trail needs to be changed or improved	Comments specific to trails included: • Connections between dead-end streets to improve connectivity, e.g., Summit Avenue to Alworth Place • Improved paths that allow pedestrians and cyclists to bypass Second Line and Great Northern Road
Sidewalks needed or existing sidewalks should be improved	Comments specific to sidewalks included: • Sidewalks are needed along all residential streets • Continuous sidewalks needed along arterial roads, such as along Pim Street between Ontario Avenue and Summit Avenue and People's Road • Trail improvements at Goulais Avenue and Korah Road • Wider buffer between sidewalk and traffic lanes along roads with high speeds and/or volumes • Traffic calming in the downtown and built-up areas, like along Albert Street East, Church Streets etc. • Ensure sidewalk ramps/slopes are accessible by a variety of devices like wheelchairs and bicycles

Difficult crossing or intersection

There were numerous intersections flagged as difficult or dangerous to cross. Hot spots included:

- Intersections along corridors such as the Great Northern Road (particularly in the vicinity of Second Line), Wellington Street East-Trunk Road, notably the intersection of Elizabeth Street/Trunk Road
- Intersections near educational facilities like schools and Algoma University, at MacDonald Ave/Lake Street, or near shop/services like grocery stores
- Fast moving vehicles in the downtown make intersections, like Pim Street and Wellington Street East, very dangerous
- Issues with visibility/blind crossings of pedestrians and other active transportation users at intersections, particularly on a hill or curve
- Comments that drivers often do not yield to pedestrians and other active transportation users, even when there is a marked crossing or at an intersection
- Several comments expressing concerns about right and left-turning vehicles not seeing active transportation users

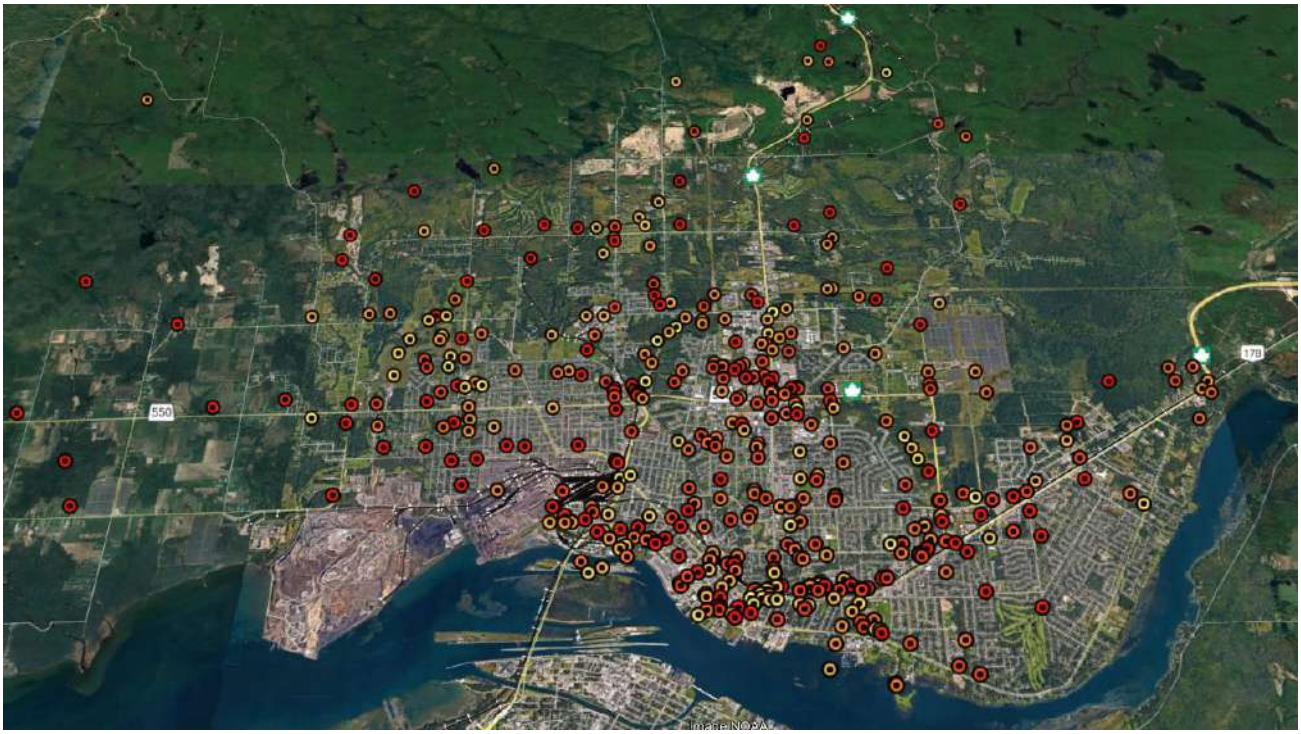


Figure 50 | Mapping Tool with Pins

Survey Results - Survey No.2

Proposed Networks and Facilities

The participants were asked to share their thoughts on the proposed pedestrian network and active transportation networks. The key feedback heard included:

- Respondents generally supported the proposed network.
- The Truck Road rail corridor is key and will have to be planned properly to allow for safe crossing
- Emphasis on prioritization of key routes
- Some participants were apprehensive about potential impacts to vehicle traffic
- Suggestion to place sidewalks near schools

Participants were asked how likely they were to increase their use of active transportation for recreation or for your daily tasks in Sault Ste. Marie once the network is constructed (**Figure 57**). The majority (57%) replied they are very likely, while the remaining participants (47%) replied they are somewhat likely. No one replied they are unlikely.

Participants were also asked whether they will likely feel safer and more comfortable using active transportation modes once the network is implemented (**Figure 52**). The majority (86%) said they will feel safer and more comfortable, while the remaining 14% were unsure if they will. No one responded they will not feel safer or not comfortable using the proposed network.

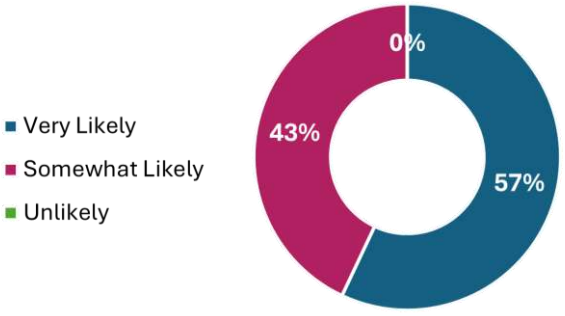


Figure 51 | How Likely Participants will use the Active Transportation network

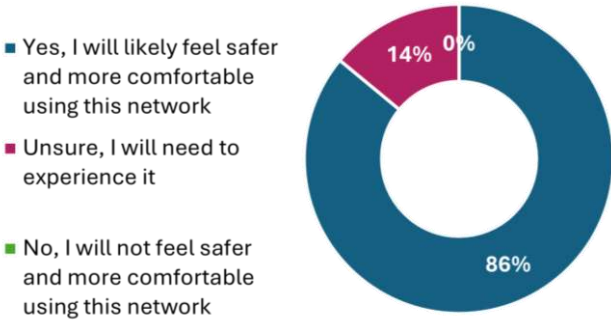


Figure 52 | Will participants feel safer or more comfortable using the active transportation network?

Proposed Programming

Participants were also asked to share their thoughts regarding the proposed programming approach and initiatives designed to support active transportation network. There was some feedback on the actual programming, as well as thoughts on additional matters related to the network, including:

- Support to establish a dedicated Active Transportation Coordinator and committee to implement these programs efficiently and effectively.

- Concern for private landowners who impede trail connectivity by placing barriers along the trail
- Need for enhanced transit service as well as active transportation routes to accommodate a diverse user base.

Overall, the majority (67%) of users expressed that participating in these programs would encourage them to use the network, while the remaining 33% indicated that these programs might somewhat or may not influence their usage.

What Was Heard

The engagement activities thus far have provided valuable insight into existing conditions and potential opportunities for improving active transportation and trails in Sault Ste. Marie. The engagement also highlighted community priorities from members of the public and key stakeholders that will allow the project team to tailor the ATMP in a way that reflects the needs and desires of those than live, work and visit Sault Ste. Marie.

Based on the engagement activities conducted to date, the following themes were heard from stakeholders and the public.

Improved Safety

There was an overwhelming message that people feel unsafe while walking or riding within Sault Ste. Marie. This concern primarily stems from the perception of an auto-centric culture, causing driver's inattentiveness to active transportation users, as well as high speeds and other undesirable driver behaviours. Vulnerable road user safety needs to be prioritized to make active transportation a viable option for more people. This involves creating safer active transportation routes and facilities that are either dedicated or physically separated from motor vehicles, especially where there are high volumes of traffic, and safety enhancements at crossings and intersections. It also involves slower traffic speeds and greater education and awareness for all roadway users. Prioritizing pedestrian and cyclist safety, conveys that streets belong to everyone, not just motor vehicles.

Expanded and Continuous Network

Another significant barrier to walking and cycling is the insufficient pedestrian and cycling infrastructure available, including gaps in the existing network. Stakeholders and the public expressed the need for more sidewalks and cycling facilities, and to close the gaps in the current network to make active modes more appealing and a practical mobility option. There is also a need for enhanced pedestrian and cycling infrastructure at crossings and intersections to improve safety and comfort for users. Prioritizing active transportation infrastructure ensures that it becomes a viable option and contributes to creating streets accessible to all. Traffic calming tools should be considered along busy streets to help reduce traffic speeds and make roadways more comfortable for active transportation users.

Improved Maintenance & Accessibility

Implementing the active transportation system is just the beginning; making sure it is useable and accessible by a wide range of people is crucial for the systems success. When a facility is not well maintained, it becomes inaccessible for a variety of users, including children, those with strollers, those with physical impairments, and any device with wheels. Stakeholders and the public emphasized prioritizing walkability and bikeability by addressing sidewalk infrastructure like potholes and cracked surfaces, as well as consistent maintenance. Another key concern is seasonal barriers to walking and cycling, which can be aided with continual winter clearing of active transportation facilities. Ensuring pathways and routes are free from obstructions and useable by users of all ages and abilities at all times of the year is essential.

More Amenities

Enhancing the active transportation network involves providing amenities that support users. Amenities that allow people to rest, navigate the active transportation network easily, spend more time along the paths, and leave their bike or other device without having to worry are essential. Additional bicycle parking, seating, wayfinding signage and washrooms were all mentioned as amenities needed to along active transportation facilities in Sault Ste. Marie. For instance, rest areas along routes, equipped with seating and washrooms, accommodate various abilities and encourage longer use of active transportation facilities. Wayfinding also boosts user confidence and informs them about nearby amenities and destinations.

Greater Connections

Stakeholders and the community emphasized the need to provide more active transportation connections to key destinations. These routes need to be safe and comfortable for people of all ages and abilities. Addressing the gaps in the network and developing new routes that connect users to key destinations (such as tourist spots, places of work, schools etc.), commercial areas, public transit hubs, and existing trails. Increasing access to these destinations will attract and encourage a broader range of residents to participate in active travel more in their daily lives and for recreation.

The John Rowswell Hub Trail

While the existing John Rowswell Hub Trail is an excellent asset in the active transportation system and serves the community very well, there are still opportunities for improvement. Safer crossings at intersections, addressing trail gaps, enhancing wayfinding, and installing amenities like benches, shelters, and washrooms will enhance the trail user experience. Additionally, enhancing access to and connectivity between the hub trail trail, bicycle lanes, neighbourhoods, and key areas of the city is also critical. This is particularly important in areas of the city which may often be overlooked, such as those with higher proportions of equity-deserving communities.

Implementation

Both stakeholders and the community acknowledge and support the ambitious nature of this plan and that won't be without challenges to implement. A particular concern heard is the potential inefficiency of the rollout process, especially given competing city priorities over the next two decades. To address this, coordination with capital works and prioritizing active transportation in the annual budget process is essential. Additionally, establishing an active transportation coordinator and committee will ensure a smoother deployment of the network and associated programming.

APPENDIX C: Costing of Facilities

A breakdown of the per-metre cost for the facility types included in **Table 13**. Contingency costs (assumed to be 30% of the unit price), and design and approvals costs (assumed to be 15% of the unit price), are included. The per-metre facility costs also assume costs for some intersection improvements to accommodate the suggested facilities.

Table 13 | Per-Metre Cost for the Facility Types

Facility Type	Unit Price per Metre per Direction	45% Markup for Contingency Cost and Design and Approvals, Inclusive.
Sidewalks and Neighbourhood Connector Paths	$337 ($674 for both sides of ROW)	$488 ($1,348 for both sides of ROW)
Multi-Use Trails (e.g. John Rowswell Hub Trail, West End Hub Trail).	$873	$1,265
Conventional Bike Lane	$55 ($110)	$80 ($160)
Protected Bike Lane	$93 ($186)	$135 ($270)
Shared Route	$2 ($4)	$3 ($6)
Paved Shoulder	$250 ($500)	$363 ($726)
Buffered Paved Shoulder	$275 ($550)	$399 ($798)
Recreational Pathway	$95 (assumes stone dust)	$138
Pedestrian Cross-Over (PXO)	$20,000 (Includes PXO equipment and two poles/arms. Excludes installation and ground prep cost)	$29,000

Table 14 | Cost Summary of Active Transportation Facilities Planned for Short-Term Implementation

Short-Term Implementation		
Facility Type	**Length (m)**	**Total Cost (including 45% contingency)**
Multi-Use Trail Network		
Multi-Use and Hub Trail Network	4,566	$5,775,990
West End Hub Trail	12,938	$16,366,570
Multi-Use Trail Network Subtotal	**17.5 km (17,504 m)**	**$22,142,560**
Bicycle Route Network		
Conventional Bike Lane	10,496	$1,679,360
Protected Bike Lane	11,182	$3,019,140
Upgrade to Protected Bike Lane	5,521	$1,490,670
Shared Route	24,955	$149,730
Paved Shoulder	0	0
Buffered Paved Shoulder	0	0
Upgrade to Buffered Paved Shoulder	0	0
Bicycle Route Network Subtotal	**52 km (52,154 m)**	**$6,338,900**
Short-Term Active Transportation Network Total	**69.6 km (69,658m)**	**$28,481,460**

Table 15 | Cost Summary of Active Transportation Facilities Planned for Long-Term Implementation

Long-Term Implementation		
Facility Type	**Length (m)**	**Total Cost (including 45% contingency)**
Multi-Use Trail Network		
Multi-Use and Hub Trail Network	21,290	$26,931,850
West End Hub Trail	0	0
Multi-Use Trail Network Subtotal	**21.2 km (21,290 m)**	**$26,931,850**
Bicycle Route Network		
Conventional Bike Lane	19,424	$3,107,840
Protected Bike Lane[1]	15,053	$4,064,310
Upgrade to Protected Bike Lane	12,785	$3,451,950
Shared Route	17,468	$104,808
Paved Shoulder	34,928	$25,357,728
Buffered Paved Shoulder	5,553	$4,431,294
Upgrade to Buffered Paved Shoulder	4,872	$3,887,856
Bicycle Route Network Subtotal	**110 km (110,083 m)**	**$44,405,786**
Long-Term Active Transportation Network Total	**131 km (131,373 m)**	**$71,337,636**

Table 16 | Total Implementation Cost Summary of the Active Transportation Network

Total Implementation Cost			
Facility Type	**Existing (m)**	**Proposed (m)**	**Total Cost of Proposed (including 45% contingency)**
Pedestrian Network			
Sidewalks	339,834	81,169	$39,610,472
Neighbourhood Connector Paths	6,554	519	$253,272
Pedestrian Crossovers	9	23	$667,000
Pedestrian Network Subtotal	**346 km (346,388 m)**	**82 km (81,688 m)**	**$40,560,744**
Multi-Use Trail Network			
Multi-Use and Hub Trail Network	29,158	25,857	$32,709,105
West End Hub Trail	0	12,938	$16,366,570
Multi-Use Trail Network Subtotal	**29 km (29,158 m)**	**39 km (38,795 m)**	**$49,075,675**
Bicycle Route Network			
Conventional Bike Lane	3,800	29,921	$4,787,360.00
Protected Bike Lane[1]	0	26,236	$7,083,720.00
Upgrade to Protected Bike Lane	18,307	18,307	$4,942,890.00
Shared Route	3,450	42,424	$254,544.00
Paved Shoulder	5,806	34,928	$25,357,728.00
Buffered Paved Shoulder	0	5,553	$4,431,294.00
Upgrade to Buffered Paved Shoulder	4,872	4,872	$3,887,856.00
Bicycle Route Network Subtotal	**36 km (36,235 m)**	**162 km (162,241 m)**	**$50,745,392**
Recreational Pathway Network			
Recreational Pathways	**-**	**30 km 29,822 m**	**$4,115,436**
Active Transportation Network Total	**412km (411,781m)**	**313 km (312,546m)**	**$144,497,247**

The Corporation of the
City of Sault Ste. Marie

C O U N C I L R E P O R T

July 14, 2025

TO:	Mayor Matthew Shoemaker and Members of City Council
AUTHOR:	Rachel Tyczinski, City Clerk
DEPARTMENT:	Corporate Services
RE:	Public Utilities Commission – Water – Terms of Reference

Purpose

The purpose of this report is to obtain Council approval of terms of reference for the Public Utilities Commission – Water.

Background

The Public Utilities Commission of the City of Sault Ste. Marie owns the water supply and distribution infrastructure and is responsible for the provision of safe, reliable, potable water at cost to customers within the municipal services boundary of Sault Ste. Marie, Ontario. Potable water is also provided to an area of the Rankin Reserve of the Batchewana First Nation through the same distribution system.

The Public Utilities Commission – Water is a committee of Sault Ste. Marie City Council.

Analysis

The PUC has indicated that, given the complexity of the commission, the current two-year term be increased to be concurrent to the term of Council.

An updated Terms of Reference is attached.

Current members will continue to serve until December 31, 2026 or until their successors are appointed.

Financial Implications

There are no financial impacts

Strategic Plan / Policy Impact / Climate Impact

This is an operational matter not articulated in the corporate Strategic Plan.

Recommendation

It is therefore recommended that Council take the following action:

Resolved that the report of the City Clerk dated July 14, 2025 concerning Public Utilities Commission – Water – Terms of Reference be received and that the terms of reference be approved.

Respectfully submitted,

Rachel Tyczinski
City Clerk
705.759.5391
r.tyczinski@cityssm.on.ca

The Corporation of the
City of Sault Ste. Marie

Public Utilities Commission (Water)
Terms of Reference

The Public Utilities Commission of the City of Sault Ste. Marie owns the water supply and distribution infrastructure and is responsible for the provision of safe, reliable, potable water at cost to customers within the municipal services boundary of Sault Ste. Marie, Ontario. Potable water is also provided to an area of the Rankin Reserve of the Batchewana First Nation through the same distribution system.

The management, maintenance, and operations of the water treatment plant, wells and the approximately 470 km of watermains in the distribution system are carried out by PUC Services Inc. (a utility services company operating as a wholly owned private company of the Corporation of the City of Sault Ste. Marie under the *Ontario Business Corporations Act*) under a long-term contract.

The City of Sault Ste. Marie is committed to:

- Ensuring a consistent supply of safe, high-quality drinking water;
- Maintaining and continuously improving its quality management system; and
- Meeting or surpassing applicable regulations and legislation.

(Source: Ontario Ministry of the Environment, 2007, Implementing Quality Management: A Guide for Ontario's Drinking Water Systems)

Mandate
The Public Utilities Commission (water) is a municipal services board as defined under section 194 of the *Municipal Act*.

The Public Utilities Commission (water) is a committee of Sault Ste. Marie City Council and as such is subject to the provisions of the City of Sault Ste. Marie procedure by-law.

Applicable legislation:

- *Safe Drinking Water Act*
- *Ontario Fire Code*
- *Ontario Building Code*

Sampling and monitoring requirements are set out in the *Safe Drinking Water Act*.

Composition
The composition of the Public Utilities Commission (water) is five members of City Council or citizens or a combination. Water expertise is preferred.

Term
The term of members shall coincide with the term of Sault Ste. Marie City Council or until successors are appointed.

Meetings
Meetings are held quarterly or at the call of the Chair. Meetings are open to the public. Agendas and minutes of meetings will be posted to the PUC website at least a week prior to the meeting. Minutes of meetings shall be provided to the City of Sault Ste. Marie Chief Administrative Officer upon request and will be posted to the PUC website.

Reporting
Annual reports covering the preceding calendar year, including financial statements and project updates, shall be provided to Sault Ste. Marie City Council at the annual shareholder meeting.

The summary report must include:

- A list of any requirements of the *Safe Drinking Water Act, 2002*, the regulations, the system's approval, drinking water works permit, municipal drinking water licence and any order that the system failed to meet during the time period, plus the duration of the failure;
- A description of measures taken to correct each failure;
- A comparison of the system's capability with the quantities and flow rates of water supplied the preceding year to help assess existing and planned uses;
- Municipalities are also required to provide details about each residential drinking water system in an annual report to consumers. This annual report must be completed by February 28 each year and include a:
    - Brief description of the drinking water system, including chemicals used
    - Summary of the results of any required testing
    - Summary of any adverse test results required to be reported to the Ministry of the Environment, Conservation and Parks
    - Description of any corrective actions taken
    - Description of any major expenses incurred to install, repair or replace required equipment.

July 14, 2025

Sault Ste. Marie
POLICE

Annual Report
2024











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Forward

On behalf of the members of the Sault Ste. Marie Police Service, and under the leadership of the Sault Ste. Marie Police Services Board, we are proud to present the 2024 Annual Report.

This past year presented both promising developments and significant challenges in our community. Encouragingly, property-related crimes, including thefts, frauds, and break and enters to homes and businesses, saw a decline. These reductions reflect the diligent work of our officers and ongoing partnerships and crime prevention efforts.

However, these positive trends are tempered by a troubling rise in Crimes of Violence, which increased by 13.9% in 2024. Notable increases were observed in assaults, sexual assaults, offences involving weapons, and incidents of Intimate Partner Violence (IPV). These figures highlight the complex and often traumatic nature of many of the calls our members respond to, and the lived realities of victims within our community.

In response, what began as a pilot initiative has now become a core element of our service delivery. Since March 2024, officers have been proactively following up on IPV-related calls for service in cases where no criminal charges were laid, such as verbal disputes or property exchanges. Between March and year-end, 835 follow-ups were conducted, 33 new investigations initiated, and eight individuals were charged. This proactive approach will continue in the year ahead, reflecting our commitment to the safety and wellbeing of those affected by IPV.

Technological innovation was another key focus in 2024. The launch of our Digital Evidence Management Systems (DEMS) Unit marked a significant step forward. Following this, we initiated the in-car camera program and laid the groundwork for both Body-Worn Cameras and Community CCTV infrastructure, further strengthening transparency and public trust.

We also renewed our commitment to community engagement. In collaboration with local school boards, the High School Liaison Officer Program was successfully reinstated. With support from the province, we established a Bail Compliance Unit to ensure individuals released on bail comply with their conditions—enhancing public safety and accountability.

In 2024, several of our members were honoured at local, provincial, and international levels. Constable Fred Brown was inducted into the Special Olympics Michigan Hall of Fame for over 30 years of dedicated involvement. Our Corporate Communications Team received the OACP Award of Excellence in Media Relations for their outstanding efforts in public engagement and social media communications.

The pages of this report reflect the dedication, resilience, and professionalism of our team. They also reaffirm our vision of being a modern police service working toward a safer tomorrow for the citizens of Sault Ste. Marie and Prince Township.



Brent Duguay
Interim Chief of Police
Sault Ste. Marie Police Service



John Bruno
Chair
Sault Ste. Marie Police Services Board

Mission

To protect and enhance the quality of life in Sault Ste. Marie and Prince Township by leveraging progressive, data-driven policing and strengthening dynamic partnerships in our community.

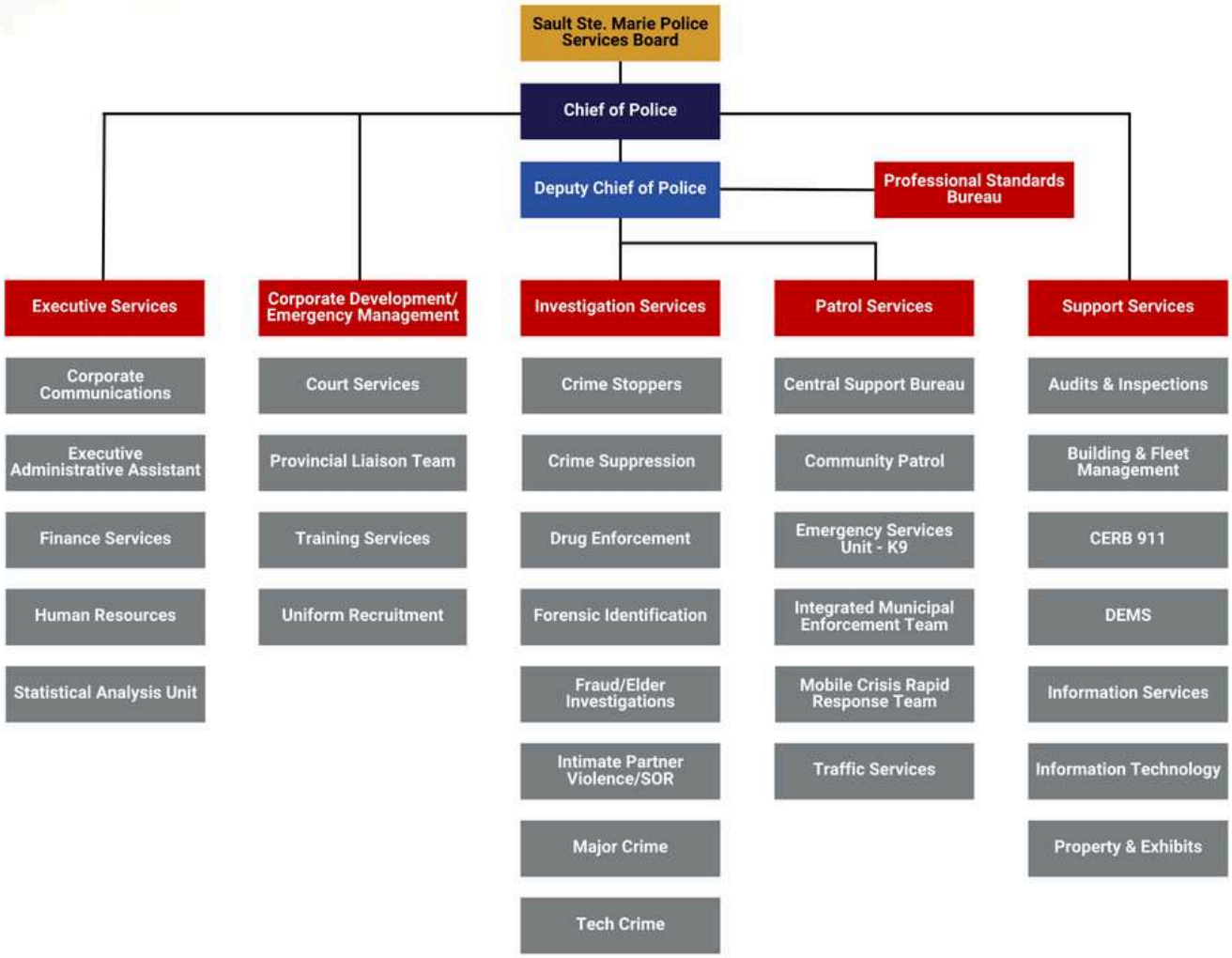
Vision

A modern police service for a safer tomorrow.

Values

- Respect - We treat all people with empathy, equity, and dignity
- Community - The community is us; we are the community
- Innovation - We use modern policing techniques to enhance community safety & wellbeing
- Integrity - We provide equal and quality policing to all we serve.
- Accountability - We are transparent and take responsibility for all we do.

Organization Structure



Sault Ste. Marie Police Services Board

Below are the members of the Sault Ste. Marie Police Services Board in 2024.



John Bruno
Chair - Provincial



Ian MacKenzie
Vice Chair - Provincial



Marchy Bruni
Municipal Appointee



Sonny Spina
Municipal Appointee



Eva Debutch
Community Representative



Sarah Miles
Board Administrator

Strategic Plan Progress

Per the *Community Safety and Policing Act*, the Sault Ste. Marie Police Services Board must file an annual report with the municipality regarding the implementation of the 2024-2027 Strategic Plan and the achievement of the performance objectives identified therein.

The following table summarizes Sault Ste. Marie Police Service achievements in 2024 which indicate progress toward the strategic priorities and goals set out in the Strategic Plan.

Priority	Goal	2024 Achievements
Dynamic Partnerships for Community Safety	Strengthen (community engagement)	• Attended community events, including the African Caribbean Canadian Association of Northern Ontario (ACCANO) gala, Sault Pride flag raising and pride walk, Anishinabek Police Service/Nogdawindamin Family & Community Services barbeque, and many more • Training partnership with Anishinabek Police Service • Set up an Indigenous cultural corner in the Police Services Building • Increased online engagement and followership across numerous social media platforms and the SSMPS website • Began development of "Communities, Cultures, & Religions: A Guidebook for Sault Police" in partnership with community groups
	Provide (support to victims of crime)	• Maintained partnership with Victim Services of Algoma by providing space for staff to work and meet and referring victims for services • Continued to offer Online Reporting option for victims of several types of offences • Began developing new Youth webpages with easy access to resources for victims seeking help • Trained more officers to work in Mobile Crisis Rapid Response Team to better respond to mental health crises • Renovated interview rooms to feel safer and more comfortable for victims of crime • Enhanced online resources to better support victims of family and intimate partner violence
	Prevent (crime through community initiatives, awareness, and education)	• Delivered a presentation at Sault College regarding crime prevention for newcomers to Canada • Fraud Unit presentations to senior citizens about fraud and scams impacting seniors • Technological Crime Unit presentations to youth about cyberbullying, sexploitation, and more • Participated in a Safety Day orientation at Algoma University • Developed new "Fraud & Scams" and "Emergency Services: An Introduction for New Canadians" webpages to provide easy access to crime prevention information • Educated community members on CPTED principles in 26 occurrences
	Support (youth programs and partnerships)	• Partnered with PUC and Police Services Board to purchase new stuffed canines to support young victims • Re-established High School Liaison Officer partnership with local school boards • Technological Crime Unit, and other officers, delivered many presentations to youth



Priority	Goal	2024 Achievements
Supportive & Diverse Workplace	Attract and retain (professional members with integrity who reflect the community)	• Delivered recruitment presentations at high schools, colleges, universities - locally and around the province • Partnered with Sault College Employment Solutions to host career information sessions • Hosted several fitness test practice sessions with opportunity for participants to use results in application and received constructive feedback • Visited a local mosque to discuss career opportunities • Ongoing dialogue with Sault College Law and Justice students about careers in law enforcement
	Support (the health, well-being, and safety of all members)	• Added the PeerConnect app to all SSMPS devices • Health and Safety Committee initiatives circulated service-wide monthly • Training Services and Human Resources implemented member reintegration program
	Increase (employee engagement and communication)	• Members of Senior Command regularly attend officer lineups to encourage employee engagement and communication • Encouraged members to participate in Push Up Challenge, Truth and Reconciliation Relay, Law Enforcement Torch Run, hockey tournaments, etc. • Ongoing messaging to all members via computer desktops, poster frames around the Police Services Building, and a weekly Monday Minute newsletter
	Provide (opportunities for professional development and training)	• Many members participated in professional development opportunities such as courses and conferences and in promotional processes • Many members were involved in relevant external committees



Priority	Goal	2024 Achievements
Professional & Quality Service	Provide (transparency and accountability)	• Posted monthly and year-to-date crime statistics to website as soon as they became available • Professional Standards Bureau held information sessions and attended lineups to educate members on the new Community Safety and Policing Act
	Target (crime proactively through effective call response, investigations, enforcement, and police visibility)	• Enhanced focused patrols throughout the jurisdiction via Dynamic Patrol, Bicycle Patrol Unit, and RIDE checks • Established new Bail Compliance Unit • Intimate Partner Violence pilot project • Start of Project Kentucky (concluding in 2025) to target drug trafficking • Began renovating Division 2 building to prepare for 2025 launch of dedicated unit serving the downtown core
	Educate (the community about traffic safety while enforcing all laws and regulations)	• Launched “Safety Tips & Tangents with Traffic Joe” video series and posted regular traffic safety information on social media and website • Collaborated with the City of Sault Ste. Marie communications team to enhance reach of social media posts regarding road and traffic safety • Monitored number of traffic-related charges laid
	Advance (policing through technological innovation)	• Launched In-Car Camera Systems and prepared for implementation of body-worn cameras and CCTV cameras • Established new Digital Evidence Management Systems Unit • Ongoing officer training in use of Remotely Piloted Aircraft Systems • Purchased and trained members in use of new faraday box for secure investigation of digital devices
Fiscal & Environmental Responsibility	Governance (over the delivery of policing services)	• Hired a consultant for a third-party review of similar services provided by SSMPS and the City of Sault Ste. Marie to ensure efficient service delivery to the community
	Process (refinement)	• Reviewed police service fees and updated for the first time since 2011
	Responsible (financial resource management)	• Applied for and received various grants • Began development of forecasting modules for next five years relating to business and operational impacts
	Technology (optimization)	• Ongoing assessment of, and improvement to, security measures and monitoring • Purchase of electric vehicle and establishment of charging station at Police Services Building • Ongoing assessment of current technology to ensure the SSMPS is utilizing modern industry standards to improve service delivery

Highlights

New Deputy Chief of Police



On January 18, 2024, The Sault Ste. Marie Police Services Board announced Inspector Brent Duguay had been selected as the next Deputy Chief of Police for the Sault Ste. Marie Police Service.

Deputy Chief of Police Bob MacLachlan retired January 21, 2024, and then-Inspector Brent Duguay was sworn in as Deputy Chief of Police on January 26, 2024.

“It is a great honour to be named Deputy Chief,” says Inspector Brent Duguay. “I want to thank the Police Services Board, and Chief Hugh Stevenson for trusting me with this responsibility. I am truly honoured to be the next Deputy Chief.”

With nearly 30 years of experience with the Sault Ste. Marie Police Service, Deputy Duguay has worked extensively on major investigations, including Joint Forces Operations involving drugs and organized crime with other police agencies across the province.

“We are fortunate to have such an experienced law enforcement professional to promote from within,” says Police Services Board Chair John Bruno. “On behalf of the Board, we congratulate Deputy Duguay on the appointment. We are confident he will partner with Chief Stevenson to continue modernizing the Sault Police and providing community safety for the people of Sault Ste. Marie and Prince Township.”



New Auxiliary Unit

On January 24, 2024, six new Auxiliary Constables were sworn in as volunteer members of the Sault Police Auxiliary Unit: Hannah Booth, Gavin Dupuis, Issac Parise, Tomas Webb, Aaron Wheten, and Robert Wright. Auxiliary Sergeant Dalaina Orr also remained on the unit.

Throughout 2024, four members of this Auxiliary Unit were hired as Special Constables and/or Recruit Constables!

Training Partnership with Anishinabek Police Service



Beginning on March 22, 2024, Constable Al Nolan from the Anishinabek Police Service was partnered with a coach officer from the SSMPS for three months.

“This partnership is a great opportunity for our new officer to gain valuable experience answering emergency calls,” says Chief Jeff Skye of the Anishinabek Police Service. “We thank the Sault Police for helping us prepare our members for a career in policing.”

“We are happy to play a role in the development of their members and ensure they gain knowledge from an experienced member of the Sault Police,” said Inspector Derek Dewar. “Information sharing and relationship building will help both organizations as we collaborate moving forward.”

Since 2012, the Sault Ste. Marie Police Service has hosted seven officers from other police agencies during training partnerships. This includes members from the Anishinabek Police Service, Batchewana First Nation Police, and the Royal Canadian Mounted Police.

New Plush Canines



In April of 2024, the SSMPS, in partnership with PUC Services Inc. and the Police Services Board, announced a new lineup of plush canines to comfort kids who might be dealing with stressful situations involving police.

Various studies have shown stuffed animals can help children cope with trauma, stress, fear, and even pain by providing emotional and physical comfort.

Sault Police thank PUC Services Inc. and the Sault Ste. Marie Police Services Board for their generous contributions of $1,500 each for the plush canines.

DEMS Unit & In-Car Camera Systems



In 2024, the SSMPS established its Digital Evidence Management System (DEMS) Unit. Members of the DEMS Unit are responsible for managing and redacting digital evidence to support investigations and prepare evidence for court proceedings.

In October, the SSMPS equipped its cruisers with new in-car camera systems to enhance public trust, demonstrate accountability and transparency, and streamline investigations.

Each Patrol Services vehicle now features an interior-facing camera that will record occupants in the back seat of patrol vehicles and a front-facing dash camera. These cameras will record interactions between officers and the public, providing valuable and objective evidence for investigations and prosecutions.

“Trust and accountability are cornerstones of effective policing,” said Hugh Stevenson, former Chief of Police. “The implementation of in-car camera systems will ensure unbiased documentation of police interactions, enhancing the safety of both our officers and community members.”

The SSMPS also started preparing for the implementation of Body-Worn Cameras, which were later launched in 2025.

Donald Doucet Youth Centre Charity Hockey Tournament

In March of 2024, the Sault Ste. Marie Police Service beat Sault Fire Services and took home the championship trophy in the men’s open division at the Donald Doucet Youth Centre Charity Hockey Tournament.

This week-long tournament gives players the chance to hit the ice, show off their skills, and compete in a fun and friendly environment while raising funds for local charities and honouring the late Constable Doucet’s love of the game.



High School Liaison Officer Partnership



In November of 2024, the SSMPS announced a renewed partnership with the Algoma District School Board (ADSB) and the Huron-Superior Catholic District School Board (HSCDSB) that saw the return of a full-time, uniformed High School Liaison Officer (HSLO) to local high schools.

Constable Lyndsey Pilkington, who had been a constable for nine years, began her duties as a HSLO on November 12, 2024. Prior to joining the SSMPS, Lyndsey worked as a teacher in both Canada and Australia.

The High School Liaison Officer is shared between four ADSB high and alternative schools and one HSCDSB high school, ensuring students from across the region benefit from the officer's presence and support. The position is jointly funded by ADSB, HSCDSB, and the SSMPS, reflecting a shared commitment to fostering safe and welcoming environments for all students.

The focus of the High School Liaison Officer is on education, awareness, and building positive relationships within the school communities. Through responding to incidents involving students, participation in school activities, and informal interactions, the officer works to support students' safety and wellbeing, while also promoting a deeper understanding of the role of police in our community.

Intimate Partner Violence (IPV) Pilot Project

On March 5, 2024, the SSMPS launched a pilot project as part of a policy evaluation in response to the tragic IPV-related homicides in the fall of 2023. As part of the project, officers began to follow up on all IPV-related calls for service which did not result in charges, including verbal arguments and exchange of property.

As a result of this project: 835 calls received follow up, 33 new calls for service were generated, and eight individuals were charged. The practices implemented in this pilot project have since become policy.

Awards

Police Community Awards Night

In May of 2024, the SSMPS hosted its 36th Police Community Awards Night to recognize the kind, caring, and courageous people who have contributed to the safety and wellbeing of our community over the last year.

Groups and individuals recognized included: Mark Trudel, Lisa Damiginani, and their daughter Christina (owners and operators of O'Sullivan Funeral Home); Annette Katajamaki (CEO of CMHA Algoma, Mental Health & Addiction Services); Lisa Case, Annette Katajamaki, Pam Lefave, Rose Genua, and Michael Davies (Community Wellness Bus); Deb Corbett (Harvest Algoma) and David Thompson (Director of Rural Agri-Innovation Network RAIN Algoma); Steve Caruso, Tony Schoahs, and Joe Maurice (Korah C&VS); Keith Boissoneau and Steve Gjos; Perry Mattila; Jamie and Jessie Boston (founders of The Algoma Autism Foundation); Bryan Cleminson; Alex Thibodeau; and Liam Frenette.

Crime Stoppers of Sault Ste. Marie and Algoma Peace Officer of the Year Awards Gala

Also in May of 2024, Cst. Jaimie Peace and Cst. Chris Perri were awarded Peace Officer of the Year, and civilian member, Linda Maeumbaed, was awarded the Crime Stoppers Recognition Award.

Jaimie and Chris were awarded for jumping into action while off-duty during a fatal shooting at a sports bar in Sudbury. The pair secured the doors, contained the scene, and administered first aid to a victim.

Linda Maeumbaed was recognized for her pivotal role in overseeing the payment process to Crime Stoppers and ensuring a strong and effective partnership with Sault Police.

Special Olympics Michigan 2024 Hall of Fame Award

In May of 2024, Constable Fred Brown was awarded the Special Olympics Michigan 2024 Hall of Fame Award - the most prestigious award given in the Law Enforcement Torch Run community - for his more than 30 years of dedicated service and exceptional contributions.







Police Exemplary Service Awards

On September 6, 2024, the SSMPS and the Sault Ste. Marie Police Services Board hosted its annual Police Exemplary Service Awards luncheon to recognize members' milestone years of service as well as those who demonstrated outstanding character and/or went above and beyond in 2023.

- Staff Sergeant Kevin Dukes was recognized for 30 years of service
- Civilian member Lisa B., Sergeant Rob Chabot, Sergeant Michelle Johnson, Retired Staff Sergeant Tom Armstrong, Inspector Will Freeman, and Sergeant Dave Doucette were recognized for 25 years of service
- Sergeant Alison Campbell, Constable Dave Guizzetti, Constable Dan Turco, and Constable Greg Vallee were recognized for 20 years of service
- Drew B. was awarded Civilian of the Year Award
- Lisa H. was awarded the Julie Christenson Memorial Award
- Several members also received Sault Ste. Marie Police Services Board Commendations for their exemplary service.

25 Years of Service - City of Sault Ste. Marie

In December of 2024, Staff Sergeant Rodney Burrows, Inspector Ben Bolduc, Constable Mike Maniacco, Sergeant Derek MacFarlane, and civilian member, Keith G. were awarded watches for their 25 Years of Service with the City of Sault Ste. Marie.

OACP/CCN Catherine Martin Award of Excellence in Media Relations

In June of 2024, the Ontario Association of Chiefs of Police (OACP) announced the SSMPS Corporate Communications team of Lincoln Louttit and Chelsey Foucher as the recipients of the 2024 OACP/CCN Catherine Martin Award of Excellence in Media Relations.

This award recognizes a sworn or civilian member (or team) who demonstrate consistent dedication and professionalism in the strategic use of media and/or social media to educate and showcase the profession of policing in the community, supporting public safety, or advancing investigations in the Province of Ontario.





Chief's Coins

A Chief's Coin is a way for the Chief of Police to acknowledge an individual or group who has gone above and beyond for their outstanding service.

Constable Shawn Cuglietta

- In January of 2024, Constable Shawn Cuglietta was awarded a Chief's Coin in recognition of the tact and professionalism he exercised when being the first officer to respond to a shooting on February 6, 2023.

Constable Nick Servant

- In January of 2024, Constable Nick Servant was awarded a Chief's Coin in recognition of his quick thinking which helped save a life. On September 8, 2023, he rushed to the aid of someone who had been stabbed multiple times, applying a tourniquet and keeping the victim stable until paramedics arrived.

Detective Constable Brad Harfman & Retired Constable Karen Harfman

- In November of 2024, Detective Constable Brad Harfman and Retired Constable Karen Harfman were awarded Chief's Coins for their swift and selfless actions while off-duty, assisting a community member in a medical emergency.







Comparing Crime Statistics

It is not recommended that the crime statistics in this report be compared to crime statistics prepared by other agencies due to the fact that different methods of categorization, geographic, technical data, and time constraints may affect the outcome. Although comparing exact numbers is not recommended, the general trends and magnitude of change should be similar regardless of the counting method.

The below crime statistics are compiled from incident-based data. Only the most serious violation in an incident is captured in these statistics.

Detailed information pertaining to Statistics Canada crime reporting methodology can be found in the Uniform Crime Reporting Survey documents posted on the Statistics Canada website.

Legend

Graphs throughout this annual report use the following colour breakdown:

2022 Statistics | 2023 Statistics | 2024 Statistics

Acronyms

CCC = Criminal Code of Canada
YCJA = Youth Criminal Justice Act



Fast Facts

Calls for Service

Sault Ste. Marie	Prince Township
↑ 4.1%	↓ 5%

Impaired Driving ↓ 24%

Alcohol ↓ 3.9%

Drugs ↓ 40%

Mental Health Occurrences

Mental Health Act	Well-Being Checks
↑ 5%	↓ 37%

Total Criminal Charges 5,470

Total Crimes ↓ 0.7%

↑ 7.4% Motor Vehicle Collisions

Highway Traffic Act Tickets 2,026

Crimes of Violence ↑ 13.9%

Intimate Partner Violence ↑ 9.9%

Crimes of Property ↓ 3.4%

Use of Force Reports ↓ 39%

Value of Drugs Seized $880,367

Drug Trafficking Charges 102

Public Complaints ↓ 13.3%

1,619 Online Reports

Fraud Occurrences 648

Online Compliments 42

Website Visits 170,385

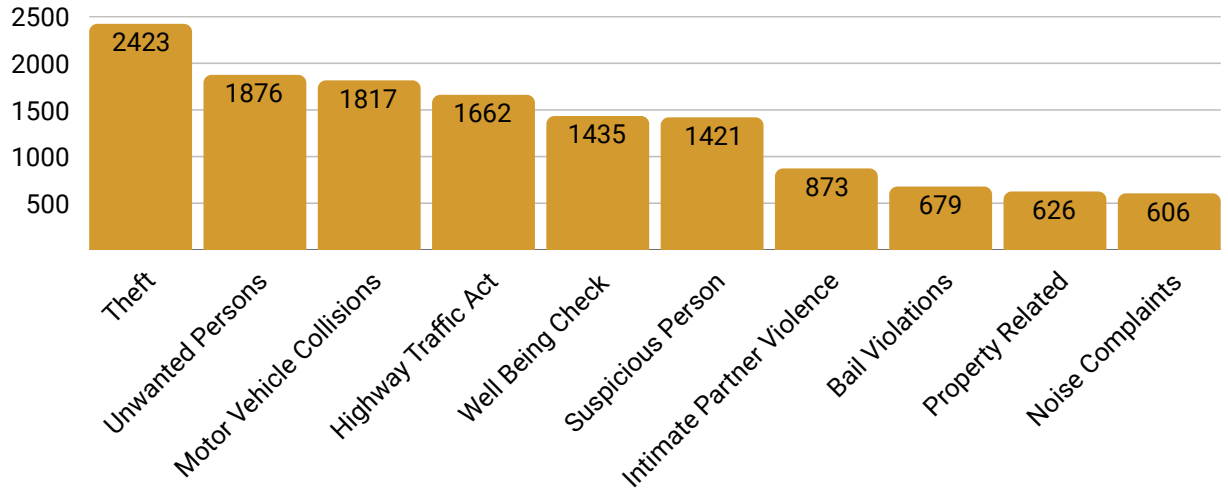
Public Appearances 84

Calls for Service - Sault Ste. Marie

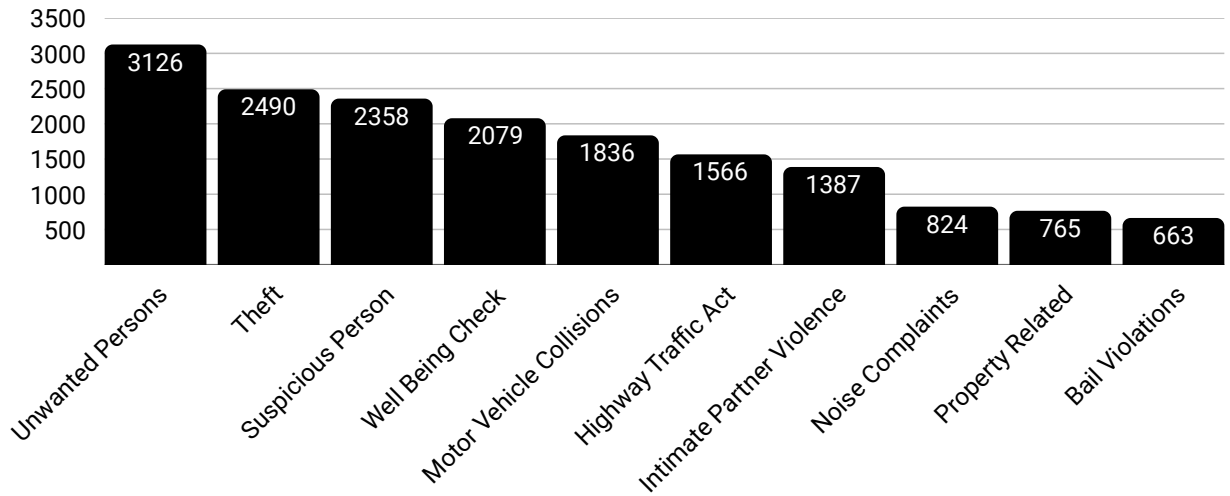
Total Calls for Service
↑ 4.1%

The below numbers represent our Top 10 calls for service in Sault Ste. Marie where the violation (criminal or non-criminal) is the most serious in a single occurrence.

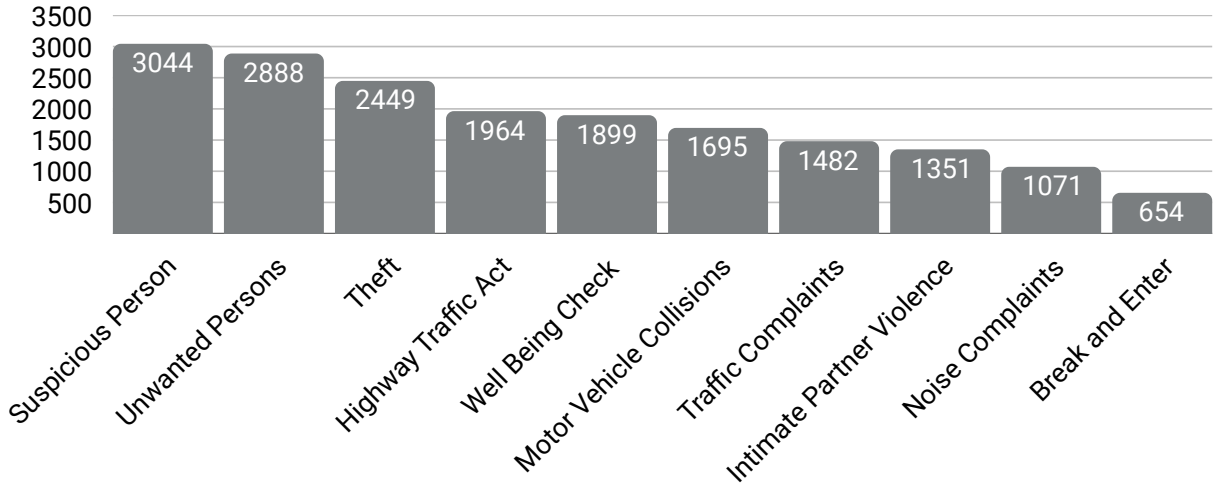
Top 10 Calls for Service (SSM) - 2024



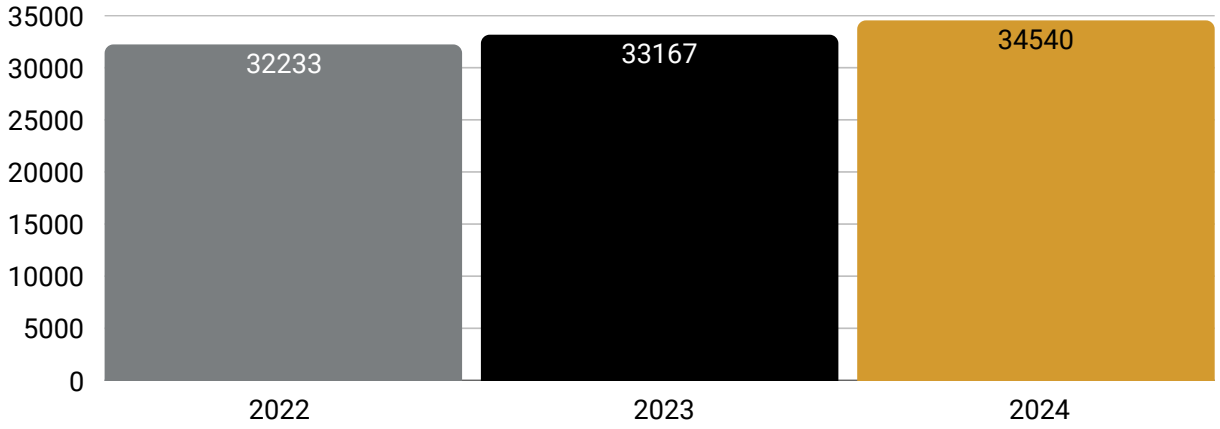
Top 10 Calls for Service (SSM) - 2023



Top 10 Calls for Service (SSM) - 2022



Total Incidents



Includes: Calls for Service, Proactive Initiatives, and Administrative Occurrences

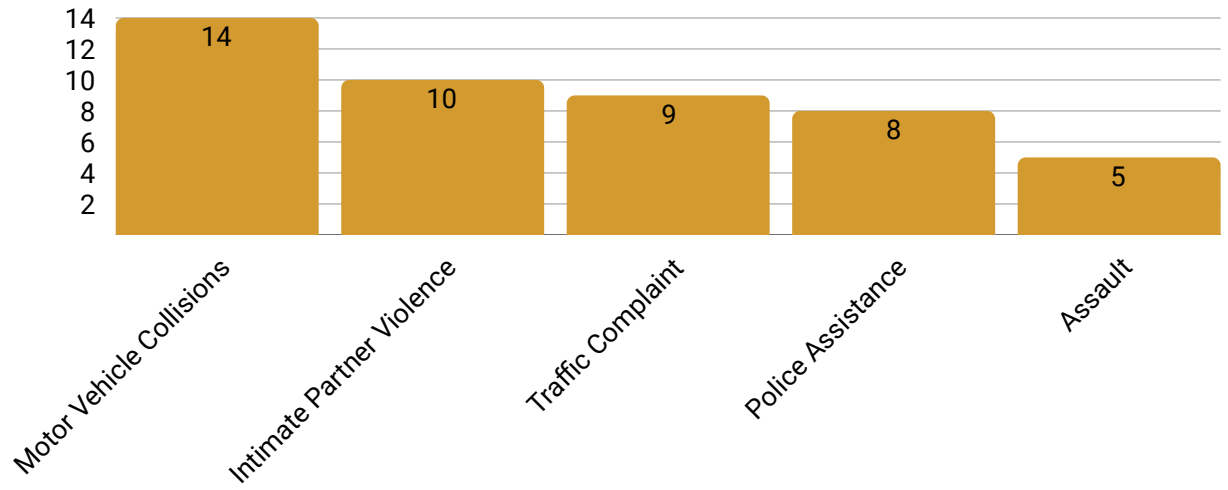


Calls for Service - Prince Township

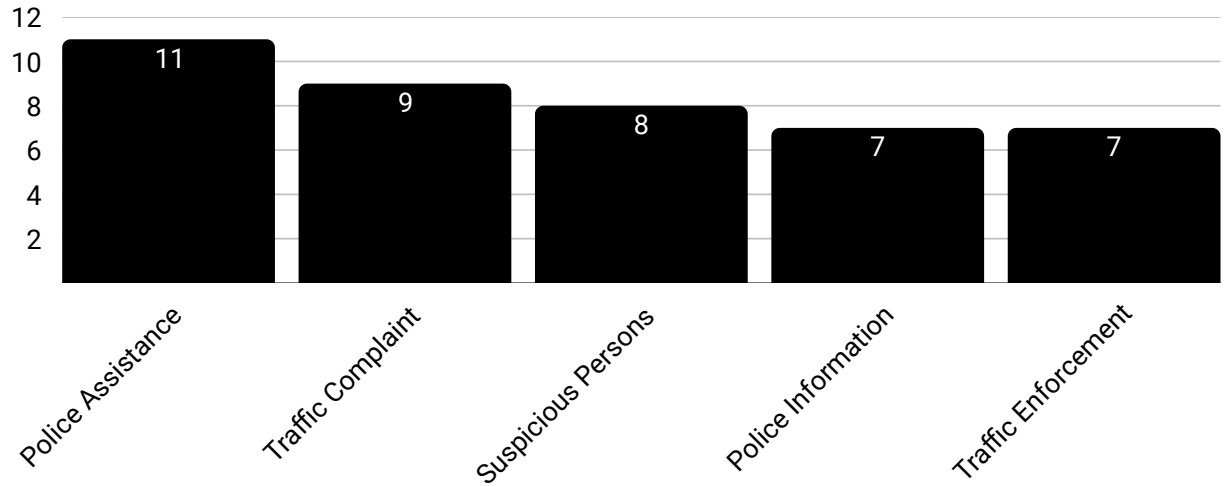
Total Calls for Service
↓ 5%

The below numbers represent our Top 5 calls for service in Prince Township where the violation (criminal or non-criminal) is the most serious in a single occurrence.

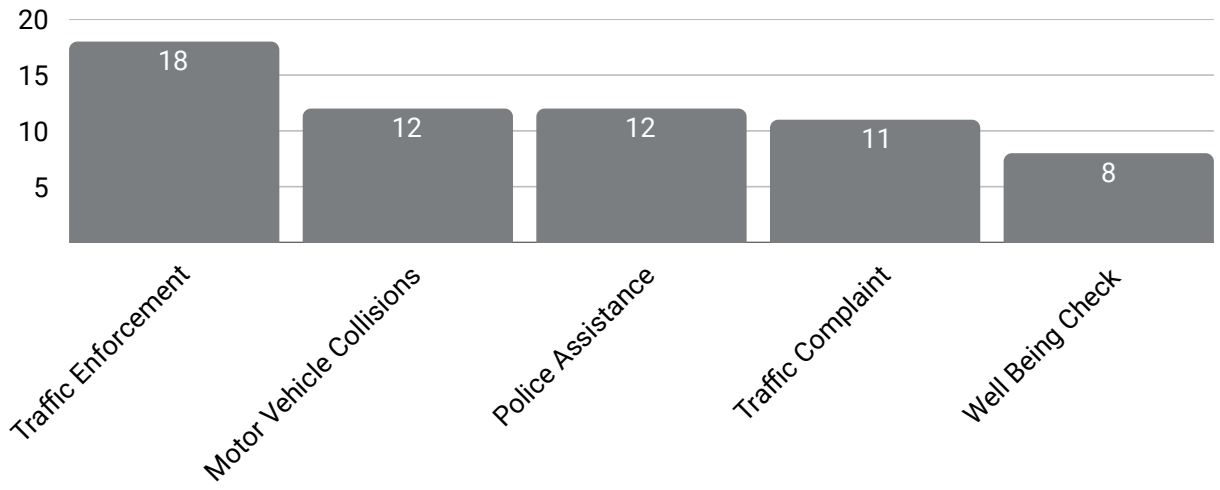
Top 5 Calls for Service (Prince) - 2024



Top 5 Calls for Service (Prince) - 2023



Top 5 Calls for Service (Prince) - 2022



Total Incidents



Includes: Calls for Service, Proactive Initiatives, and Administrative Occurrences



Online Reports

Reports Submitted Online
1,619

A variety of reports—such as bicycle registrations, lost property, mischief, sexual assaults, shoplifting, and more—can now be conveniently submitted online. This streamlined process enables frontline officers to focus their time and resources on higher-priority calls, improving response times and enhancing public safety.

Total Online Reports



Top 5 Reports Submitted Online

2022		2023		2024	
Theft	483	Shoplift	857	Shoplift	988
Shoplift*	319	Theft	288	Theft	238
Bicycle Registration	66	Police Information**	119	Bail Violations	56
Bail Violations	42	Bail Violations	71	Mischief	53
Mischief	31	Mischief	57	Breach of Probation	37

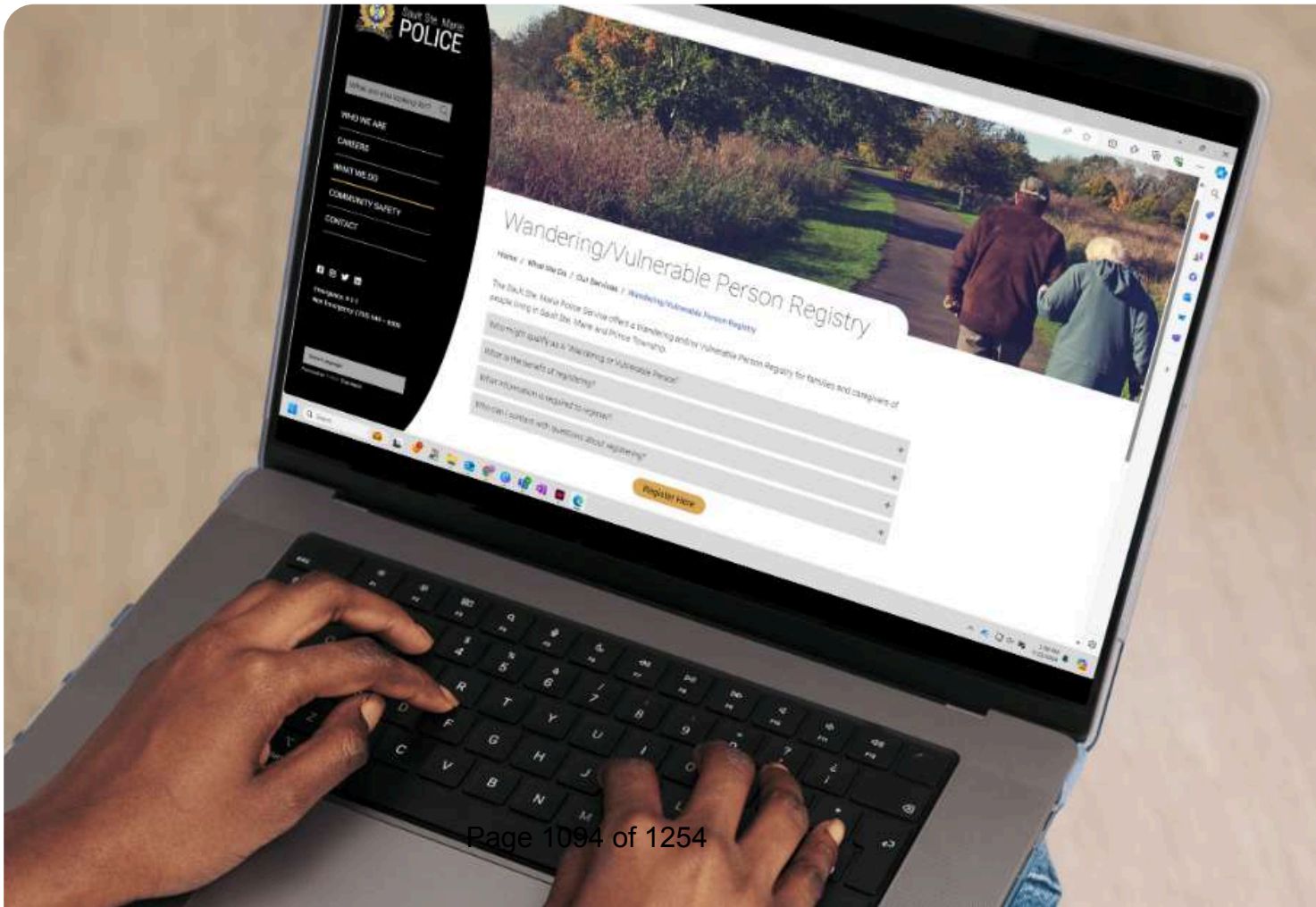
*Portions may be contained in Theft

**Police Information reports include the Security Camera Registry and Bicycle Registry

Online Registries

In 2024, the Sault Ste. Marie Police Service continued its commitment to community safety through accessible and proactive online registry programs.

Bicycle Registry	Security Camera Registry	Wandering/Vulnerable Person Registry
52 New Registrations	**22** New Registrations	**33** New Registrations
Registering a bicycle can help the SSMPS return it to its rightful owner if it becomes lost or stolen and is recovered by police.	Registering a residential/business security camera can help the SSMPS to quickly and effectively direct resources when investigating nearby incidents.	Registering a wandering and/or vulnerable can aid in a more safe and efficient police response for those at risk of going missing.



Crimes of Violence

Total Crimes of Violence
↑ 13.9%

	2022	2023	2024
Abduction	2	0	0
Assault	750	735	851
Attempt Murder	2	6	3
Homicide	3	7	1
Intimate Partner Violence*	1351	1387	1524
Offensive Weapons**	55	47	54
Robbery	66	85	85
Sexual Assault	122	85	105

*Portions may be contained in other violent offences

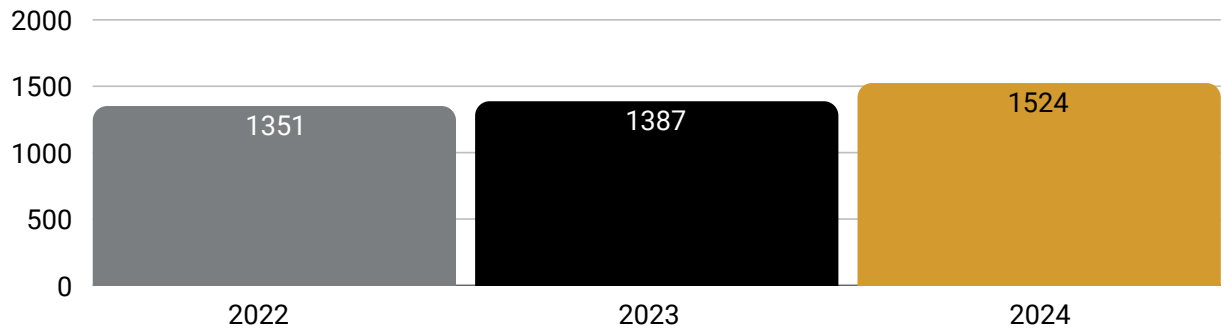
**Represents incidents where improper care, use, storage, and/or illegal possession of a weapon is the most serious violation. Offensive weapons include any object used or intended to be used to inflict harm, intimidate, or commit an offence. This includes, but is not limited to: firearms, knives, brass knuckles, mace, and objects designed to look like a weapon.



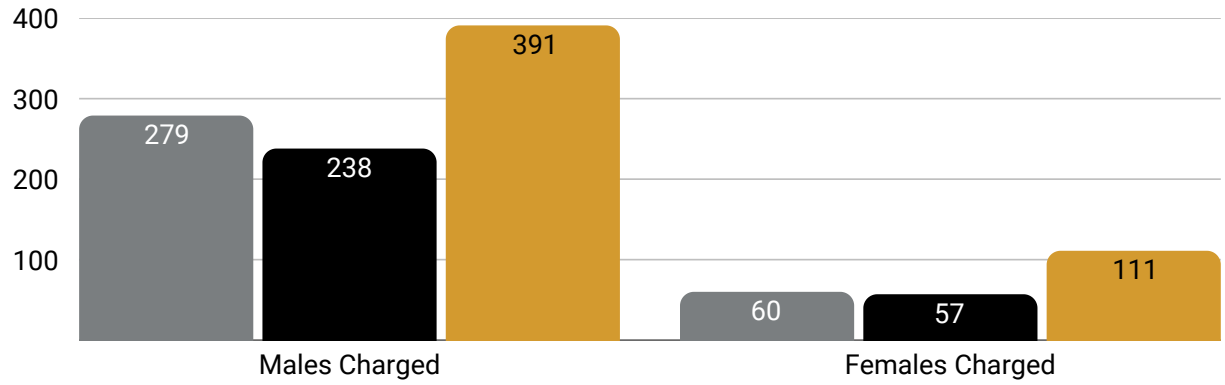
Intimate Partner Violence (IPV)

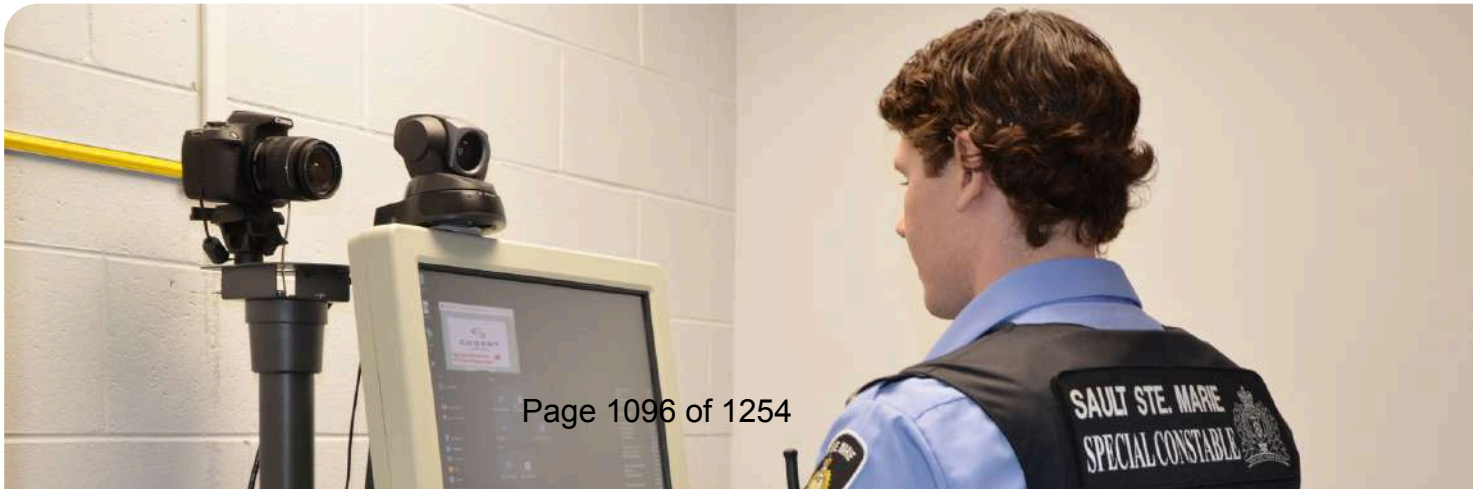
Total IPV Occurrences
↑ 9.9%

Total Occurrences



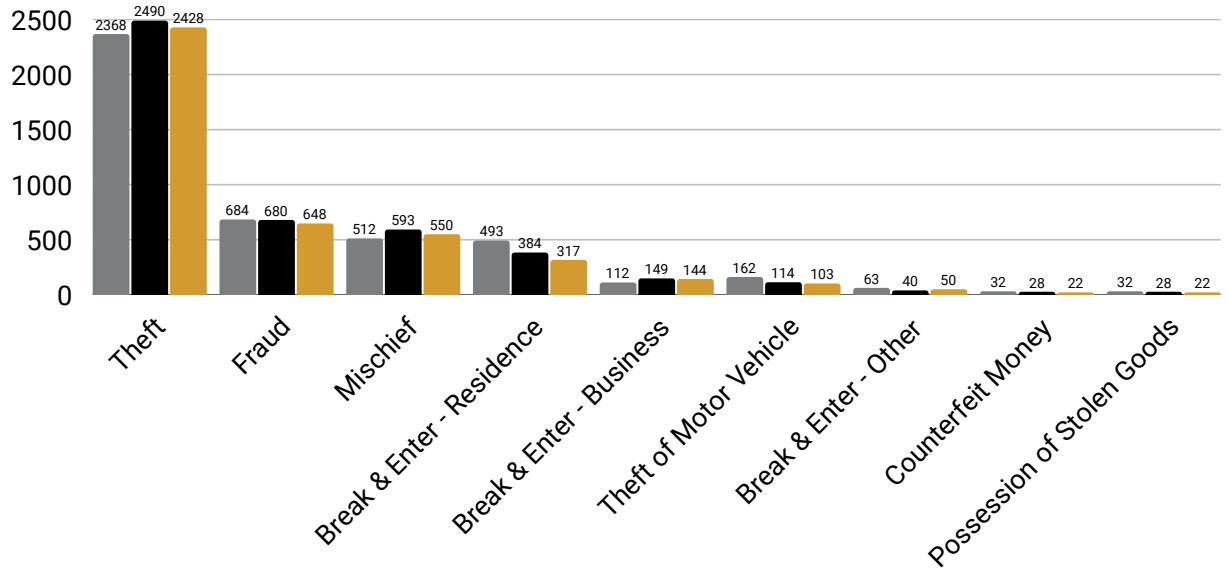
Individuals Charged





Crimes of Property

Total Crimes of Property
↓ 3.4%



Break & Enter and Theft of Motor Vehicle occurrence totals contain attempts.

Excluded from this chart are “Gaming/Betting” and “Other CCC”, which can be found in 2024 Year End Statistics.



Fraud & Elder Abuse Unit

Fraud Occurrences
648

The Fraud Unit of the Sault Ste. Marie Police Service investigates all fraud-related complaints received by the Service.

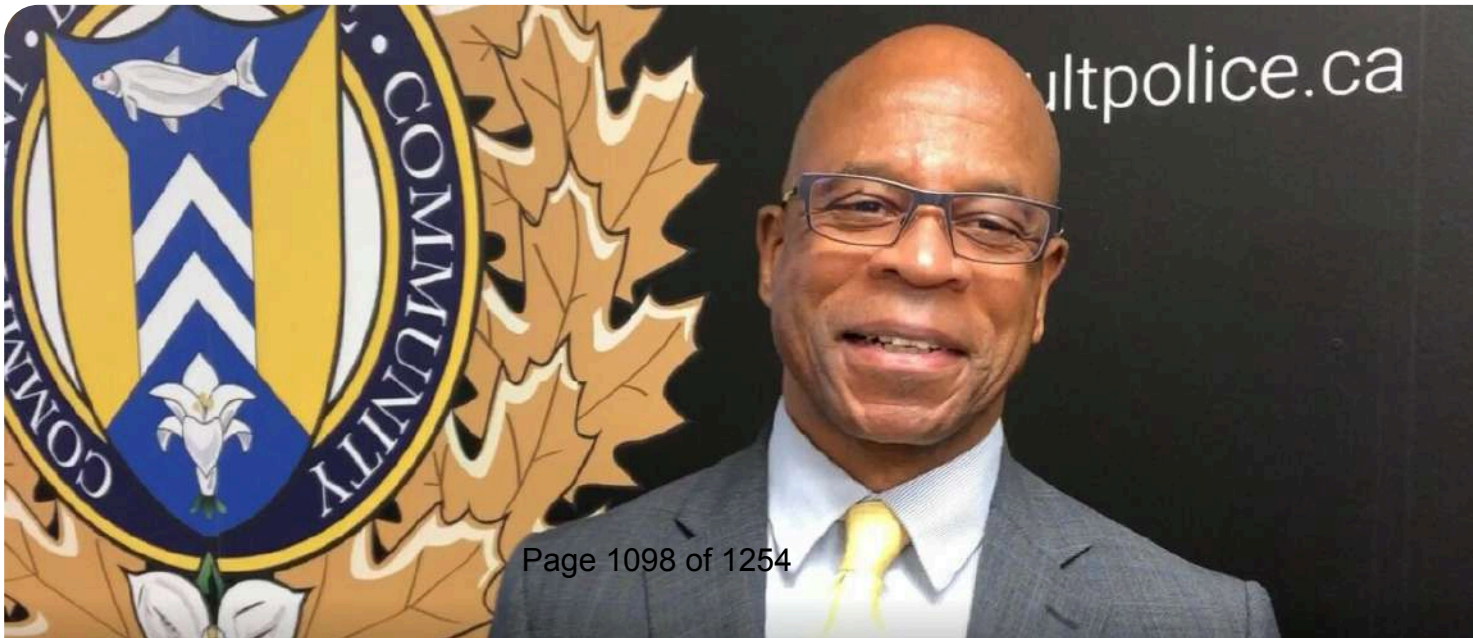
The detective in this unit works closely with banks, credit card companies, and other financial institutions to identify and pursue individuals involved in financial crimes. The unit also specializes in investigations of financial crimes targeting seniors, complaints related to nursing homes and senior care facilities, and offences involving Powers of Attorney.

Alongside its investigative work, the unit focuses on prevention by delivering presentations and educational outreach, often to at-risk seniors.

Significant Investigations

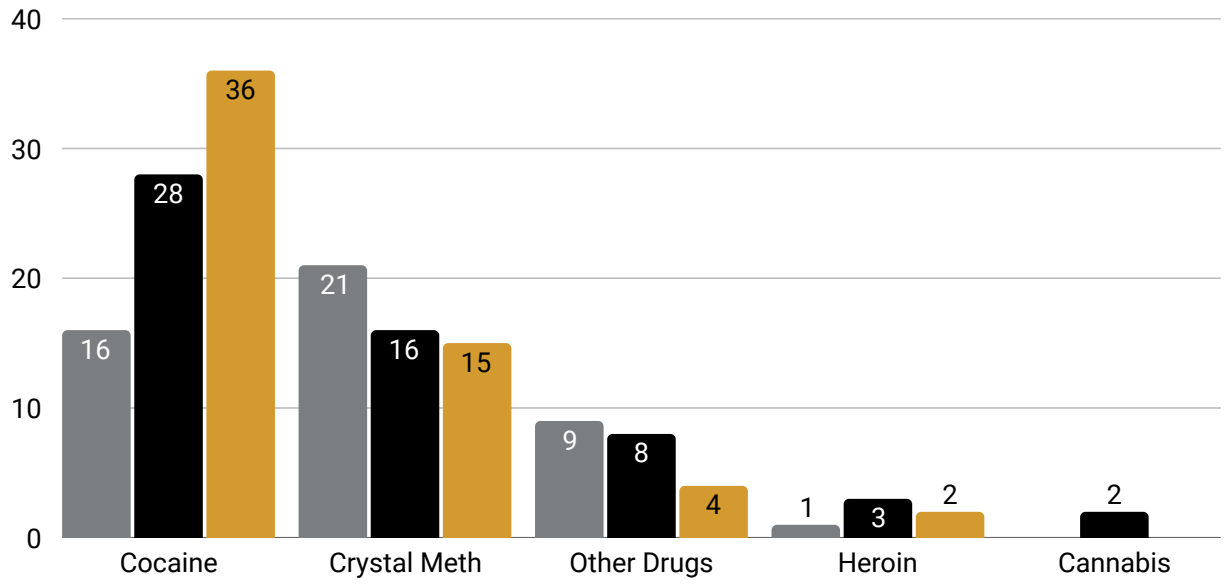
In 2024, the Fraud Unit conducted several major investigations related to fraud in our community. The unit made many arrests throughout the year, with the most notable below:

- On February 5, 2024, the Fraud Unit charged a local 54-year-old with fraud over $5,000, theft by person holding power of attorney, and fraudulently using a credit card after an investigation revealed they had defrauded a victim of approximately $362,283
- On August 26, 2024, the Fraud Unit charged a local 52-year-old with fraud over $5,000 after an investigation revealed they had made approximately $30,000 in fraudulent credit card transactions on a card belonging to their employer
- On December 10, 2024, the Fraud Unit charged a local 50-year-old with fraud over $5,000 after an investigation revealed they had defrauded their employer of approximately $559,701



Drug Crimes

Value of Drugs Seized	Trafficking Charges Laid
$880,367	102





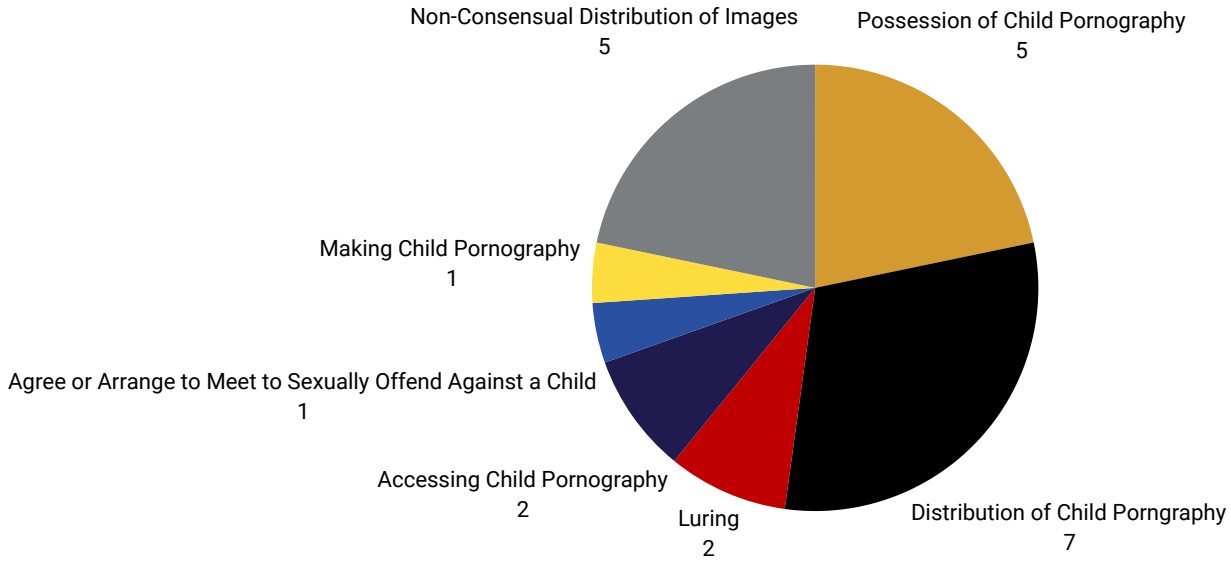
Technological Crime Unit (TCU)

Investigations	Devices Examined
124	237

The TCU is a proud member of the Ontario Provincial Strategy to Protect Children from Sexual Abuse and Exploitation on the Internet, which consists of 27 partnering municipal agencies working collaboratively to rescue victims and combat child exploitation. This strategy has been made possible by a grant from the Ministry of Community Safety and Correctional Services.

In 2024, the TCU was involved with 124 investigations. Of these investigations, 29 were related to internet child exploitation.

As a result of these investigations, 23 charges related to internet child exploitation were laid against nine people. These charges are broken down below:



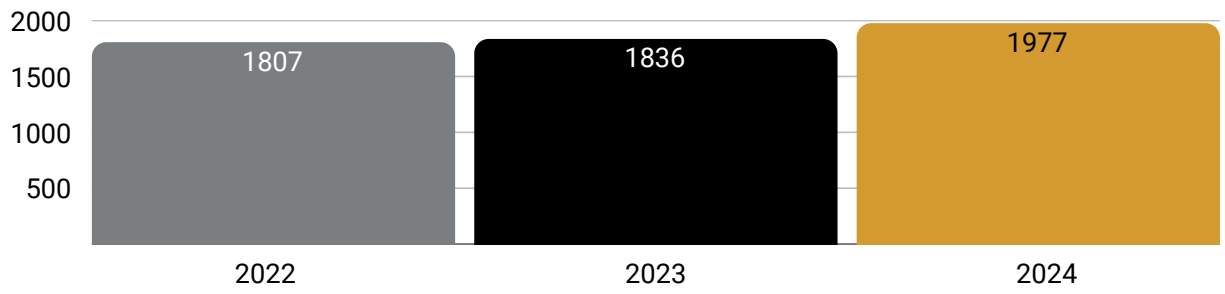
Two members of the TCU received specialized training in conducting proactive undercover investigations online, resulting in some of the charges listed above.

The TCU also located approximately eight children/youth who were self-exploiting via the internet. They, along with their parents, were educated on the risks of sharing intimate images online and support services were offered.

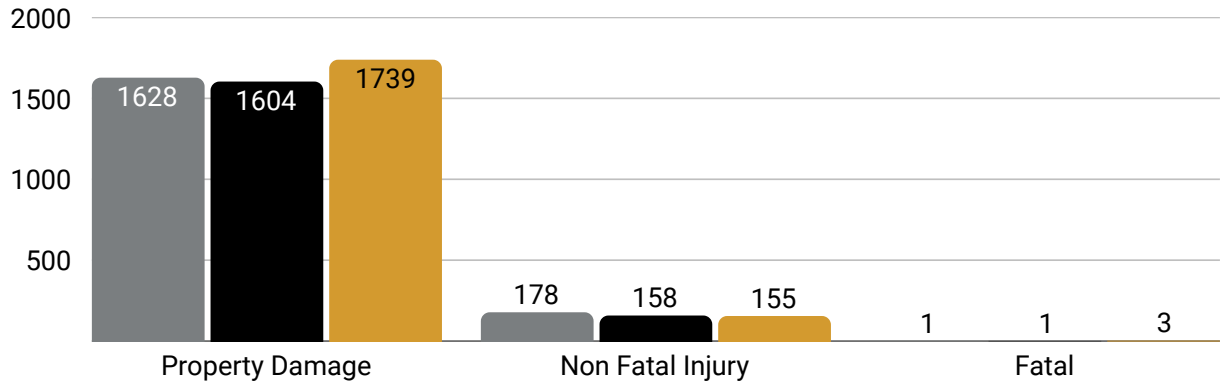
In 2024, the TCU partnered with the Ontario Provincial Police, London Police Service, Timmins Police Service, and Greater Manchester Police.

Motor Vehicle Collisions (MVC)

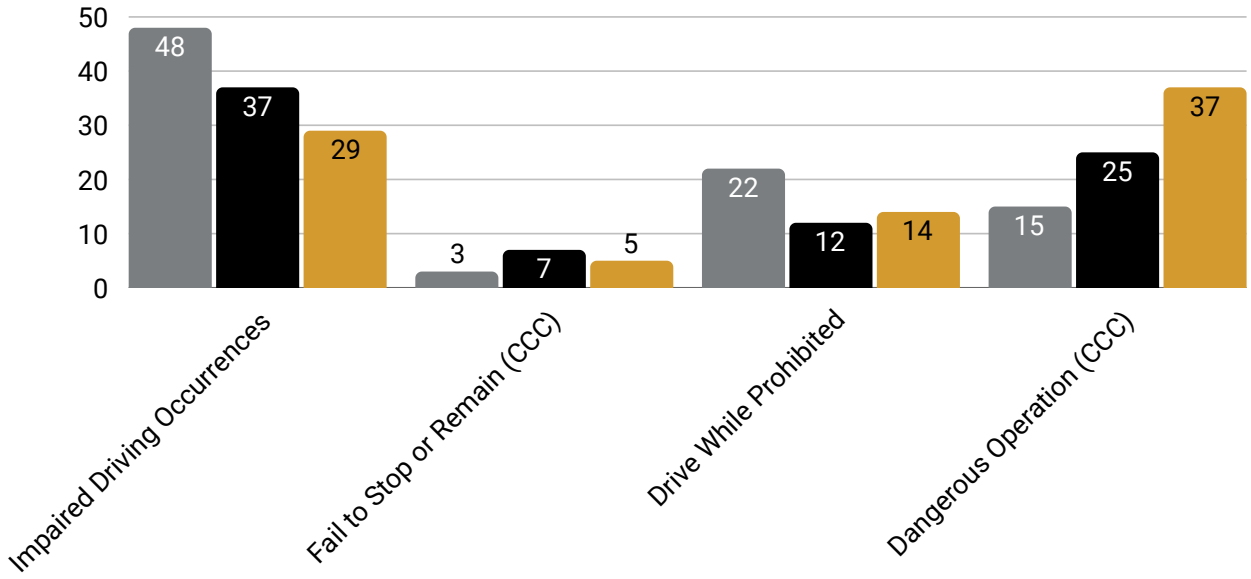
Total MVC Occurrences



MVC Results



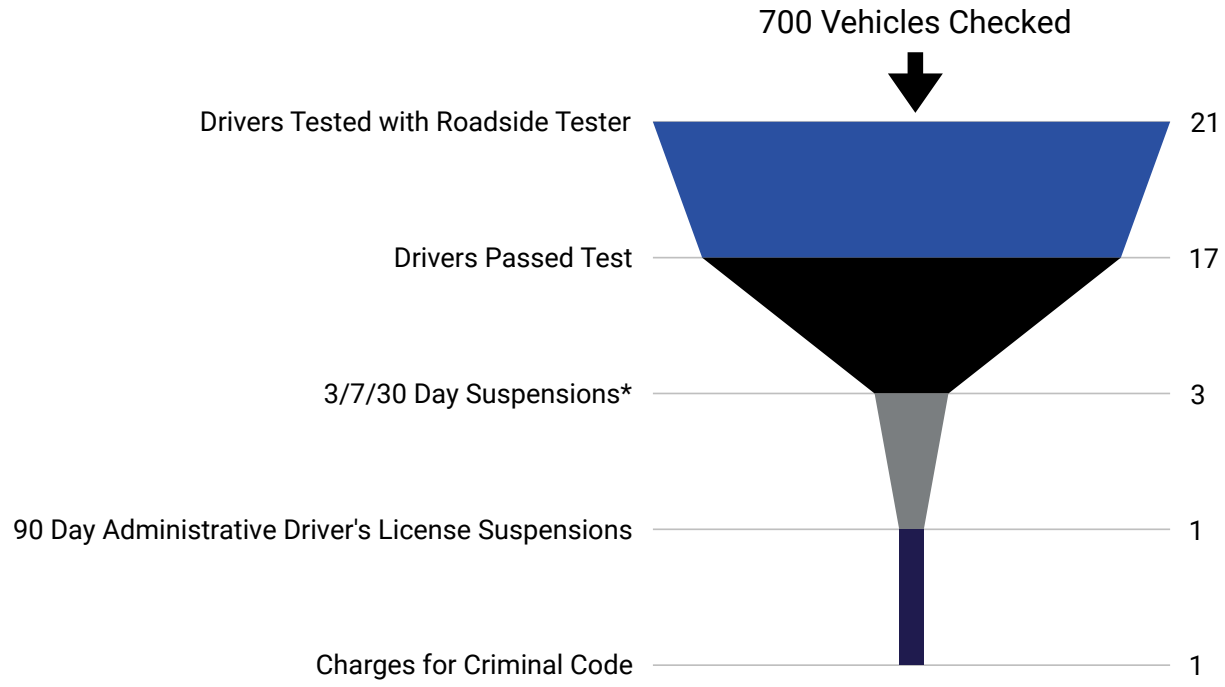
Driving Offences



RIDE Program

	2022	2023	2024
Vehicles Checked	4,888	2,044	700
Drivers Tested with Roadside Tester	1	22	21
Drivers Passed Test	1	20	17
3/7/30 Day Suspensions*	0	2	3
90 Day ADLS (Administrative Driver's License Suspe	0	0	1
Charges for Criminal Code	0	1	1

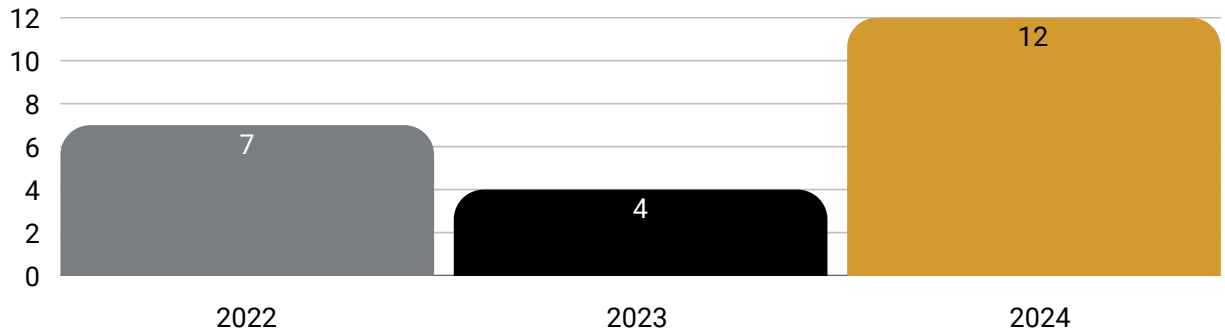
2024 RIDE Results



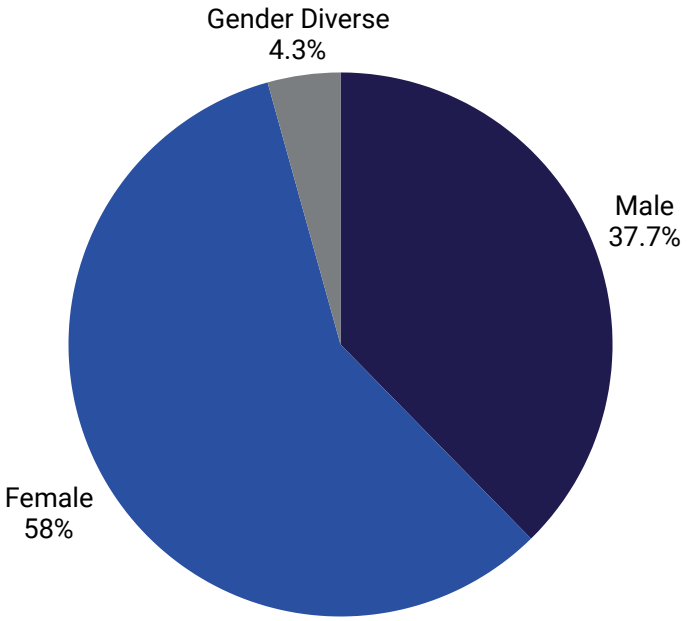


YCJA Involvement

Total Youth Diverted

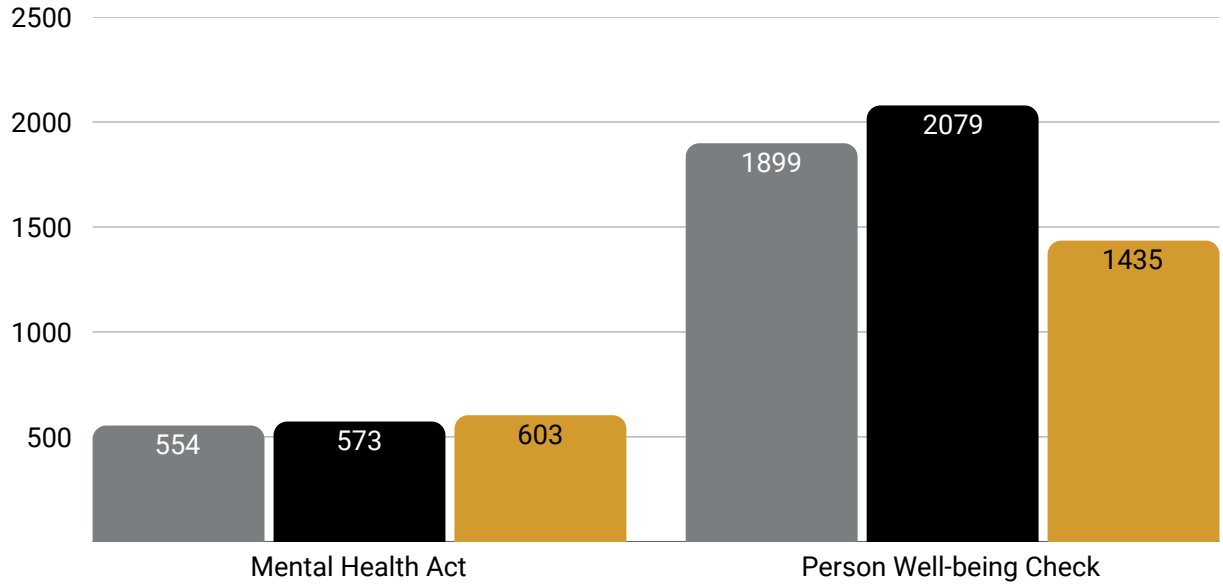


2024 Involvement by Gender





Mental Health Occurrences



Integrated Municipal Enforcement Team (IMET)

In 2020, Sault Police along with Sault Fire Services, City of Sault Ste. Marie Building and By-Law, the housing commission and other partners formed the Integrated Municipal Enforcement Team (IMET).

This enforcement-oriented team brings together all agencies with enforcement mandates, with the support of other partner agencies, to develop action plans in order to address a variety of community issues and concerns.

One of the duties of IMET is to locate neglected properties and buildings in disrepair that are unsafe for tenants and community members.

Community Safety Officers play a vital role with IMET and in educating community members of crime prevention methods.

IMET Calls for Service
79

Crime Stoppers

The Sault Ste. Marie Police Service is proud to partner with Crime Stoppers of Sault Ste. Marie and Algoma.

Crime Stoppers encourages members of the community to assist local law enforcement agencies in the fight against crime by overcoming the two key elements that inhibit community involvement: fear and apathy.

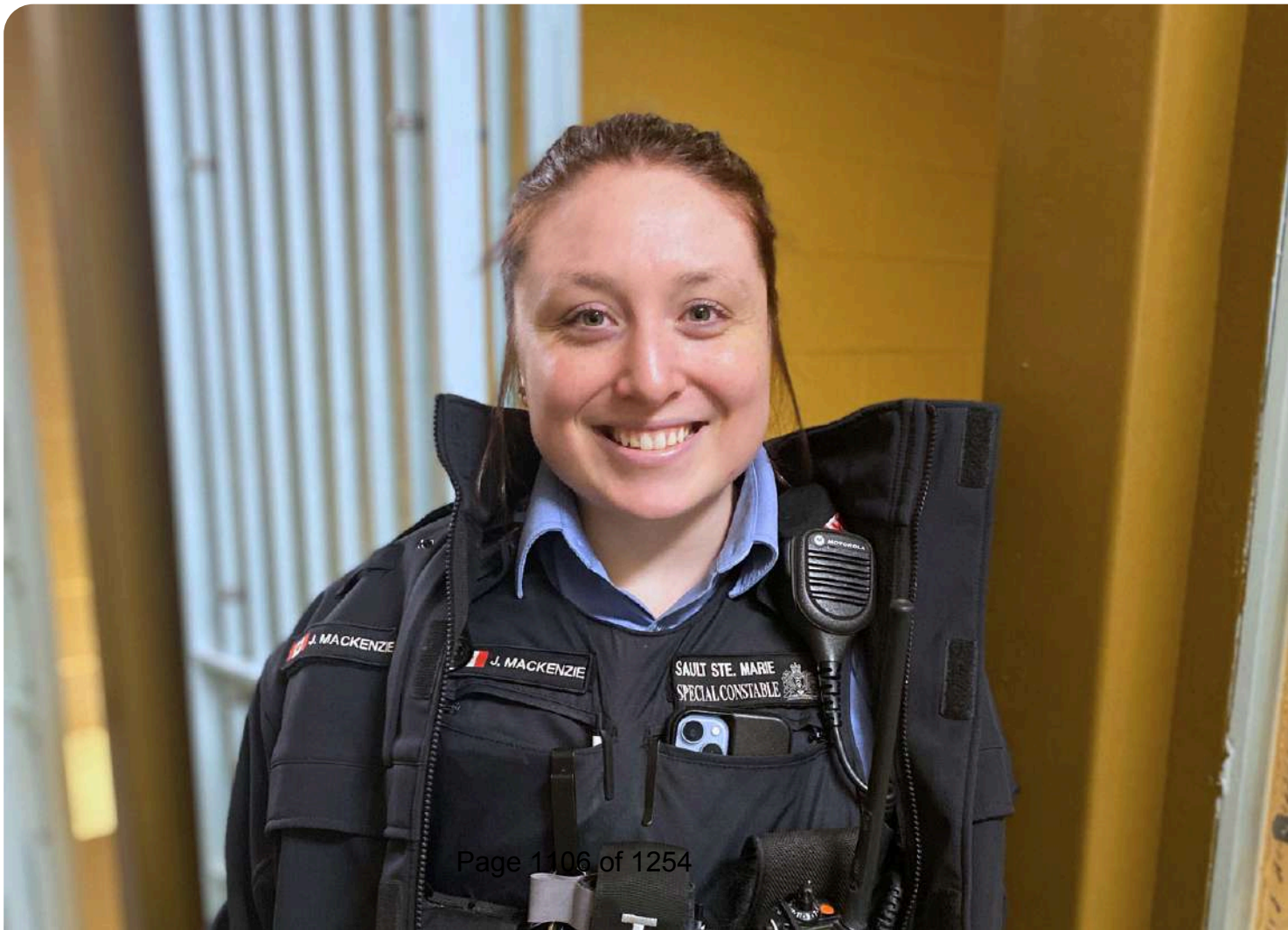
Crime Stoppers provides an anonymous telephone line (705-942-7867 or 1-800-222-8477) and anonymous online reporting system (www.p3tips.com) to encourage citizens in the community to provide vital information on criminal activity. Crime Stoppers processes the reports and disseminates them to the appropriate law enforcement agencies. Tipsters remain anonymous and are eligible to receive a cash reward if the information provided leads to an arrest or successful conclusion.

	2022	2023	2024
Arrests	9	6	2
Cases Cleared	8	5	4
Charges Laid	20	11	4
Property Recovered	$1,000	$300	$800
Drugs Seized	$0	$7,000	$0
Tipster Calls	699	822	740



Provincial Offences Act

Provincial Offence Notices Issued	2022	2023	2024
Highway Traffic Act	1783	2506	2026
Trespass to Property Act	139	170	152
Liquor Licence and Control Act	43	80	42
Compulsory Automobile Insurance Act	270	535	417
By-Law	13	14	19
Motorized Snow Vehicle Act	3	0	0
Off Road Vehicle Act	4	0	1
Total	**2255**	**3305**	**2657**



Community Engagement

Public Appearances
84

The Sault Ste. Marie Police Service prioritizes meaningful community engagement by proactively conducting outreach and accepting invitations to participate in events. These efforts aim to build and strengthen relationships, educate community members on safety and crime prevention, and support recruitment initiatives.

In 2024, members from various areas of the service—including, but not limited to, the Fraud Unit, Technological Crime Unit, High School Liaison Officer, Uniform Recruitment, and the Central Support Bureau—made at least 84 public appearances.

Many of these appearances were educational presentations for students, community groups, or general members of the public about topics like career opportunities in policing, online safety, fraud/scam awareness and prevention, and crime prevention through environmental design (CPTED). Officers also attended and participated in community events such as the Emergency Preparedness Showcase, Touch-a-Truck, Sault Area Hospital Family Fun Day, T.A.P.S. baseball game, Social Services Awareness Day, and many more!



Bicycle and Foot Patrol

The Bicycle Patrol Unit, comprised of Constables and Special Constables, is a highly visible and approachable presence in the community during the warmer months. This unit, as well as officers working foot patrol, respond to calls for service and engage with community members with initiatives such as positive ticketing.



Day Shifts
69

Emergency Services Unit

The Emergency Services Unit (ESU), which is comprised of a sergeant and 12 constables, has specialized training to handle situations which involve an increased level of violence or risk of violence.

Calls
61





Canine Unit

In 2024, the Canine Unit was comprised of two handlers and four canines (three Police Service Dogs and one Search and Rescue/Human Remains Detection Canine). The Canine Unit is highly trained in suspect apprehension, evidence detection, and locating missing people.

Calls
178

Rest in Peace, PSD Justice

In December of 2024, Police Service Dog (PSD) Justice passed away at the age of 13 years old. Justice was a loyal teammate to and protector who served our community with courage and dedication since July of 2012.

The Sault Ste. Marie Police Service thanks Justice for his service and send our condolences to his partner, Cst. Dan Turco, who remains a canine handler with his partners PSD Hektor and SAR/HRD canine Red.

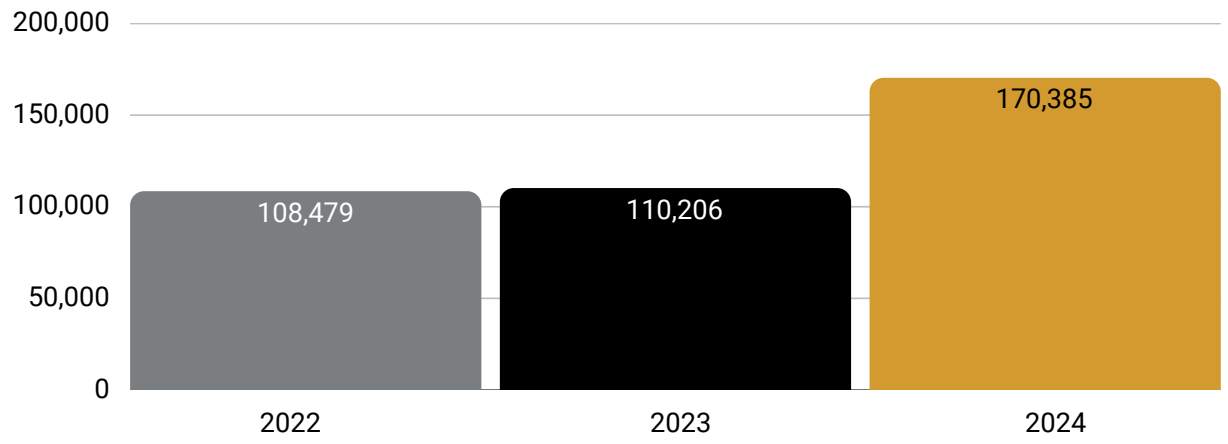






Website & Social Media

Website Visits



Facebook

New Followers	Reach	Content Interactions
4,025	1,088,125	161,963

Facebook is the SSMPS's most effective social media platform for engaging with the community.

The SSMPS's top social media post by reach—the number of unique users who saw a post—is a video posted on October 1, 2024, in which police officers answer the question: "Why do police officers like donuts?"

In 2024, this video reached 91,820 people on Facebook alone! It received 1,199 reactions and 81 shares.



Instagram

In 2024, the SSMPS's Instagram gained 526 new followers, reached 116,885 users, and had 8,016 content interactions.

LinkedIn

In 2024, the SSMPS's LinkedIn account gained 877 new followers.

Budget

	2022	2023	2024
Operating Budget	$30,753,473.00	$31,862,767.00	$35,558,502.00
Capital Budget	$1,247,810.00	$1,404,070.00	$1,598,570.00
Total Budget	**$32,001,283.00**	**$33,266,837.00**	**$37,157,072.00**

Total Grant Funding

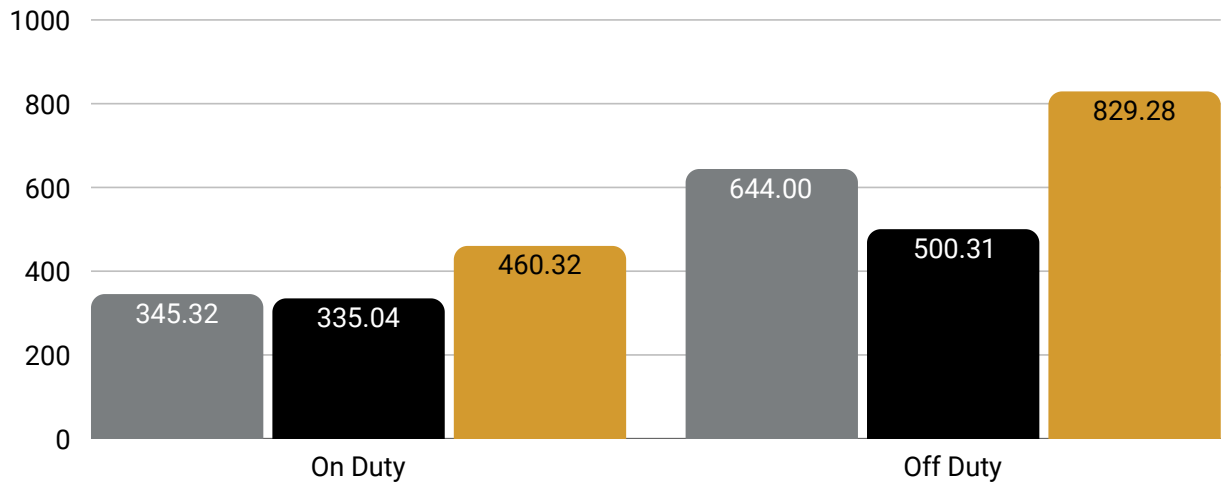
$2,830,507.61



Authorized Members

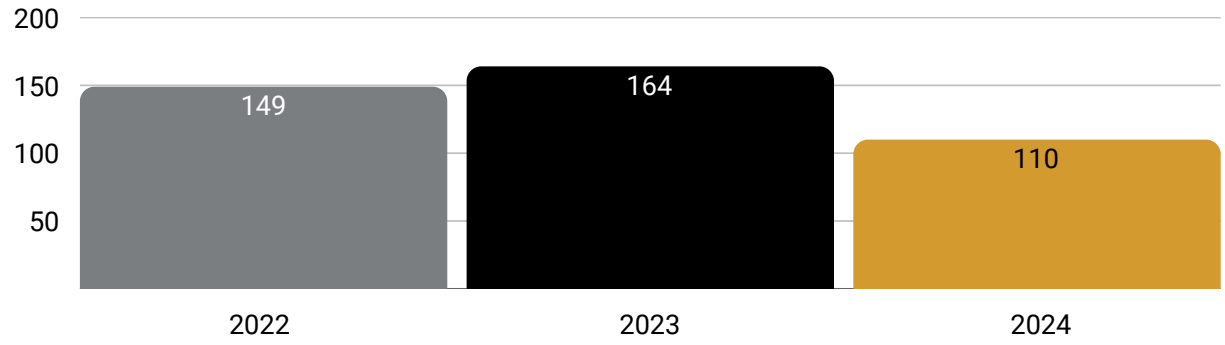
	2022	2023	2024
Full-Time Authorized Officers	142	146	156
Full-Time Authorized Civilians	50	64	58
Total Authorized Members	**192**	**210**	**214**

Court Hours





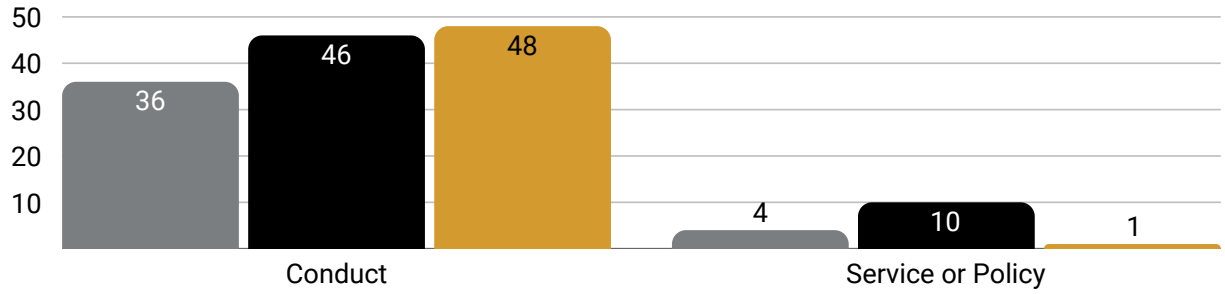
Use of Force Reports



The total number of Use of Force Reports does not equal the total number of occurrences where force was used.



Public Complaints



Results of Public Complaints

	2022	2023	2024
Not Directly Affected; Over Six Months;	-	3	4
Frivolous/Vexatious	6	1	1
NFA (No Further Action)	21	26	3
Informal Discipline	1	0	0
Informal Resolution	1	3	2
Not Dealt with under Section 59 P.S.A.^	0	0	-
Withdrawn	2	1	1
Hearing	0	0	0
Pending	1	1	1
Not in the Public Interest*	-	-	31
Unsubstantiated/Insufficient Evidence*	-	-	7

*New categories

^No longer a category

Online Compliments

Online Compliments
42

Members of the public can submit compliments and/or messages of thanks on the SSMPS website about positive interactions with members of the service. Submissions are circulated internally to recognize members for their outstanding work in the community. Some examples of compliments received in 2024 are included below:

I am the SAH SACC nurse who attended the police station with a patient who required some extra emotional support for a IPV related matter. Officer Tassone was very kind and compassionate. He has an incredible way of communicating with people using a trauma informed lens. I'm so thankful he was the person to speak to my patient as his kind and caring nature was exactly what she needed.

I was charged with impaired charges and Cst. Morin provided the breathalyzer. She was very neutral and kind. She explained each step by detail and I felt safe with the instructions. It was an opportunity for me to stay calm and focus on the present, even though it was a short time in her surroundings. I want thank her for not showing judgement and kept very professional.

I truly appreciate my most recent interaction with Constable Creedon and the rest of the members that assisted me when I reached out. Constable Creedon is very knowledgeable and provided me with very useful information regarding my situation. He was also respectful and very reassuring to someone like me who has never dealt with situations like these before. I am also appreciative and thankful that domestic situations are taken very seriously as they should be. The Sault police is doing an amazing job and thank you for all you do.



Promotions



Inspector

Year	Members Promoted
2022	0
2023	2
2024	1



Staff Sergeant

Year	Members Promoted
2022	0
2023	3
2024	2



Sergeant

Year	Members Promoted
2022	0
2023	3
2024	2



Awards



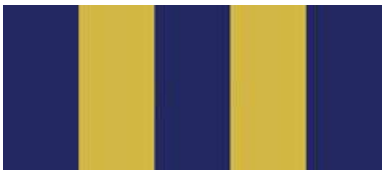
40 Year Bar

Year	Members Awarded
2022	0
2023	1
2024	0



30 Year Bar

Year	Members Awarded
2022	3
2023	0
2024	1



20 Year Bar

Year	Members Awarded
2022	7
2023	8
2024	4



25 Years Civilian

Year	Members Awarded
2022	0
2023	1
2024	1



25 Years City Service

Year	Members Awarded
2022	2
2023	6
2024	7



Civilian Awards

Year	Members Awarded
2022	0
2023	2
2024	2



Year End Statistics

	2022	2023	2024	% Change from Previous Year
Crimes of Violence				
Assault	750	735	851	15.8%
Sexual Assault	122	85	105	23.5%
Abduction	2	0	0	0.0%
Homicide	3	7	1	-85.7%
Attempt Murder	2	6	3	-50.0%
Robbery	66	85	85	0.0%
Prostitution	2	0	0	0.0%
Offensive Weapons	55	47	54	14.9%
Total Crimes of Violence	**1002**	**965**	**1099**	**13.9%**



	2022	2023	2024	% Change from Previous Year
Crimes of Property				
Break & Enter Total	668	573	511	-10.8%
~ Business	112	149	144	-3.4%
~ Residence	493	384	317	-17.4%
~ Other	63	40	50	25.0%
Attempt Break & Enter*	76	45	37	-17.8%
Theft of Motor Vehicle	162	114	103	-9.6%
Attempt Theft of Motor Vehicle*	9	2	1	-50.0%
Theft	2368	2490	2428	-2.5%
Mischief	512	593	550	-7.3%
Have Stolen Goods	32	28	22	-21.4%
Fraud	684	680	648	-4.7%
Gaming/Betting	0	0	0	0.0%
Other CCC	656	755	792	4.9%
Total Crimes of Property	**5082**	**5233**	**5054**	**-3.4%**

*Totals included in primary classification



	2022	2023	2024	% Change from Previous Year
Drug Crimes				
Heroin	1	3	2	-33.3%
Cocaine	16	28	36	28.6%
Other Drugs	9	8	4	-50.0%
Cannabis	0	2	0	-100.0%
Crystal Meth	21	16	15	-6.3%
Ecstasy	0	0	0	0.0%
Total Drug Crimes	**47**	**57**	**57**	**0.0%**

	2022	2023	2024	% Change from Previous Year
Total Crimes*	**6131**	**6255**	**6210**	**-0.7%**

*Intimate Partner Violence, Mental Health Act and Motor Vehicle Collisions not included in Total Crimes

The below numbers represent any occurrence where these non-criminal classifications have been captured. These classifications may not be the most serious violation on the occurrence, therefore, these may be included under one of the above criminal violations in our crime statistics.

	2022	2023	2024	% Change from Previous Year
Intimate Partner Violence	1351	1387	1524	9.9%













Sault Ste. Marie
POLICE

580 Second Line East
Sault Ste. Marie, ON
P6B 4K1

Phone: (705) 949-6300
TTY: (705) 759-7349
www.saultpolice.ca

CORPORATION OF THE CITY OF SAULT STE. MARIE

BY-LAW 2025-110

TRAFFIC: A by-law to amend "Definitions and Interpretation", Schedule "A" and add Schedule "VV" to Traffic By-law 77-200.

THE COUNCIL of The Corporation of the City of Sault Ste. Marie, pursuant to the provisions of section 10 of *The Municipal Act, 2001*, S.O. 2001, c. 25 and amendments thereto, **ENACTS** as follows:

1. DEFINITION AND INTERPRETATION TO BY-LAW 77-200 AMENDED

Definitions and Interpretation to By-law 77-200 is amended by adding the following to Part I (1. Definitions):

"Emergency and Authorized Vehicles means vehicles related to emergency services and vehicles authorized by police to park in that location."

Definitions and Interpretation to By-law 77-200 is amended by adding the following to Part II – PARKING REGULATIONS 6. PARKING PROIHIBITED IN SPECIFIED SIGNED PLACES SCHEDULE "A", "AA", "S", "V" AND "VV"

"6. (6) No person shall park a vehicle on any street at the side where an emergency and authorized vehicles only sign has been placed in accordance with Schedule "VV" of this by-law."

2. SCHEDULE "A" TO BY-LAW 77-200 AMENDED

Schedule "A" to By-law 77-200 is amended by removing the following:

"Street	Side	From	To	Prohibited Times or Day
Brock Street	east	Wellington Street	46m south of Wellington Street	any time"

Schedule "A" to By-law 77-200 is amended by adding the following:

"Street	Side	From	To	Prohibited Times or Day
Brock Street	east	Wellington Street	30m south of Wellington Street	any time"

3. SCHEDULE “VV” TO BY-LAW 77-200 AMENDED

Schedule “VV” to By-law 77-200 is amended by adding the following:

“Emergency and Authorized Vehicles Only

Street	Side	Location	To
Brock Street	east	30m south of Wellington Street East	45m south of Wellington Street East”

4. EFFECTIVE DATE

This by-law is effective from the date of its final passing.

PASSED in open Council this 14th day of July, 2025.

_____

MAYOR – MATTHEW SHOEMAKER

_____

CITY CLERK – RACHEL TYCZINSKI

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THE CORPORATION OF THE CITY OF SAULT STE. MARIE

BY-LAW 2025-111

AGREEMENT: A by-law to authorize the execution of the Amending Agreement between the City and 1848626 Ontario Inc. operating as Icebreakers Sports Bar and Grill (Jody Wilson) for the lease of space at the John Rhodes Community Centre to operate a restaurant/lounge.

THE COUNCIL of The Corporation of the City of Sault Ste. Marie, pursuant to section 9 of the *Municipal Act, 2001*, S.O. 2001, c. 25, **ENACTS** as follows:

1. **EXECUTION OF DOCUMENT**

The Mayor and City Clerk are hereby authorized for and in the name of the Corporation to execute and affix the seal of the Corporation to the Amending Agreement dated July 14, 2025 between the City and 1848626 Ontario Inc. operating as Icebreakers Sports Bar and Grill (Jody Wilson), a copy of which is attached as Schedule “A” hereto. This Amending Agreement is for the lease of space at the John Rhodes Community Centre to operate a restaurant/lounge.

2. **SCHEDULE "A"**

Schedule "A" forms part of this by-law.

3. **EFFECTIVE DATE**

This by-law takes effect on the day of its final passing.

PASSED in open Council this 14th day of July, 2025.

MAYOR – MATTHEW SHOEMAKER

CITY CLERK – RACHEL TYCZINSKI

lv\\citydata\LegalDept\Legal\Staff\COUNCIL\BY-LAWS\2025\2025-111 Icebreakers Sports Bar Amending Agreement.docx

Schedule "A"

AMENDING AGREEMENT

THIS AMENDING AGREEMENT made this 14th day of July, 2025.

B E T W E E N:

THE CORPORATION OF THE CITY OF SAULT STE. MARIE
(hereinafter referred to as the "City")

- and –

1848626 ONTARIO INC O/A ICEBREAKERS SPORTS BAR AND GRILL
(hereinafter referred to as "Tenant")

WHEREAS the City and the Tenant entered into an Agreement dated the 1st day of September 2018, as approved by City Council pursuant to By-law 2018-179;

AND WHEREAS the Tenant, formally known as Jody Wilson, carrying on business as Icebreakers Sports Bar and Grill is now registered as 1848626 Ontario Inc O/A Icebreakers Sports Bar and Grill.

AND WHEREAS Subsection 12 b) of the aforesaid Lease permits the Lease to be modified by written agreement signed by the parties hereto;

AND WHEREAS the parties hereto wish to make certain amendments to the Lease in accordance with the provisions set forth below;

NOW THEREFORE THIS AMENDING LEASE WITNESSETH that in consideration of the promises and agreements contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

1. Section 3 b) iv) is added below section 3) b) iii):

Grease trap storage and maintenance:

a. The Tenant shall be solely responsible, at the Tenant's sole expense, for the proper care, cleaning, maintenance, and repair of the grease traps and any piping for the Demised Area impacted by grease. Tenant, at Tenant's sole expense, shall cause such grease traps to be cleaned at least once every three (3) months and maintained so as to prevent the discharge of any grease into the waste system of the John Rhodes Community Centre. The Tenant shall be able to produce records supporting the proper care, cleaning and maintenance of the grease traps upon demand by the Landlord. The Tenant shall be responsible for all loss occurred by the Landlord, including but not limited to programming, because of improper maintenance of the grease traps by the Tenant.

2. Section 3 e), is added:

Tenant not to unreasonably withhold the meeting rooms:

a. Despite being include within the Demised Area, the Tenant shall not unreasonably without access to the Landlord or other facilitate users of the meeting room as depicted in Schedule A of this extension agreement.

3. Section 2 a) is removed and replaced with

Term:

a. The Landlord hereby demises and leases the Demised Area to the Tenant for a term of Five (5) years commencing October 1, 2025, and expiring October 31, 2030, on the terms and conditions set out in this lease.

b. Section 2 b) is removed.

4. All other terms and conditions as set out in the Agreement shall remain unchanged.

IN WITNESS WHEREOF, the Parties have executed this Amending Agreement effective as of the date written above.

THE CORPORATION OF THE CITY OF SAULT STE. MARIE

_____

MAYOR – MATTHEW SHOEMAKER

_____

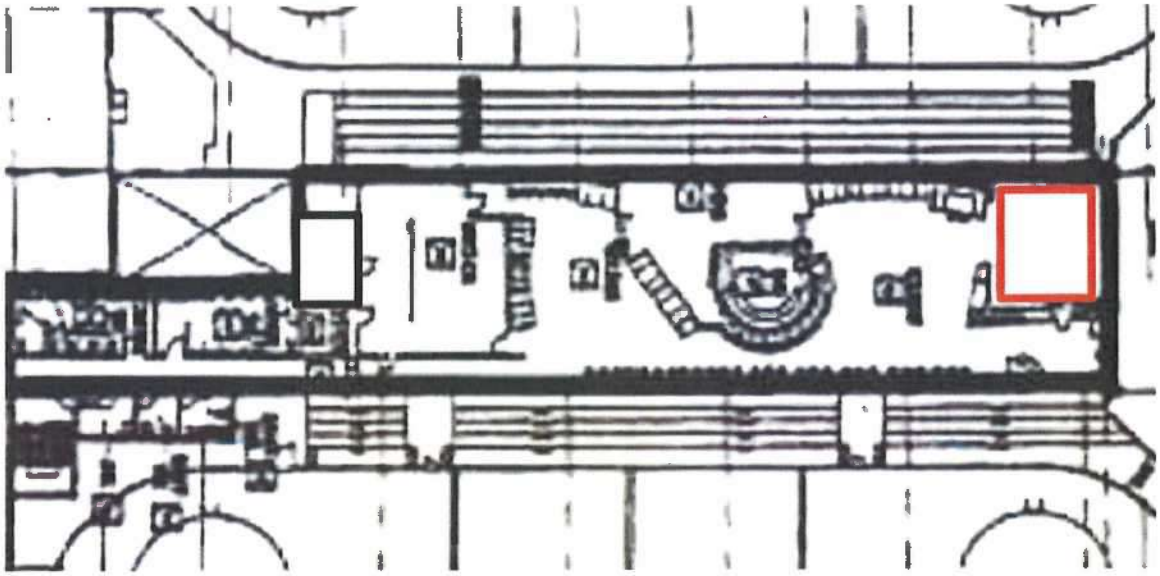
CITY CLERK – RACHEL TYCZINSKI

We have authority to bind the Corporation.

ICEBREAKERS SPORTS BAR & GRILL

JODY WILSON
O/A ICEBREAKERS SPORTS BAR & GRILL

Schedule A



THE CORPORATION OF THE CITY OF SAULT STE. MARIE

BY-LAW 2025-112

AGREEMENT: A by-law to authorize the execution of the Amending Agreement between the City and Jayteq Pro Shop (Jay Thomas), to add the operation of a hockey accessories vending machine within the John Rhodes Community Centre to the original Lease.

THE COUNCIL of The Corporation of the City of Sault Ste. Marie, pursuant to section 9 of the *Municipal Act, 2001*, S.O. 2001, c. 25, **ENACTS** as follows:

1. **EXECUTION OF DOCUMENT**

The Mayor and City Clerk are hereby authorized for and in the name of the Corporation to execute and affix the seal of the Corporation to the Amending Agreement dated July 14, 2025 between the City and Jayteq Pro Shop (Jay Thomas), a copy of which is attached as Schedule “A” hereto. This Amending Agreement is to add the operation of a hockey accessories vending machine within the John Rhodes Community Centre to the original Lease.

2. **SCHEDULE "A"**

Schedule "A" forms part of this by-law.

3. **EFFECTIVE DATE**

This by-law takes effect on the day of its final passing.

PASSED in open Council this 14th day of July, 2025.

MAYOR – MATTHEW SHOEMAKER

CITY CLERK – RACHEL TYCZINSKI

sd\\citydata\LegalDept\Legal\Staff\COUNCIL\BY-LAWS\2025\2025-112 Jayteq Pro Shop Accessories Vending Machine.docx

PRO SHOP LEASE AMENDMENT

THIS LEASE AMENDMENT made this 14th day of July, 2025.

BETWEEN: **THE CORPORATION OF THE CITY OF SAULT STE. MARIE**

hereinafter called the "Landlord"

-and-

JAYTEQ PRO SHOP

hereinafter called the "Tenant"

WHEREAS The Corporation of the City of Sault Ste. Marie (the “Landlord”) and Jayteq Pro Shop (the “Tenant”) entered into a Lease Agreement dated February 24, 2025 for the lease and operation of space for a Pro Shop at the John Rhodes Community Centre (the “Original Lease”);

AND WHEREAS the Tenant has permission to use the specific property of the Landlord as set out in the Original Lease dated February 24, 2025 and on the terms and conditions set out therein;

AND WHEREAS the Tenant wishes to occupy and maintain specific property of the Landlord, as shown in the plan appended as Schedule “A” to this Amending Agreement, for the purposes of operating a hockey accessories vending machine within the John Rhodes Community Centre;

AND WHEREAS Section 14(b) of the Original Lease permits future amendments to the Original Lease by further written agreement;

NOW THEREFORE the parties agree as follows:

1. The parties acknowledge and agree that section 3(a) shall be deleted and replaced with the following:

“3.

a) The Tenant shall during the Term, pay the Landlord as follows:

Lease Terms and Payments

WINTER – SEPTEMBER to APRIL

- **RENT – $1204.16 + HST**
- **COMMON AREA FEES – $96.33 + HST**
- **VENDING MACHINE FEE – $25.00 + HST**

SUMMER – MAY to AUGUST – With Both Ice Sheets Open and In Use

- **RENT - $481.67 + HST**
- **COMMON AREA FEES – $96.33 + HST**
- **VENDING MACHINE FEE – $25.00 + HST**

SUMMER – With No Ice Sheets Open or In Use

- **RENT - $294.78 + HST**
- **COMMON AREA FEES - $96.33 + HST**
- **VENDING MACHINE FEE – $25.00 + HST**

b) In addition to the payment of rent set out above, the Tenant shall be responsible for paying:
   (i) its own cleaning costs.
   (ii) any property taxes that may arise as a result of the Tenant's occupancy and use of the Demised Area, which can be billed monthly to the Tenant by the Landlord.
   (iii) any goods and services tax payable as a result of the Tenant's occupancy and use of the Demised Area and any provincial sales tax.
   (iv) common area costs, shared on a pro rata basis for utility costs, cleaning costs, snow removal costs, and security, at the rate of $96.33 per month.
   (v) vending machine fee at the rate of $25.00 per month commencing the month that the vending machine is installed.

c) The Tenant shall keep or cause to be kept on the Demised Area or in such other location as the Landlord may approve in writing, full, true and accurate records in reasonable form and detail approved by the Landlord of all business at the Demised Area from which the gross revenue may be accurately determined and to which the Landlord and its employees and agents or any auditor or auditors appointed by it shall have access at any and all times during business hours of the Tenant for the purpose of examination or audit."

2. The parties acknowledge and agree that Schedule "B" in the Original Lease dated February 24, 2025 shall be deleted and replaced with the Schedule "B" appended to this Amending Agreement.

3. All other terms and conditions as set out in the Original Lease shall remain unchanged.

IN WITNESS WHEREOF the parties hereto have duly executed this Agreement as of the date and year first above written.

SIGNED, SEALED AND DELIVERED

in the presence of:

THE CORPORATION OF THE CITY OF SAULT STE. MARIE

_____

MAYOR – MATTHEW SHOEMAKER

_____

CITY CLERK – RACHEL TYCZINSKI

We have authority to bind the Corporation

_____

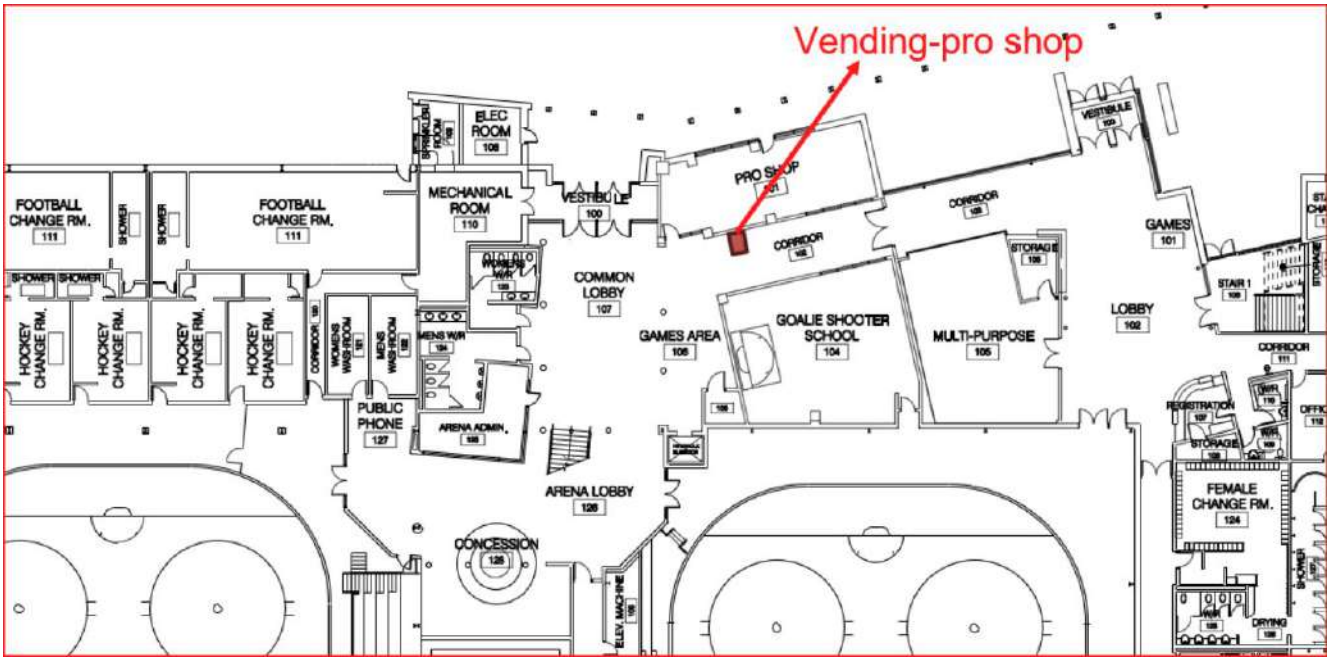
JAYTEQ PRO SHOP

_____

PRESIDENT – Jay Thomas

I have the authority to bind the Corporation

Schedule “A”


Vending-pro shop
FOOTBALL CHANGE RM. 111
FOOTBALL CHANGE RM. 111
MECHANICAL ROOM 110
ELEC ROOM 108
VESTIBULE 100
PRO SHOP 101
CORRIDOR 105
COMMON LOBBY 107
GAMES AREA 106
GOALIE SHOOTER SCHOOL 104
MULTI-PURPOSE 105
STORAGE 109
GAMES 101
LOBBY 102
STAIR 1 109
CORRIDOR 111
HOCKEY CHANGE RM.
HOCKEY CHANGE RM.
HOCKEY CHANGE RM.
HOCKEY CHANGE RM.
WOMENS WASHROOM 131
MENS WASHROOM 132
PUBLIC PHONE 127
ARENA ADMIN. 126
ARENA LOBBY 129
CONCESSION 128
REGISTRATION 107
STORAGE 108
FEMALE CHANGE RM. 124
DRYING 139


Little Caesars
CLOSED JULY 2

Attached to and forming part of a Lease Between
The Corporation of the City of Sault Ste. Marie, Landlord
and
Jayteq Pro Shop, Tenant
Schedule "B"

John Rhodes Community Centre

Jayteq Pro Shop - Financial Agreement

Item #1 - Base Rent Per Year

	Year 1	Year 2	Year 3	Year4	Year 5
Summer In	$ **12,715.92**	$ **12,715.92**	**$12,715.92**	**$12,715.92**	**$12,715.92**
Summer Out	$ **11,968.36**	$ **11,968.36**	**$11,968.36**	**$11,968.36**	**$11,968.36**

	Months		13%	
WINTER - SEPTEMBER to APRIL			**Hst**	**Total**
- RENT-$1204.16 + HST	**8**	$ **1,204.16**	$ **156.54**	$ **1,360.70**
- COMMON AREA FEES - $96.33 + HST	**8**	$ **96.33**	$ **12.52**	$ **108.85**
- VENDING MACHINE FEE - $25.00	**8**	$ **25.00**	$ **3.25**	$ **28.25**
UMMER- MAY to AUGUST - With Both Ice Sheets Open and In Use				
- RENT - $481.67 + HST	**4**	$ **481.67**	$ **62.62**	$ **544.29**
- COMMON AREA FEES - $96.33 + HST	**4**	$ **96.33**	$ **12.52**	$ **108.85**
- VENDING MACHINE FEE - $25.00	**4**	$ **25.00**	$ **3.25**	$ **28.25**
SUMMER - With No Ice Sheets Open or In Use				
- RENT - $294.78 + HST	**4**	$ **294.78**	$ **38.32**	$ **333.10**
- COMMON AREA FEES - $96.33 + HST	**4**	$ **96.33**	$ **12.52**	$ **108.85**
- VENDING MACHINE FEE - $25.00	**4**	$ **25.00**	$ **3.25**	$ **28.25**

The rental rate for May, June, July and August will be reduced. This reflects a reduction in the use of the facility. This is calculated in the above annual rental figure.

Item #2 - Utility Costs, Common Areas costs, Cable TV- charge $96.33 +hst per month

Items #3 - Proponent is also responsible for cleaning costs of the demised area, property taxes (this can be invoiced monthly if requested), common area costs, insurance and liability coverage of $2 Million, letter of credit for $5,000, applicable G.S.T. or H.S.T., and vending machine fee of $25.00 monthly.

THE CORPORATION OF THE CITY OF SAULT STE. MARIE

BY-LAW 2025-113

ENGINEERING: A by-law to authorize the execution of the Agreement between the City and His Majesty the King in Right of Ontario as represented by the Minister of Transportation for the Connecting Links Program to provide funding for the resurfacing of Great Northern Road from Third Line East to Wigle Street.

THE COUNCIL of The Corporation of the City of Sault Ste. Marie, pursuant to section 9 of the *Municipal Act, 2001*, S.O. 2001, c. 25, **ENACTS** as follows:

1. **EXECUTION OF DOCUMENT**

The Mayor and City Clerk are hereby authorized for and in the name of the Corporation to execute and affix the seal of the Corporation to the Agreement dated July 14, 2025 between the City and His Majesty the King in Right of Ontario as represented by the Minister of Transportation, a copy of which is attached as Schedule “A”. This Agreement is for the Connecting Links Program to provide funding for the resurfacing of Great Northern Road from Third Line East to Wigle Street.

2. **SCHEDULE "A"**

Schedule "A" forms part of this by-law and may be viewed electronically due to the high volume of pages.

3. **EFFECTIVE DATE**

This by-law takes effect on the day of its final passing.

PASSED in open Council this 14th day of July, 2025.

MAYOR – MATTHEW SHOEMAKER

CITY CLERK – RACHEL TYCZINSKI

ep \\citydata\LegalDept\Legal\Staff\COUNCIL\BY-LAWS\2025\2025-113 Connecting Links Great Northern Road Resurfacing.docx

CONNECTING LINKS PROGRAM CONTRIBUTION AGREEMENT

BETWEEN:

HIS MAJESTY THE KING IN RIGHT OF ONTARIO
as represented by the Minister of Transportation

("**Ontario**")

– and –

CORPORATION OF THE CITY OF SAULT STE MARIE

(the "**Recipient**")

WHEREAS the Government of Ontario has created the Connecting Links Program to provide funding to help municipalities construct and repair roads and bridges on designated Connecting Links;

AND WHEREAS subsection 21(1) of the *Public Transportation and Highway Improvement Act*, R.S.O. 1990, c. P.50, as amended from time to time, (hereinafter referred to as, the "Act") states that the Minister of Transportation may designate a Highway or part of a Highway as a Connecting Link between parts of the King's Highway or as an extension of the King's Highway, to be constructed and maintained by the Recipient road authority having jurisdiction over the Highway;

AND WHEREAS subsection 21(2) of the Act states that every such Highway remains under the jurisdiction and control of the road authority;

AND WHEREAS subsection 44(1) of the *Municipal Act, 2001* S.O. 2001, c. 25 as amended from time to time, states that a municipality that has jurisdiction over the Highway or bridge shall keep it in a state of repair that is reasonable in the circumstances, including the character and location of the Highway or bridge;

AND WHEREAS the Highway named in Schedule "A" to this Agreement is a Highway under the jurisdiction and control of the Recipient and has been designated as a Connecting Link or as an extension to the Connecting Link by the Minister of Transportation in accordance with the subsection 21(1) of the Act;

AND WHEREAS subsection 116(1)(a) of the Act states that the Minister of Transportation may enter into agreements for the purpose of the Act, including agreements related to among other things the design and construction of any Highway or Bridge;

AND WHEREAS subsection 116(2) of the Act states that any such agreement may provide that a proportion of the costs arising from the agreement be paid out of the monies appropriated therefor by the Legislature;

AND WHEREAS the Recipient has applied to the Connecting Links Program for funding to assist the Recipient in carrying out the Project and Ontario wishes to provide funding for the Project;

AND WHEREAS the Recipient is eligible to receive funding under the Connecting Links Program to undertake a Project;

NOW THEREFORE, in accordance with the principles set out above, the mutual covenants and agreements herein and for other good and valuable consideration, the receipt and sufficiency of which is expressly acknowledged, the Parties hereby agree as follows:

SECTION 1
Interpretation

1.1 Definitions. For the purposes of this Agreement, the following terms shall have the following meanings described below.

"Act" means the *Public Transportation and Highway Improvement Act*, R.S.O. 1990, c.P.50, as amended from time to time.

"Accommodation" refers to measures that are responsive to potential adverse impacts on established or credibly asserted Aboriginal or Treaty rights.

"Adjust the Funds" means Ontario's right to adjust, without limitation, liability, costs or penalty any Funds provided to the Recipient in respect of the Project under this Agreement.

"Agreement" means this agreement between Ontario and the Recipient, including all Schedules attached hereto.

"Arm's Length" has the meaning given to it under the *Income Tax Act* (Canada) as in effect on the Effective Date of this Agreement.

"Auditor General" means the Auditor General of Ontario.

"*BPSAA*" means the *Broader Public Sector Accountability Act, 2010*, S.O. 2010, c.25 (Ontario).

"Bridge" means a public bridge, and includes a bridge forming part of a Highway on, over, under or across which a Highway passes.

"Business Day" means any day on which the Government of Ontario offices are generally open for business in the Province of Ontario.

"Communications Protocol" means the protocol set out under Schedule "F" of this Agreement.

"Conflict of Interest" includes any and all circumstances where the Recipient or any Person who has the capacity to influence the Recipient's decisions has outside commitments, relationships or financial interests that could, or could be seen, to interfere with the Recipient's objective, unbiased and impartial judgment relating to the Project or this Agreement.

"**Connecting Link**" means the Highway named in Schedule "A" to this Agreement that is a Highway under the jurisdiction of the Recipient and has been designated as a connecting link or as an extension of a King's Highway by the Minister pursuant to subsection 21(1) of the Act.

"**Connecting Links Program**" means the program administrated by the Ministry of Transportation to

provide funding for the costs of the Connecting Link in accordance with the Act and the Connecting Links Program Guide.

"Connecting Links Program Guide" means the Ministry's document, entitled "Ministry of Transportation Connecting Links Program 2025-26 Guide," as referred in Schedule "H" of this Agreement, as amended from time to time by the Ministry, that describes the Ministry's Connecting Link Program.

"**Contractor**" means any third-party contractor that the Recipient retains to undertake any part of the Work related to the construction of the Project.

"Consultant" means any third-party consultant, engineer, Project manager, architect or other service provider, as the case may be, the Recipient retains to undertake any part of the Work related to the Project.

"Contract" means a contract between the Recipient and a third party at Arm's Length whereby the latter agrees to provide a good or service for the Project in return for financial consideration that may be claimed as an Eligible Cost.

"Crown Agency" means a Crown Agency as defined in the *Crown Agency Act* (Ontario).

"**Delegation Letter**" means a letter from Ontario to the Recipient where Ontario formally delegates the procedural aspects of consultation to the Recipient and identifies the Indigenous communities to which the Duty to Consult is owed.

"**Duty to Consult**" means the Crown's legal obligation to consult and, where appropriate, accommodate Indigenous communities when contemplating conduct that might adversely impact established or credibly asserted Aboriginal or Treaty rights, pursuant to s. 35 of the *Constitution Act, 1982*.

"Effective Date" means the date set out at Part B.1 of Schedule "B" of this Agreement.

"Eligible Costs" means the costs described in Part D.1 of Schedule "D" of this Agreement.

"End of Funds Date" means the date set out in Part C.3 of Schedule "C" of this Agreement.

"Event of Default" has the meaning given to it in section 15 of this Agreement.

"Expiration Date" means the date set out in Part B.4 of Schedule "B" of this Agreement.

"*FIPPA*" means the *Freedom of Information and Protection of Privacy Act*, R.S.O. 1990, c. F.31 (Ontario).

"Fiscal Year" means the period beginning April 1st in any year and ending on March 31st of the following year.

"Funds" means the total amount of funding Ontario is providing in Canadian currency to the Recipient under this Agreement, subject to the terms and conditions of this Agreement.

"Highway" includes a common and public highway, street, avenue, parkway, driveway, square, place, bridge, viaduct, trestle or any other structure incidental thereto, any part of which is intended for or used by the general public for the passage of vehicles and includes the area between the lateral property lines thereof.

"Indemnified Party" means His Majesty the King in Right of Ontario, His Ministers, directors, officers, agents, appointees, servants and employees.

"Ineligible Costs" means the costs described under Part D.2 of Schedule "D" of this Agreement.

"Indigenous Community" means First Nation or Métis communities as specified in the Delegation Letter.

"**King's Highway**" means a Highway designated as a King's Highway by the Lieutenant Governor in Council pursuant to the Act.

"Maximum Funds" means the amount set out under Part C.1 of Schedule "C" of this Agreement.

"Minister" means the Minister of Transportation.

"Ministry" means the Ministry of Transportation and any employees employed therewith.

"Ontario" means His Majesty the King in Right of Ontario, as represented by the Minister of Transportation or any other Minister who may have authority to administer this Agreement, unless the context indicates otherwise.

"Parties" means Ontario and the Recipient.

"Party" means either Ontario or the Recipient, as the case may be.

"**Person**" if the context allows, includes any individuals, firms, partnerships or corporations or any combination thereof.

"Project" means the Work to be performed for the project described in Schedule "A" of this Agreement.

"Project Completion Date" means the date set out in Part B.3 of Schedule "B" of this Agreement.

"*PSSDA*" means the *Public Sector Salary Disclosure Act, 1996*, S.O. 1996, c. 1, Sched. A (Ontario).

"Reports" means the reports set out in section 13 of this Agreement and set out in Schedule "G" of this Agreement.

"Requirements of Law" means all applicable statutes, codes, acts, ordinances, orders, approvals, decrees, injunctions, by-laws, rules, regulations, official plans, permits, licenses, authorizations, directions and agreements with all authorities that now or at any time hereafter may relate to the Recipient, the Project and this Agreement. Without limiting the generality of the foregoing, if the Recipient is subject to the *BPSAA*, the *PSSDA* or any other type of broader public sector accountability statutes, the *BPSAA*, the *PSSDA* and other type of broader public sector accountability statutes are deemed to be Requirements of Law.

"Substantial Completion" has the same meaning as "substantially performed", as defined under section 2(1) of the *Construction Act*, R.S.O. 1990, c. C.30 (Ontario).

"Term" means the period of time beginning on the Effective Date of this Agreement and ending on the Expiration Date or the termination of this Agreement, whichever is shorter.

"Work" includes the goods and services to be performed to design, construct and reconstruct the Connecting Link and such other work described in the Connecting Links Program Guide consistent and necessary for the Project.

1.2 ***Reference To Statute Or Regulation.*** Any reference to a statute is to such statute and to the regulations made pursuant to such statute as such statute and regulations may at any time be amended or modified and in effect and to any statute or regulations that may be passed that have the effect of supplanting or superseding such statute or regulations.

1.3 ***Singular/Plural And Gender Terms.*** Each definition in this Agreement using a singular capitalized term or other word or phrase shall also apply to the plural form and such term, word or phrase and *vice versa*. All references to the masculine gender shall include reference to the feminine or neuter gender and vice versa in each case as the context may permit or require.

1.4 ***Pronouns.*** Each use in this Agreement of a neuter pronoun shall be deemed to include the masculine and feminine variations thereof and *vice versa* and a singular pronoun shall be deemed to include a reference to the plural pronoun and *vice versa* in each case as the context may permit or require.

1.5 ***Sections And Other Headings.*** The section and other headings contained in this Agreement are for reference purposes only and shall not affect the meaning or interpretation of this Agreement.

1.6 ***Recitals.*** The recitals to this Agreement do not form a part of the Agreement.

1.7 ***Accounting Terms, Calculations And Submission Of Financial Data.*** All accounting terms not defined in this Agreement shall have the meanings usually ascribed to them. All calculations will be made and all financial data to be submitted will be prepared in accordance with the applicable accepted accounting principles in effect in Ontario.

SECTION 2
The Agreement

2.1 ***The Agreement.*** The Agreement includes this document and the following Schedules attached to this document, as such Schedules may be amended from time to time in accordance with this Agreement.

Schedule

"A" Project Description
"B" Operational Requirements Under The Agreement
"C" Financial Information For The Project
"D" Eligible And Ineligible Costs
"E" Indigenous Consultation Requirements
"F" Communications Protocol
"G" Reporting Requirements
"H" Ministry of Transportation (MTO) Connecting Links Program Guide 2025-26 Intake 10

2.2 ***Conflict.*** In the event of a conflict between:

(a) any of the documents that form part of this Agreement, the conflict shall be resolved in the following descending order:

(i) This document; and

(ii) The Schedules attached to this document.

(b) Schedule "H" and any other of the Schedules that form part of this Agreement, Schedules "A" to "G" shall take precedent over Schedule "H".

2.3 ***Expiration Date Of Agreement.*** This Agreement shall expire on the Expiration Date, unless amended or terminated prior to this date in accordance with this Agreement.

SECTION 3
General Roles And Responsibilities of the Parties Under the Agreement

3.1 ***Provision Of Funds.*** Ontario agrees, subject to the terms and conditions of this Agreement to provide up to the Maximum Funds to the Recipient in accordance with Schedule "C" of this Agreement. The Recipient is solely responsible for securing any additional funding, if needed, to complete the Project. The Recipient must have such funding or have secured access to the funding prior to commencing the Project. Ontario may require proof that funding has been secured for the Project before providing any Funds under this Agreement.

3.2 ***Ontario's Role Under Agreement Strictly Limited To Providing Funds.*** The Recipient acknowledges and agrees that Ontario's role is strictly limited to providing Funds and that Ontario will have no other involvement in the Project or its subsequent maintenance and operation. Ontario is not a manager, decision-maker nor an advisor to the Recipient in relation to the Project. Notwithstanding the generality of the foregoing and without limitation, the fact that Ontario may conduct performance reviews and/or audits as provided for hereinafter or issues directions under the terms and conditions of this Agreement shall not be construed by the Recipient as Ontario having a management, decision-making or advisory role. The Recipient further agrees that the Recipient will not seek to include Ontario as a decision-maker, advisor or manager of the Project through recourse to a third party, court, tribunal or arbitrator.

3.4 ***Funds Limited To Specific Project.*** The Recipient shall only use the Funds being provided under this Agreement towards the Project, as described in Schedule "A" of this Agreement. The Recipient further agrees that it will not make any changes to the Project, as described in Schedule "A" of this Agreement, without first obtaining Ontario's prior written consent.

3.5 ***Responsibility For Project.*** The Recipient acknowledges and agrees that the Recipient, as opposed to Ontario, is solely responsible for the undertaking, implementation, completion, operation and/or maintenance of the Project. The Recipient further agrees that the Recipient will not seek to hold Ontario responsible for the undertaking, implementation, completion, operation and/or maintenance of the Project through recourse to a third party, court, tribunal or arbitrator.

3.6 ***INTENTIONAL DELETION***

3.7 ***Project Financing.*** The Recipient acknowledges and agrees that:

(a) It is solely responsible for making any alternative arrangements that may be required to obtain additional financing for the Project, in the event that its original financing situation should change;
(b) It is solely responsible for covering any unapproved expenditures and cost overruns; and
(c) It is solely responsible for securing any additional financing required to complete the Project.

3.8 ***Asset Retention.*** The Recipient shall comply with Part B.6 of Schedule "B" of this Agreement as it relates to the retention of any assets purchased, rehabilitated or built with Funds being provided under this Agreement.

3.9 ***Behavior Of Recipient.*** The Recipient shall carry out any Project in an economical and business-like manner, in accordance with the terms and conditions of this Agreement, subject to any reasonable amendments Ontario may agree to or require from time to time in writing.

3.10 ***Ontario Not Responsible For Recipient Obtaining Permits Or Approvals.*** For greater certainty, the Parties acknowledge and agree that the entering into this Agreement does not in any way obligate any regulatory authority established under an Act of the Ontario Legislature to issue any type of approval, license, permit or similar authorization that the Recipient may need or want in relation to the Project or to meet any terms or conditions under this Agreement

3.11 ***Ontario May Impose Additional Conditions On The Recipient.*** Ontario may impose, at any time, such additional terms or conditions on the Recipient in terms of the Recipient's operations that relate to the use of any Funds which Ontario, acting reasonably, considers appropriate for the proper expenditure and management of the Funds. For greater certainty, any additional terms or conditions Ontario may impose shall be supplements to the existing terms and conditions of this Agreement as opposed to amendments to the terms and conditions of this Agreement.

SECTION 4
Funds

4.1 ***Use Of Funds.*** Any Funds being provided under this Agreement shall only be used for the payment of Eligible Costs for the Project.

4.2 ***Deposit Of Funds In Interest-Bearing Account At Canadian Financial Institution.*** The Recipient shall deposit and retain any Funds being provided under this Agreement in an interest-bearing account in the name of the Recipient at a Canadian financial institution in Canada.

4.3 ***Interest Earned By Recipient.*** The Recipient shall report to Ontario the amount of any interest earned on any Funds provided to the Recipient under this Agreement in accordance with Reports set out under Schedule "G" of this Agreement. If the Recipient earns any interest on the Funds provided to the Recipient:

(a) Ontario may deduct an amount equal to the interest from any further instalment of Funds; or
(b) The Recipient shall pay an amount equal to the interest to Ontario as directed by Ontario.

4.4 ***Cost Must Be An Eligible Cost.*** For a cost to be considered an Eligible Cost and therefore eligible to be paid from the Funds being provided under this Agreement, the cost must be specifically set out under Part D.1 of Schedule "D" of this Agreement.

4.5 ***Ineligible Costs Shall Not Be Covered Under Agreement.*** Any costs set out in Part D.2 of Schedule "D" of this Agreement are Ineligible Costs and shall not be eligible to be paid from the Funds being provided under this Agreement.

4.6 ***Ontario May Declare Costs To Be Eligible.*** Despite section 4.4 of this Agreement, but subject to section 4.5 of this Agreement, costs not specifically set out in Part D.1 of Schedule "D" of this Agreement may be deemed in writing to be an Eligible Cost by Ontario, in its sole and absolute discretion on a case-by-case basis.

4.7 ***New Information.*** In the event of new information, errors, omissions or other circumstances affecting the determination of the amount of any Funds being provided under this Agreement, Ontario may, in its sole and absolute discretion, Adjust the Funds being provided under this Agreement.

4.8 ***Repayment Of Funds.*** The Recipient shall repay Funds to Ontario where:

(a) The Recipient has used the Funds for a purpose not agreed to by Ontario;
(b) The Recipient still has Funds under its charge, management or control upon the expiry or termination of this Agreement; and
(c) The Recipient receives an overpayment by Ontario and is notified by Ontario of said overpayment,

within twenty (20) Business Days of receiving a written demand from Ontario, after which the outstanding amount may be subject to interest charges in accordance with section 16.17 of this Agreement. Where the Recipient receives an overpayment and has not received a notice from Ontario in regards to that overpayment, the Recipient shall notify Ontario of the overpayment within twenty (20) Business Days of becoming aware of the overpayment.

4.9 ***Insufficient Funds Provided By Legislature.*** If, in the opinion of the Minister, the Ontario Legislature does not provide sufficient funds to continue the Funds for any Fiscal Year which this Agreement is in effect, Ontario may immediately, without any liability, cost or penalty and without any prejudice to any other rights or remedies Ontario has under this Agreement or at law or equity, terminate this Agreement.

4.10 ***Ontario May Adjust The Funds.*** Despite any other provision in this Agreement, Ontario may Adjust the Funds being provided under this Agreement without liability, cost or penalty.

4.11 ***Funds Are Part Of Social Or Economic Program.*** The Recipient acknowledges and agrees that any Funds provided under this Agreement is for the administration of social or economic programs or the provision of direct or indirect support to members of the public in connection with social or economic policy.

SECTION 5
Payment Under Agreement

5.1 ***Eligibility Of Costs Or Expenses.*** In order for a cost or expense to be eligible to be paid from the Funds being provided under this Agreement, the cost or expense:

(a) Must be reasonable;
(b) Must be directly related to the Project;
(c) Must be an Eligible Cost;
(d) Must not be an Ineligible Cost; and
(e) Must, subject to sections 4.4 and 4.5 of this Agreement, have been incurred on or after April 1, 2025 and prior to the Project Completion Date.

5.2 Payment Of Funds. Subject to all terms and conditions of this Agreement, Ontario shall pay any Funds to the Recipient in accordance with Part C.4 of Schedule "C" of this Agreement.

5.3 Conditions Precedent For Payment Of Funds. Despite section 5.2 and Part C.4 of Schedule "C" of this Agreement, Ontario may withhold the payment of any Funds to the Recipient without liability, costs or penalty until the Recipient has met the following conditions precedent:

(a) The Recipient has provided evidence that the insurance required by section 8.1 of this Agreement has been obtained within ten (10) Business Days of Ontario's request;
(b) The Recipient has provided Ontario with any requested information within ten (10) Business Days of Ontario's request; and
(c) The Recipient has not or is not meeting any requirements related to the Duty to Consult set out under this Agreement or in a Delegation Letter.

5.4 Withholding Payment Of Funds. Ontario may, in its sole and absolute discretion, withhold the payment of any Funds to the Recipient under this Agreement without liability, costs or penalty where:

(a) Ontario is of the opinion that the project is not progressing in accordance with how other projects of a similar size and scope would progress under similar circumstances; and
(b) Ontario is of the opinion that the Recipient is, without limitation, not in compliance with any other agreements that the Recipient has entered into with His Majesty the King in Right of Ontario where Ontario may be providing financial assistance to the Recipient, directly or indirectly, under that agreement. Where Ontario withholds the payment of any Funds to the Recipient, the following shall apply:
    (i) Ontario has complete and absolute discretion to determine whether the Recipient is in compliance with the terms or conditions of any other funding agreements, such as the Ontario Community Infrastructure Fund, whereby the Recipient is receiving, directly or indirectly, funding from Ontario;
    (ii) Ontario shall continue to withhold any payments of any Funds to the Recipient under this Agreement until the Recipient has come into compliance with the terms and conditions of any other agreement whereby the Recipient receives, directly or indirectly, funding from Ontario; and
    (iii) Ontario agrees that it will act reasonably when applying this section 5.4 of the Agreement and shall promptly notify the Recipient of any determinations made by Ontario with respect to the application of this section 5.4 of the Agreement.

SECTION 6
Recipient's Representations, Warranties, Covenants, Acknowledgements And Agreements

6.1 ***Recipient's Representations, Warranties And Covenants.*** The Recipient represents, warrants and covenants that:

(a) It validly exists as a legal entity, and will continue to exist for the Term of the Agreement, with full power to perform and observe all of the terms and conditions of this Agreement and that it will continue to validly exist until the Expiration Date of this Agreement;

(b) It has the authority and any necessary approvals to enter into this Agreement and to carry out its terms and conditions and that it is not bound by any other agreement that would in any way interfere with Ontario's rights under this Agreement;

(c) Where applicable, it has passed the requisite by-laws to undertake any Project in which Funds are directed;

(d) It is conducting its business in accordance with all Requirements of Law and it shall continue to conduct its business in accordance with all Requirements of Law until the Expiration Date of this Agreement;

(e) It has all permits, approvals, licenses, certificates or other similar documents that are required to carry out any Project to which Funds are directed or that it will apply for all permits, approvals, licenses, certificates or other similar documents before carrying out the Project; and

(f) All information provided to Ontario in relation to any Funds being provided under this Agreement remains true, correct and complete as of the date this Agreement is signed in every material respect, except as set out to the contrary herein.

6.2 ***Additional Covenants.*** The Recipient undertakes to advise Ontario within five (5) Business Days of the occurrence during the Term of this Agreement of any actions, suits or other proceedings which could or would prevent compliance with the terms and conditions of this Agreement.

6.3 ***Recipient Shall Provide Proof Of Compliance Upon Ontario's Request.*** The Recipient shall, upon receiving a written notice from Ontario, provide to Ontario with proof of the matters referred to in sections 6.1 to 6.2 of this Agreement within the time period set out in the notice. Despite section 5.2 and Part C.4 of Schedule "C" of this Agreement, and without limiting the generality of section 5.3 of this Agreement, Ontario may withhold the payment of any Funds under this Agreement without liability, costs or penalty until the Recipient provides Ontario with proof of its compliance with the matters referred to in sections 6.1 to 6.2 of this Agreement. Ontario may also, despite anything else in this Agreement and without limiting any remedies Ontario may have under this Agreement, at law or equity, Adjust the Funds if the Recipient is not in compliance with the matters referred to in sections 6.1 to 6.2 of this Agreement at any time during the Term of this Agreement.

6.4 ***Governance.*** The Recipient represents, warrants, and covenants that it has, will maintain in writing, and will follow:

(a) a code of conduct and ethical responsibilities for all Persons at all levels of the Recipient's organization;

(b) procedures to enable the Recipient's ongoing effective functioning;

(c) decision-making mechanisms for the Recipient;

(d) procedures to enable the Recipient to manage Funds prudently and effectively;

(e) procedures to enable the Recipient to complete the Project successfully;

(f) procedures to enable the Recipient to identify risks to the completion of the Project and strategies to address the identified risks, all in a timely manner;

(g) procedures to enable the preparation and submission of all Reports required pursuant to section 13; and

(h) procedures to enable the Recipient to address such other matters as the Recipient considers necessary to enable the Recipient to carry out its obligations under the Agreement.

SECTION 7
Conflict of Interest and Confidentiality

7.1 ***No Conflicts Of Interest.*** The Recipient shall ensure that any Person associated with the Project in whatever capacity carries out the administration of any Funds in all its aspects without an actual, potential or perceived Conflict of Interest.

7.2 ***Disclosure Of Conflict Of Interest Situations.*** The Recipient shall:

(a) Disclose to Ontario, without delay, any situation that a reasonable person would interpret as an actual, potential or perceived Conflict of Interest; and
(b) Comply with any terms and conditions that Ontario may impose as a result of the disclosure.

7.3 ***Ontario Bound By FIPPA*** The Recipient acknowledges that *FIPPA* and its regulations bind Ontario.

SECTION 8
Insurance

8.1 ***Recipient Shall Have Insurance.*** The Recipient shall put in effect and maintain until the Expiration Date of this Agreement at its own expense or arrange for its Consultant or Contractor to have all necessary insurance that would be considered appropriate for the Project and shall ensure that there is Commercial General Liability Insurance, for third party bodily injury, personal injury and property damage to an inclusive limit of not less than the amount indicated in Part B.2 of Schedule "B" of this Agreement per occurrence with insurers with an A.M. Best rating of B+ or equivalent. The Commercial General Liability Insurance policy shall include:

(a) The Indemnified Party as an additional insured with respect to liability arising in the course of performance of the Recipient's obligations under, or otherwise in connection with, the Agreement;
(b) A cross-liability clause;
(c) Contractual Liability coverage;
(d) Products and Completed Operations Liability coverage;
(e) Employers Liability;
(f) Tenants Legal Liability (for premises/building leases only);
(g) Non-Owned automobile coverage with blanket contractual and physical damage coverage for hired automobiles; and
(h) A thirty (30) day written notice of cancellation, termination or material change clause.

8.2 ***Ontario To Have Priority Right On Any Proceeds Of Insurance Policy.*** The Recipient acknowledges and agrees that Ontario shall have a priority over any other Person, including the Recipient, to use or enjoy the benefits of the proceeds from the insurance required under section 8.1 of this Agreement to pay any claim, suits, judgments, demands, expenses, actions, causes of action and losses, including, without limitation, reasonable legal expenses and any claim for a lien made pursuant to the *Construction Act*, R.S.O. 1990, c. C.30 (Ontario) and for any and all liability for damages to property and injury to Persons, including death, that may be brought against Ontario as a result of this Agreement.

SECTION 9
Limitation of Liability and Indemnification

9.1 ***Exclusion Of Liability.*** In no event shall Ontario be liable for any general, compensatory, incidental, special or consequential damages, or any loss of use, revenue or profit by the Recipient or the Recipient's officers, servants, employees and agents arising out of or in any way related to this Agreement.

9.2 ***Recipient To Indemnify Ontario.*** The Recipient shall indemnify and hold harmless the Indemnified Party from and against all suits, judgments, claims, demands, expenses, actions, causes of action and losses, including, without limitation, reasonable legal expenses and any claim for lien made pursuant to the *Construction Act*, R.S.O. 1990, c. C.30 (Ontario), and for any and all liability for damages to property and injury to Persons, including death, which the Indemnified Party may incur, otherwise than by reason of the Indemnified Party's own gross negligence or wilful misconduct, as a result of or arising out of or in relation to any breach by the Recipient of the terms of this Agreement, or the Recipient's own negligence or wilful misconduct, as a result of or arising out of or in relation to:

(a) The performance of this Agreement or the breach of the terms of this Agreement by the Recipient, its officers, servants, employees and agents, or by a third party and any of its officers, employees servants or agents;
(b) The ongoing operation, maintenance and repair of the Project; or
(c) Any omission or other wilful or negligent act of the Recipient, a third party or their respective employees, officers, servants or agents.

9.3 ***Further Indemnification Of Ontario.*** The Recipient further agrees to indemnify and hold harmless the Indemnified Party from any general, compensatory, incidental, indirect, special or consequential damage or any loss of use, revenue or profit which the Indemnified Party may incur or related in any way to this Agreement or the Project in tort, contract or otherwise other than by reason of the Indemnified Party's own gross negligence or wilful misconduct, as a result of or arising out or in relation to:

(a) The performance of this Agreement or any breach of the terms and conditions of this Agreement by the Recipient, its officers, servants, agents, employees and Consultants or by a third party and any of its officers, servants, agents or employees where the third party entered into a Contract with the Recipient in relation to the Project;
(b) The ongoing operation, maintenance and repair of the Project; or
(c) Any omission or negligent act or misconduct of the Recipient its officers, servants, agents, employees, Contractors and Consultants or by a third party and any of its officers, servants, agents or employees where the third party entered into a Contract with the Recipient in relation to the Project.

9.4 Further Indemnification Requirements. The following are additional requirements related to the Recipient's indemnification of Ontario:

(a) The Recipient shall, at its own expense, to the extent requested by Ontario, participate in or conduct the defence of any proceedings against any Indemnified Party and any negotiations for their settlement;
(b) Ontario may elect to participate in or conduct the defence of any proceeding by providing notice to the Recipient of such election without prejudice to any other rights or remedies that Ontario has under this Agreement, at law or in equity. Each Party participating in the defence shall do so by actively participating with the other's counsel;
(c) The Recipient shall not enter into a settlement of any proceeding against an Indemnified Party unless the Recipient has obtained the prior written approval of Ontario. If the Recipient is requested by Ontario to participate in or conduct the defence of any proceeding, Ontario will cooperate with and assist the Recipient to the fullest extent possible in the proceeding and any related settlement negotiations; and
(d) If Ontario conducts the defence of any proceedings, the Recipient shall cooperate with and assist Ontario to the fullest extent possible in the proceedings and any related settlement negotiations.

9.5 Recipient To Require Third Parties To Indemnify Ontario. The Recipient shall use all reasonable efforts to ensure that all third parties that the Recipient enters into a Contract with indemnify and hold harmless the Indemnified Party from and against all suits, judgments, claims, demands, expenses actions, causes of action and losses, including, without limitation, reasonable legal expenses and any claim for lien made pursuant to the *Construction Act*, R.S.O. 1990, c. C.30 (Ontario), and for any and all liability for damages to property and injury to Persons, including death, which the Indemnified Party may incur, otherwise than by reason of their own negligence or wilful misconduct, as a result of or arising out of or in relation to any breach by the Recipient of the terms of this Agreement, or the Recipient's own negligence or wilful misconduct, as a result of or arising out of or in relation to:

(a) The performance of this Agreement or the breach of the terms of this Agreement by the Recipient, its officers, servants, employees and agents, or by a third party and any of its officers, employees servants or agents;
(b) The ongoing operation, maintenance and repair of the Project; or
(c) Any omission or other wilful or negligent act of the Recipient, a third party or their respective employees, officers, servants or agents.

The Recipient shall also use commercially reasonable efforts to ensure that the terms and conditions set out under section 9.4 of this Agreement are included in any Contracts that the Recipient enters into with any third party. The Recipient further agrees to take and implement any reasonable direction from Ontario in relation to the enforcement or assertion of this section 9.5 of the Agreement as against any third party.

9.6 Recipient To Limit Heads Of Damage As Against Ontario In Contracts With Third Parties. The Recipient shall use commercially reasonable efforts to include in the Recipient's Contracts with any third party a provision that provides notwithstanding anything else, and in no event whatsoever, shall Ontario be liable to the third party for any incidental, indirect, special or consequential damage or any loss of use, revenue or profit which the Indemnified Party may incur as a result of anything under or related in any way to this Agreement or the Project in tort, contract or otherwise. The Recipient agrees to take and implement any reasonable direction from Ontario in relation to the enforcement of this section 9.6 of the Agreement as against any third party.

SECTION 10
Acquisition of Goods and Services

10.1 ***Acquisition.*** Despite anything else contained in this Agreement, the Recipient shall ensure that all goods and services purchased with any Funds being provided under this Agreement are purchased or acquired in a fair and transparent manner and at competitive prices that are no greater than fair market value after deducting trade discounts and/or any other discounts available to the Recipient.

10.2 ***Ontario Not Responsible For Claims Under Tender/Bidding Process.*** Without limiting the generality of section 9.1 of this Agreement, Ontario shall not be responsible for any claim arising from the tender and bidding process in relation to any Project in which Funds are directed.

10.3 ***Competitive Procurement Process.*** The Recipient shall acquire and manage its equipment, services and supplies, including any construction component, required for any Project in which Funds are directed through a transparent and fair process that promotes the best value for the Funds expended. Without limiting the generality of the foregoing, where the Recipient is a municipal entity to which the *Municipal Act, 2001*, S.O. 2001, c. 25 (Ontario) is applicable, the Recipient shall follow its procurement policies as required under the *Municipal Act, 2001*, S.O. 2001, c. 25 (Ontario). Where the Recipient is a Local Services Board or any other entity not covered by the *Municipal Act, 2001*, S.O. 2001, c. 25 (Ontario), the Recipient shall ensure that for equipment, services and supplies, the estimated costs of which exceed twenty-five thousand dollars ($25,000.00), the Recipient obtains at least three (3) written quotes unless Ontario gives prior written approval. The requirement for a competitive process under this section 10.2 of the Agreement may be waived with prior written approval by Ontario, if:

(a) The equipment, services or supplies the Recipient is purchasing is specialized and is not readily available; or
(b) The Recipient has researched the market for a similar purchase within the last two (2) years and knows prevailing market costs for the equipment, services or supplies purchased.

10.4 ***BPSAA.*** For the purposes of clarity, if the Recipient is subject to the *BPSAA* and there is a conflict between any of the requirements of this Agreement and the requirements of the *BPSAA*, the *BPSAA* shall apply.

10.5 ***Contracts.*** The Recipient shall ensure that all Contracts:

(a) Are consistent with this Agreement;
(b) Do not conflict with this Agreement;
(c) Incorporate the relevant provisions of this Agreement to the fullest extent possible;
(d) Are managed in a way that is transparent, competitive and consistent with value for money principles
(e) Require that any third parties thereto comply with all Requirements of Law; and
(f) Authorize Ontario to collect, use and disclose in accordance with the Requirements of Law information and data gathered by the third party in connection with Project, perform audits of the third party and monitor the Project as Ontario sees fit.

10.6 ***Costs Of Contracts Not Awarded In Compliance With This Section May Be Deemed Ineligible.*** If Ontario determines that the Recipient has awarded a Contract in a manner that is not in compliance with this section 10 of the Agreement, Ontario may, upon written

notification to the Recipient, deem the costs associated with the Contract as being ineligible for payment from the Funds.

10.7 Recipient To Keep Records Of Contracts. The Recipient shall keep and maintain proper and accurate accounts and records, including, but not limited to, all Contracts, invoices, statements, receipts and vouchers in relation to the Project for a period of at least seven (7) years after the Term of this Agreement.

10.8 Trade Agreements. If the Recipient is subject to any provincial or federal trade agreements to which Ontario is a party, the Recipient shall comply with the applicable requirements of such trade agreements.

SECTION 11
Indigenous Consultation

11.1 Provision Of Funds Dependent Upon Ontario Meeting Its Duty To Consult Obligations. The Recipient hereby acknowledges and agrees that the provision of Funds under Milestones #2 and #3 of the Milestone Payment Schedule found under section C.4.1 of this Agreement, is strictly conditional upon completion of consultation with any Indigenous Community, where applicable as determined in Ontario's sole discretion.

11.2 Recipient is Ontario's Delegate For Purposes Of Consultation With Indigenous Communities. By entering into this Agreement, the Recipient agrees Ontario may delegate the procedural aspects of any consultation obligations Ontario may have in relation to the provision of Funds to the Recipient as set out in the Delegation Letter and Schedule "E" of this Agreement. The Recipient, by signing this Agreement, accepts any delegation made by Ontario by a Delegation Letter and agrees to act diligently as Ontario's delegate so as to preserve the Honour of the Crown in relation to any consultation obligations Ontario may have in relation to the provision of Funds.

11.3 Recipient's Obligations In Relation To Consultations. The Recipient shall:

(a) Be responsible for consulting with any Indigenous Community identified by Ontario as being owed the Duty to Consult on behalf of Ontario in accordance with the Delegation Letter and Schedule "E" of this Agreement;
(b) Take directions from Ontario in relation to consulting with any Indigenous Community as well as any other directions Ontario may issue in relation to the Duty to Consult; and
(c) Provide a detailed description of the Recipient's consultation with any Indigenous Community as set out under Schedule "G" of this Agreement.

***11.4* No Acknowledgment Of Duty To Consult Obligations.** Nothing in this Agreement shall be construed as an admission, acknowledgment, agreement or concession by Ontario, that Ontario has a Duty to Consult in relation to the provision of Funds, nor that any responsibility set out herein is, under the Constitution of Canada, necessarily a mandatory aspect or requirement of the Duty to Consult, nor that a particular aspect of consultation referred to in section 11.2 hereof is an aspect of the Duty to Consult that could not have been delegated to the Recipient.

SECTION 11.1.0
limitation of liability – duty to consult

***11.1.1* Funds not indicator of a Discharge of Duty to Consult.** The Parties agree the provision of

Funds by Ontario shall not be construed as an indication of the satisfaction by, and shall not relieve, the Recipient of any obligation it may have to undertake engagement, consultation and/or accommodation with Indigenous Communities in relation to the Project.

11.1.2 **Limitation of Liability for Ontario.** The Recipient agrees that Ontario shall not be liable to the Recipient for, and the Recipient hereby releases Ontario in respect of, any injury, loss, expense, delay or costs incurred or suffered by the Recipient as a result of any direct or indirect acts or omissions by any Person or party, including, without limitation, any acts or omissions of Ontario or those for whom it is responsible at law, that disrupts, stops or otherwise interferes with the Recipient's ability to perform its obligations pursuant to the Agreement.

11.1.3 **Limitation as Estoppel.** The foregoing limitation of liability and release extends to any disruption, stoppage or other interference arising out of any legal action, court order, directive, settlement, roadblock, strike, labour action, or any other occurrence. This section 11.1.3 and section 11.1.2 may be pleaded as an estoppel in any court of law by Ontario.

SECTION 12
Communications

12.1 ***Recipient To Follow Communications Protocol.*** The Recipient shall follow the Communications Protocol set out under Schedule "F" of this Agreement.

SECTION 13
Reports

13.1 ***Reports.*** The Recipient shall submit the Reports set out in Schedule "G" of this Agreement in accordance with the dates set out for each of those Reports set out in Schedule "G" of the Agreement. The Recipient shall follow such reasonable administrative procedures as Ontario may specify from time to time.

13.2 ***Additional Reports Upon Request.*** The Recipient shall, upon Ontario's request in writing, collect such information and provide such additional reports as Ontario may specify from time to time during the Term of this Agreement. The Recipient shall provide any additional reports within ten (10) Business Days of the request, unless the request provides otherwise.

13.3 ***Compliance Attestation.*** The Recipient shall provide a compliance attestation that is signed by the Recipient's Administrative Officer/Clerk or Treasurer for any reports required under sections 13.1 and 13.2 of this Agreement.

SECTION 14
Records, Inspection, Audits and the Provision of Information

14.1 ***Record Retention.*** The Recipient:

(a) Shall keep and maintain all financial records, receipts, invoices and other financially-related documents relating to any Funds or otherwise in relation to the Project in a manner consistent with generally accepted accounting principles and clerical practices, and shall maintain such records and keep them available for review by Ontario for a period of seven (7) years from the Expiration Date of this Agreement; and

(b) Shall maintain all non-financial documents and records relating to any Funds or

otherwise to the Project, including any records it receives about the people it serves, in a confidential manner consistent with all Requirements of Law.

14.2 ***Ontario May Inspect Recipient's Premises And Projects' Premises At Any Time.*** Ontario reserves the right to inspect the Recipient's premises and any premises of the Project at any time as it relates to the provision of any Funds under this Agreement. Without limiting the generality of the foregoing, the Recipient hereby authorizes Ontario, its employees and agents, including the Auditor General, to, upon twenty-four (24) hours' written notice and during normal business hours, enter the Recipient's premises to review the status of the Project and to copy any financial records, invoices and other financially-related documents, including all Contracts the Recipient has entered into in relation to the Project.

14.3 ***Audits.*** Ontario may, at its own expense, conduct audits of the Project. Ontario may require the assistance of an external auditor to carry out an audit. If so, Ontario shall be responsible for retaining the external auditor.

14.4 ***Auditor General.*** The Auditor General may, at the Auditor General's cost, conduct an audit with respect to the use of any Funds under this Agreement. For the purposes of facilitating such an audit, the Recipient shall release to Ontario upon request and in a timely manner, for the purpose of releasing to the Auditor General:

(a) All records held by the Recipient, or by agents or Contractors of the Recipient relating to this Agreement and/or the use of the Funds; and

(b) Such further information and explanations as the Auditor General, or anyone acting on behalf of the Auditor General, may request relating to any part of this Agreement or the use of the Funds.

14.5 ***Information.*** The Recipient shall supply to Ontario, within ten (10) Business Days of receiving a written request, such information in respect of this Agreement or the Project as Ontario requests unless the request provides otherwise.

14.6 ***Provision Of Information Is A True Condition Precedent.*** If, in the opinion of Ontario, any of the information requirements of this Agreement are not met, Ontario may in its sole and absolute discretion, and despite section 5.2 and Part C.4 of Schedule "C" of this Agreement, require the information as a condition precedent to the payment of any Funds under this Agreement without liability, costs or penalty.

SECTION 15
Default and Termination

15.1 ***Events Of Default.*** Ontario may, acting in a reasonable manner, without liability, cost or penalty and without prejudice to any other rights or remedies of Ontario under this Agreement or at law or in equity, terminate this Agreement immediately upon giving written notice to the Recipient where:

(a) In the opinion of Ontario:
  (i) The Recipient has provided false or misleading information to Ontario;
  (ii) The Recipient breaches a material term or condition of this Agreement, where materiality is to be determined by Ontario, in its sole and absolute discretion, acting reasonably and has failed to cure or remedy the breach of this Agreement within 30 days of receiving written notice of the breach from Ontario;

(iii) The Recipient breaches a material term or condition of any other funding agreement it has with Ontario, where materiality is to be determined by Ontario, in its sole and absolute discretion, acting reasonably and has failed to cure or remedy the breach of the other funding agreement within 30 days of receiving written notice of the breach from Ontario;

(iv) The Recipient is unable to continue with the Project or the Recipient is likely to discontinue the Project;

(v) A material adverse change occurs such that the viability of a Recipient as a going concern is threatened; or,

(vi) the Recipient brings an action or seeks compensation from Ontario in respect of any matter to which the release and limitation of liability described in section 11.1.0 of this Agreement.

15.2 Remedies On Default. Despite any other rights Ontario has under this Agreement, if an Event of Default has occurred, Ontario shall have the following remedies:

(a) Ontario shall not have to provide any further Funds under this Agreement;

(b) Ontario may, at is option, terminate this Agreement immediately after any notice period expires or may, in its sole and absolute discretion, Adjust the Funds, including a demand to return all Funds provided under this Agreement;

(c) Ontario may avail itself of any of its legal remedies that it may deem appropriate.

15.3 Additional Remedies. In addition to the remedies described in section 15.2 of this Agreement, Ontario may commence such legal action or proceedings as it, in its sole and absolute discretion, may deem expedient, without any additional notice under this Agreement. The rights and remedies of Ontario hereunder are cumulative and in addition to, and not in substitution for, all other rights or remedies otherwise available to Ontario at law, equity or under statute.

15.4 Waiver Of Event Of Default Must Be In Writing. Ontario may, in its sole and absolute discretion, at any time, waive any above-mentioned Event of Default which may have occurred provided that no such waiver shall extend to, or be taken in any manner whatsoever to affect, any subsequent Event of Default or the right to remedies resulting therefrom, and that no such waiver shall be, or shall deemed to constitute, a waiver of such Event of Default unless such waiver is in writing from Ontario. Ontario may also impose conditions on any waiver it provides under this section 15.4 of the Agreement.

15.5 Ontario's Discretion To Terminate Agreement. Despite anything else contained in this Agreement, Ontario may, without liability, cost or penalty and without prejudice to any other rights or remedies Ontario may have under this Agreement or at law or in equity terminate this Agreement at any time upon one hundred and eighty (180) days' notice to the Recipient, provided it acts reasonably in doing so.

15.6 Termination Of Agreement For Circumstances Beyond The Control Of A Party. Neither Party shall be liable for damages caused by delay or failure to perform its obligations under this Agreement where such delay or failure is caused by an event beyond its reasonable control. Should the event last more than ninety (90) Business Days, this Agreement shall terminate and the process set out under section 15.5 of this Agreement shall be followed, with any necessary modifications.

15.7 Date of Termination. In the event of termination pursuant to this section 15 of the Agreement, the effective date of termination shall be the last day of the notice period, the last day of any subsequent notice period or immediately, whichever applies.

SECTION 16
General Provisions

16.1 ***Terms Binding.*** The Recipient shall take all reasonable measures to ensure that its officers, directors, partners, employees, agents, third party Contractors shall be bound to observe all of the terms and conditions of this Agreement, including, but not limited to all of the covenants, representations and warranties set out herein.

16.2 ***Representatives May Bind Parties.*** The Parties represent and warrant that their respective representatives have the authority to legally bind them to the extent permissible by the Requirements of Law.

16.3 ***Further Assurances.*** The Parties agree to do or cause to be done all acts or things necessary to implement and carry into effect this Agreement to its full extent.

16.4 ***Agreement Binding.*** This Agreement shall inure to the benefit of and be binding upon the Parties, their successors, executors, administrators, heirs and their permitted assigns.

16.5 ***Waivers In Writing.*** If a Party fails to comply with any term of the Agreement, that Party may only rely on a waiver of the other Party if the other Party has provided a written waiver in accordance with the notice provisions set out in section 16.19 of this Agreement. Any waiver must refer to a specific failure to comply and shall not have the effect of waiving any subsequent failures to comply. For greater certainty, where Ontario chooses to waive a term or condition of the Agreement, such waiver shall only be binding if provided by a Person who indicates in writing that he or she has specific authority to provide such a waiver.

16.6 ***Tolerance Of Indulgence Of Breach Not A Waiver.*** Any failure by Ontario to insist in one or more instances upon strict performance by the Recipient of any of the terms or conditions of this Agreement shall not be construed as a waiver by Ontario of its rights to require strict performance of any such terms or conditions, and the obligations of the Recipient with respect to such performance shall continue in full force and effect.

16.7 ***Time Is Of The Essence.*** In the performance and observance of the terms and conditions of this Agreement, time is of the essence and no extension or variation of this Agreement shall operate as a waiver of this provision.

16.8 ***Severability.*** If any term or condition of this Agreement, or the application thereof to the Parties or to any Persons or circumstances, is to any extent invalid or unenforceable, the remainder of the Agreement, and the application of such term or condition to the Parties, Persons or circumstances other than those to which it is held invalid or unenforceable, shall not be affected thereby.

16.9 ***No Assignment Of Agreement.*** The Recipient shall not assign this Agreement to any other Person unless Ontario agrees to the assignment in writing. Ontario may impose any terms or conditions.

16.10 ***Amendment.*** The Agreement may only be amended by a written agreement duly executed by the Parties.

16.11 ***Joint Authorship Of Agreement.*** The Parties shall be considered joint authors of this Agreement and no provision herein shall be interpreted against one Party by the other Party because of authorship. No Party shall seek to avoid a provision herein because of its authorship through recourse to a third party, court, tribunal or arbitrator.

16.12 Parties Independent. The Recipient acknowledges that it is not an agent, joint venturer, partner or employee of Ontario and the Recipient shall not take any actions that could establish or imply such a relationship.

16.13 Recipient Cannot Represent Ontario. The provision of any Funds to the Recipient pursuant to this Agreement is for the sole purpose of, and is limited to, allowing the Recipient to carry out the Project. The Recipient represents, warrants and agrees that under no circumstances shall it enter into any contract or commitment in the name of or on behalf of Ontario. The Recipient acknowledges and agrees that it is not by the terms and conditions of this Agreement or otherwise granted any right or authority to assume or to create any obligations or responsibility, express or implied, on behalf of or in the name of Ontario, to act as an agent of Ontario or to bind Ontario in any manner whatsoever other than as specifically provided under this Agreement.

16.14 Recipient's Consultants/Contractors. Ontario acknowledges and recognizes that, in connection with the carrying out the Project, the Recipient may engage one or more Consultants or Contractors. Ontario acknowledges and agrees that the Recipient shall have the sole authority and responsibility for such employees, agents, Consultants or Contractors, including the hiring and termination. The Recipient acknowledges and agrees that the Recipient shall be responsible for all acts and actions of the Recipient's employees, agents, Consultants and Contractors and that all such acts and actions shall be treated as actions of the Recipient for the purposes of this Agreement.

16.15 Lobbyists And Agent Fees. The Recipient represents and warrants:

(a) Any Person hired by the Recipient to speak or correspond with any employee or other Person representing Ontario concerning any matter relating to any Funds under this Agreement or any benefit hereunder is registered, if required to register, pursuant to the *Lobbyists Registration Act, 1998*, S.O. 1998, c. 27, Sched.;

(b) It has not and will not make a payment or other compensation to any legal entity that is contingent upon or is calculated upon the provision of any Funds hereunder or negotiating the whole or any part of the terms and/or conditions of this Agreement; and

(c) No money from the Government of Ontario was used to lobby or otherwise secure the provision of any Funds hereunder.

16.16 Debt Owing To His Majesty The King In Right Of Ontario. Any payment that the Recipient is required to make under this Agreement shall constitute a debt due and owing to His Majesty the King in Right of Ontario and the Recipient shall pay the amount to Ontario immediately upon written demand unless Ontario directs otherwise.

16.17 His Majesty the King In Right Of Ontario May Charge Interest. His Majesty the King in Right of Ontario may charge the Recipient interest on any monies owing by the Recipient at the then current interest rate charged by the Province of Ontario on accounts receivable.

16.18 Set-Off By Ontario. In the event that the Recipient is indebted to His Majesty the King in Right of Ontario under this Agreement, Ontario may set-off that debt against any amounts payable to the Recipient by His Majesty the King in Right of Ontario. This right of set-off is in addition to any rights of set-off it has under the *Financial Administration Act*, R.S.O. 1990, c. F.12 (Ontario) or the *Financial Administration Act*, R.S.C., 1985, c. F-11 (Canada).

16.19 Notice And Service Of Documents Under Agreement. Notices shall be in writing and shall be delivered by postage-prepaid mail, personal delivery, or Email transmission and shall be

addressed to Ontario and the Recipient respectively, as set out in Part B.5 of Schedule "B" of this Agreement.

Notice shall be deemed to have been received:

(a) In the case of postage-prepaid mail, five (5) Business Days after such notice is mailed; or

(b) In the case of personal delivery, or Email transmission, one (1) Business Day after such notice is delivered to the other Party.

In the event of a postal disruption, notices shall be given by personal delivery, facsimile transmission or Email transmission. Unless the Parties expressly agree in writing to additional methods of notices, notices may only be provided by the method(s) contemplated in this section 16.19 of the Agreement.

The Parties agree that for the purposes of this section 16.19 of the Agreement, the name(s) of the individuals may be changed without amending the Agreement through the Party making the change providing written notice to the other Party of said change.

16.20 Governing Law. This Agreement and the rights, obligations and relations of the Parties shall be governed by and construed in accordance with the laws of the Province of Ontario and the applicable federal laws of Canada. Any actions or proceedings in connection with this Agreement shall be conducted in Ontario.

16.21 Agreement Executed In Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, but all of which together, shall constitute one and the same agreement.

16.22 Entire Agreement. This Agreement, including its Schedules, embodies the entire Agreement between the Parties with respect to the subject matter contained in the Agreement and supersedes all prior oral or written representations or agreements. No prior document, discussion, negotiation, provision undertaking or agreement in relation to the subject matter of this Agreement has any legal effect. No representation or warranty, whether express, implied or otherwise, has been made by Ontario to the Recipient except as expressly set out in this Agreement.

16.23 Survival. The provisions of this Agreement that by their nature survive the expiration or early termination of this Agreement shall so survive. Without limiting the generality of the foregoing, the provisions that shall survive the termination or expiration of this Agreement for a period of seven (7) years from the Expiration Date or termination of this Agreement, whichever occurs first, include: sections 1, 3 to 6, 9, 11 and 13 to 15; subsections 2.2, 10.7, 16.4, 16.5, 16.6, 16.8, 16.10 to 16.12, and 16.16 to 16.23; Parts B.5 and B.6 of Schedule "B" of this Agreement and Schedules "E" and "F"; along with all cross-referenced provisions within the foregoing sections, subsections and Schedules.

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IN WITNESS WHEREOF the Parties have executed this Agreement on the dates set out below.

HIS MAJESTY THE KING IN RIGHT OF ONTARIO,
as represented by the Minister of Transportation

_____ _____
Name: Date
Title: Minister

I have the authority to bind the Crown.

CORPORATION OF THE CITY OF SAULT STE MARIE

_____ _____
Name: Mayor Matthew Shoemaker Date

_____ _____
Name: City Clerk - Rachel Tyczinski Date

I/We have the authority to bind the Recipient.

SCHEDULE "A"
Project Description

Application Project Name: Resurfacing of Great Northern Road from Third Line to Wigle Street

Approved Project Name: Resurfacing of Great Northern Road from Third Line to Wigle Street

Project Description: The project proposes a complete new asphalt surface with spot repair of any deteriorated curb and gutter sections. No subsurface work is proposed, although some rehabilitation of roadside catchbasins and/or manholes will be completed if necessary. Private property accesses and road intersection approaches will be rehabilitated as required within the road right-of-way limits.

Project Description Details (from Application): The project proposes a complete new asphalt surface with spot repair of any deteriorated curb and gutter sections. No subsurface work is proposed, although some rehabilitation of roadside catchbasins and/or manholes will be completed if necessary. Private property accesses and road intersection approaches will be rehabilitated as required within the road right-of-way limits. Final design will determine what pavement recycling methods and asphalt mixes will be employed. The surface course asphalt will be new material, followed by permanent lane line markings. A project schedule is attached.

SCHEDULE "B"
Operational Requirements Under The Agreement

Part B.1 – Effective Date Of Agreement

B.1.1 Effective Date Of Agreement. The Effective Date of this Agreement is the date in which the Province signs the Agreement.

Part B.2 – Insurance Requirements

B.2.1 Insurance Requirements. The Recipient or its agent(s) shall have no less than two million dollars ($2,000,000.00) in general commercial liability insurance per occurrence.

Part B.3 – Project Completion Date

B.3.1 Project Completion Date. The Project shall be completed no later than December 31, 2026. For clarity this means Substantial Completion must have occurred and the project construction Work must have been completed.

Part B.4 – Expiration Date

B.4.1 Expiration Date Of Agreement. Unless this Agreement is terminated earlier, this Agreement shall expire on March 31, 2027.

Part B.5 – Notice and Contact

B.5.1 Notice And Contact Information. Notices under this Agreement shall be sent in accordance to the following:

To Ontario:	To Recipient:
Ministry of Transportation Operations Office 301 St. Paul Street, 2nd Floor St. Catharines, Ontario L2R 7R4	Corporation Of The City Of Sault Ste Marie 99 Foster Drive Sault Ste. Marie, Ontario P6A5X6
Attention: Program Coordinator, Connecting Links Program Telephone: 289-241-8354 Fax: 905-704-2777 Email: CLProgram@ontario.ca	Attention: Carl Rumiel, Director of Engineering Telephone: 705-759-5379 Fax: N/A Email: c.rumiel@cityssm.on.ca

Any Notice not sent in accordance with the above shall be deemed to not constitute proper Notice under the Agreement.

Part B.6 – Asset Retention Period

B.6.1 Recipient To Notify Ontario Before Disposal Of Assets Purchased With Funds Under Agreement. The Recipient shall notify Ontario in writing of any disposal of assets purchased by the Funds at least one hundred and eighty (180) Business Days in advance of the disposition. Except where the disposal of an asset is after the five (5) year asset retention period identified in B.6.2, the Recipient shall not dispose of any assets purchased, constructed, rehabilitated, or improved by the Funds without the prior written consent of Ontario.

B.6.2 Asset Retention Period. The Recipient shall retain any asset purchased, rehabilitated or built with Funds under this Agreement for a period of five (5) years from the date that the Project is completed.

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SCHEDULE "C"
Financial Information For The Project

Part C.1 – Maximum Funds

C.1.1 Ontario's Maximum Funds Under Agreement. Subject to the terms and conditions of this Agreement, Ontario shall provide the Recipient with an amount up to Two Million Nine Hundred Ninety-Three Thousand Seven Hundred Twenty Dollars ($2,993,720) in Funds for Eligible Costs for the Project. The Recipient acknowledges that the Funds available to it pursuant to the Agreement shall not exceed the Maximum Funds.

Project's Estimated Total Net Eligible Costs: $3,326,355.00
(Original budget from application)

Percentage of Provincial Support
The Percentage of Provincial Support is fixed at 90(%) for the Term of the Agreement.

The percentage noted above is rounded to a whole number. Note that for payment purposes the percentage is calculated to 10 decimal places and is based on the Maximum Funds against the Project's Estimated Total Net Eligible Costs as provided above.

"**Total Net Eligible Costs**" means all direct costs that are, in Ontario's sole and absolute discretion, properly and reasonably incurred no earlier than April 1, 2025 and prior to the Project Completion Date by the Recipient under a contract for goods or services necessary for the implementation of the Project, as more particularly described in part D.1 – Eligible Costs of this Schedule "B", less any HST rebate or any other rebates the Recipient has received, will receive or is eligible to receive from any government source.

Part C.2 – Holdback

C.2.1 Holdback. Ontario may hold back up to fifteen (15) percent from any payment of any Funds under this Agreement. Ontario may retain this holdback until it has approved the Recipient's Final Report, upon after which Ontario shall pay the holdback to the Recipient.

Part C.3 – End of Funds Date

C.3.1 End of Funds Date. Despite anything else contained in this Agreement, Ontario shall not provide any Funds to the Recipient for the Project after March 31, 2027.

Part C.4 – Payment Of Funds

C.4.1 Payment Of Funds. Ontario shall pay, subject to the terms and conditions of the Agreement, to the Recipient the Funds in accordance with the following:

MILESTONE PAYMENT SCHEDULE

MILESTONE PAYMENT	AMOUNT	REQUIRED DOCUMENTATION
Milestone 1: Upon receipt and acceptance by MTO of first Contract Award Report to initiate project.	An amount up to fifty percent (50%) of the Maximum Funds	**Contract Award Report** Must be submitted within fifteen (15) Business Days of a council resolution and no later than June 30, 2025.
Milestone 2: Upon receipt and acceptance by MTO of the Substantial Completion Report and upon completion of consultation with any Indigenous Community, where applicable as determined in Ontario's sole discretion.	An amount up to eighty-five percent (85%) of either (i) The Maximum Funds, less the amount paid at Milestone 1; **or** (i) An amount calculated by multiplying the percentage of Maximum Funds against the Recipient's Total Net Eligible Costs, less the amount paid at Milestone 1.	**Substantial Completion Report** Within fifteen (15) Business Days of the Project Completion Date set out in Part B.3 of Schedule "B" of the Agreement (no later than December 31st of the Fiscal Year of Project Completion).
Milestone 3: Upon receipt and acceptance by MTO of the Final Report and upon completion of consultation with any Indigenous Community, where applicable as determined in Ontario's sole discretion.	Using the same method of calculation as in Milestone 2, (i) The balance of the Funds, if any, to the limit of the Maximum Funds, **or** (ii) The balance, if any, of the Funds calculated by multiplying the Percentage of Provincial Support against the Recipient's Total Net Eligible Costs as certified in the Final Report, whichever aggregate amount is smaller.	**Final Report** Within sixty (60) Business Days of the Project Completion or no later than March 8 of the Fiscal Year of Project Completion.

Part C.5 – Limit On Ontario's Contribution Under Agreement

C.5.1 Limit On Provincial Contribution Under Agreement. Despite anything else contained in this Agreement, Ontario's total contribution toward the Project shall not exceed ninety percent (90%) of the Project's total Eligible Costs.

SCHEDULE "D"
Eligible And Ineligible Costs

Part D.1 – Eligible Costs

D.1.1 Eligible Costs. Subject to the terms and conditions of this Agreement and Part D.2 of this Schedule "D" of the Agreement, Eligible Costs shall only include all direct and incremental costs that are attributable to the development and implementation of the Project and are in Ontario's sole and absolute discretion, properly and reasonably incurred as well as necessary for the Project. Eligible Costs must also be actual, verifiable cash outlays to third party vendors that are documented through invoices, receipts or other records that is acceptable to Ontario.

Without limiting the generality of the foregoing, Eligible Costs shall only include the following:

(a) The capital costs of constructing, rehabilitating, replacing or improving, in whole or in part, the tangible core infrastructure asset noted in the Project Description in Schedule A;
(b) The Scope of Eligible Work as described in the Connecting Links Program Guide;
(c) All planning and assessment costs, such as the costs of environmental planning, surveying, engineering, architectural supervision, testing and management consulting services;
(d) The costs for permits, approvals, licences and other authorizing documents, as well as inspections and other fees directly attributable to obtaining a permit, approval, license or other authorizing document, provided those costs are directly attributable to the construction and implementation of Project,
(e) The costs for consulting with an Indigenous Community, including the Recipient's legal fees, provided they are reasonable, on matters pertaining to the Project, including the translation of documents into languages spoken by the affected Indigenous Community, but does not include any capacity funding unless specifically approved by Ontario in writing prior to being incurred;
(f) The costs of Project-related signage, lighting, Project markings and utility adjustments;
(g) The costs of joint communication activities, such as press releases, press conferences, translation and road signage recognition, as described in Schedule "F" of this Agreement; and
(h) Other costs that are, in Ontario's sole and absolute discretion, direct, incremental and necessary for the successful implementation of the Project, provided those costs have been approved by Ontario in writing prior to being incurred.

Part D.2 – Ineligible Costs

D.2.1 Ineligible Costs. The following costs are Ineligible Costs and are therefore ineligible for funding under this Agreement:

(a) Costs incurred prior to April 1, 2025 or after the Project Completion Date;
(b) Costs associated with the acquisition or leasing of:
    (i) Land,
    (ii) Buildings,
    (iii) Equipment,
    (iv) Other facilities, and
    (v) Obtaining easements, including costs or expenses for surveys, and includes real estate fees and other related costs;

(c) Financial charges, legal fees, other than those association with consultation with Indigenous Communities (provided such legal fees are reasonable), loan and interest payments
(d) The value of any goods and services which are received through donations or in kind;
(e) Employee wages and benefits, overhead costs as well as other direct or indirect operating, maintenance and administrative costs incurred by the Recipient for the Project, and more specifically, but without limiting the generality of the foregoing, costs relating to services delivered directly by permanent employees of the Recipient;
(f) Meal, hospitality or incidental costs or expenses of Consultants;
(g) Costs associated with completing applications for the Connecting Links Program; and
(h) Any costs of Accommodation for any Indigenous Community unless specifically approved by Ontario in writing prior to being incurred.

D.2.2 Harmonized Sales Tax. Any portion of the Harmonized Sales Tax that is refundable by the Canada Revenue Agency as an input tax credit or as a rebate shall be deemed to be an Ineligible Cost. Any portion of the Provincial Sales Tax that is refundable by the respective provincial tax authority shall be deemed to be an Ineligible Cost.

D.2.3 Costs Of Non-Arm's Length Parties. The costs or expenses of goods or services acquired from parties that are not Arm's Length from the Recipient must be valued at the cost of the supplying entity and shall not include any mark up for profit, return on investment or overhead costs and shall not exceed fair market value. Ontario may not consider the eligibility of any of these costs unless access is provided to the relevant records of the supplying entity.

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SCHEDULE "E"
Aboriginal Consultation Requirements

Part E.1 – Purpose

E.1.1 Purpose. This Schedule sets out the responsibilities of the Recipient in relation to consultation with Indigenous Communities on the provision of Funds, and to delegate procedural aspects of consultation from Ontario to the Recipient.

Part E.2 – Responsibilities of the Recipient

E.2.1 Recipient's Responsibilities. If the Recipient is delegated the procedural aspects of the Duty to Consult through a Delegation Letter, the Recipient is responsible for:

(a) Giving notice to the Indigenous Communities regarding the Project as identified in the Delegation Letter, if such notice has not already been given by the Recipient or Ontario;

(b) Immediately notifying Ontario of contact by any Indigenous Communities regarding the Project and advising of the details of the same;

(c) Informing the Indigenous Communities of the regulatory and approval processes that apply to the Project of which the Recipient is aware after reasonable inquiry;

(d) Making all reasonable efforts to build a positive relationship with the Indigenous Communities in relation to the Project;

(e) If appropriate, providing reasonable financial assistance to Indigenous Communities to permit effective participation in consultation processes for the Project, but only after consulting with Ontario in accordance with D.1.1(e);

(f) Answering any reasonable questions to the extent of the Recipient's ability and receiving comments from the Indigenous Communities, maintaining summary documentation showing the issues raised by the Indigenous Communities and any responses the Recipient has provided;

(g) Where an Indigenous Community asks questions regarding the Project directly of Ontario, providing Ontario with the information reasonably necessary to answer the inquiry, upon Ontario's request;

(h) Where appropriate, discussing with the Indigenous Communities potential accommodation, including mitigation of potential impacts on established or asserted Aboriginal or treaty rights regarding the Project and reporting to Ontario any comments or questions from the Indigenous Communities that relate to potential accommodation or mitigation of potential impacts;

(i) Consulting regularly with Ontario during all discussions with Indigenous Communities regarding accommodation measures, if applicable, and presenting to Ontario the results of such discussions prior to implementing any applicable accommodation measures; and

(j) Complying with any other responsibilities set out in the Delegation Letter.

E.2.2 Recipient Shall Keep Records And Share Information. The Recipient shall carry out the following functions in relation to record keeping, information sharing and reporting to Ontario:

(a) Provide to Ontario, upon request, complete and accurate copies of all documents provided to the Indigenous Communities in relation to the Project;

(b) Keep reasonable business records of all its activities in relation to consultation and provide Ontario with complete and accurate copies of such records upon request;

(c) Provide Ontario with timely notice of any Recipient mailings to, or Recipient meetings with, the representatives of any Indigenous Community in relation to the Project;

(d) Immediately notify Ontario of any contact by any Indigenous Communities regarding the Project and provide copies to Ontario of any documentation received from Indigenous Communities;

(e) Advise Ontario in a timely manner of any potential adverse impact of the Project on Aboriginal or treaty rights or asserted rights of which it becomes aware;

(f) Immediately notify Ontario if any Indigenous archaeological resources are discovered in the course of the Project;

(g) Provide Ontario with summary reports or briefings on all of its activities in relation to consultation with Indigenous Communities, as may be requested by Ontario; and

(h) If applicable, advise Ontario if the Recipient and an Indigenous Community propose to enter into an agreement directed at mitigating or compensating for any impacts of the Project on Aboriginal or treaty rights or asserted rights.

E.2.3 Recipient Shall Assist Ontario. The Recipient shall, upon request lend assistance to Ontario by filing records and other appropriate evidence of the activities undertaken both by Ontario and by the Recipient in consulting with Indigenous Communities in relation to the Project, attending any regulatory or other hearings, and making both written and oral submissions, as appropriate, regarding the fulfillment of the Duty to Consult by Ontario, to the relevant regulatory or judicial decision-makers.

E.2.4 Indigenous Consultation Plan. Based on the scope and nature of the Project, Ontario may require the Recipient, in consultation with Ontario, to develop and comply with an Indigenous consultation plan ("Indigenous Consultation Plan"). If Ontario provides Notice to the Recipient that an Indigenous Consultation Plan is required, the Recipient will, within the timelines provided in the Notice, provide Ontario with a copy of the Indigenous Consultation Plan.

E.2.5 Changes to the Plan. The Recipient agrees that Ontario, in its sole discretion and from time to time, may require the Recipient to make changes to the Indigenous Consultation Plan.

E.2.6 Indigenous Consultation Records. If consultation with Indigenous Communities is required, the Recipient will maintain an Indigenous consultation record and provide such record to the Ontario, and any update to it, as part of its reporting to Ontario under this Agreement.

Part E.3 – General

E.3.1 ***No Substitution.*** This Schedule shall be construed consistently with but does not substitute for any requirements or procedures in relation to Indigenous consultation or the Duty to Consult that may be imposed by a ministry, board, Crown Agency, or other regulatory decision-maker acting pursuant to laws and regulations. Such decision-makers may have additional obligations or requirements.

Part E.4 – Notice and Contact

E.4.1 ***Notices In Relation To Schedule.*** All notices to Ontario pertaining to this Schedule shall be in writing and shall be sent to the Person identified under Part B.5 of Schedule B.

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SCHEDULE "F"
Communications Protocol

Part F.1 – Introduction

F.1.1 Purpose of Communications Protocol. This Communications Protocol (Protocol) outlines the respective responsibilities and the working relationship between the Parties to this Agreement as they relate to all communications by the Parties regarding funding received in relation to the Project.

F.1.2 Application of Communications Protocol. This Protocol applies to all communications activities related to any funding the Recipient receives under this Agreement. Communications activities may include, but are not limited to:

- Project signage
- Media events and announcements, including news conferences, public announcements, official events or ceremonies, news releases
- Printed materials
- Websites
- Photo compilations
- Award programs
- Awareness campaigns

Part F.2 – Project Signage

F.2.1 Project Signage: The Recipient shall, at Ontario's request, provide acknowledgement of the provincial contribution to the Project. Sign design, content and installation guidelines will be provided by Ontario.

F.2.2. Permanent Plaque. Where the Recipient decides to install a permanent plaque or other suitable marker with respect to a Project, it must recognize the provincial contribution to the Project and be approved by Ontario prior to installation.

F.2.3 Installation of Signage. The Recipient is responsible for the production and installation of Project signage, unless otherwise agreed upon in writing prior to the installation of the signage.

Part F.3 – Media Events

F.3.1 Requesting Media Events. The Recipient or Ontario may request a media event, announcement or recognition of key milestones related to Project. In requesting a media event or an announcement, the Party requesting the event will provide at least twenty (20) Business Days' notice to the other Party of its intention to undertake such an event. The event will take place at a date and location that is mutually agreed to by the Parties. The Parties will have the opportunity to participate in such events through a designed representative. Each participant will choose its designated representative.

F.3.2 Approval Of Communications. All joint communications material related to media events and announcements must be approved by Ontario and recognize the funding provided by Ontario.

F.3.3 Media Events. Media events and announcements include but are not limited to:

- News conferences
- Public announcements
- Official events or ceremonies
- News releases

Part F.4 – Printed Materials, Website, Photo Compilations, Award Programs And Awareness Campaigns

F.4.1 Messaging About Project. With prior consultation with Ontario, the Recipient may include messaging in its own communications products and activities with regards to the Project. When undertaking such activities, the Recipient shall provide the opportunity for Ontario to participate and shall recognize the funding provided by Ontario.

Part F.5 – Issues Management

F.5.1 Sharing Information. The Recipient shall share information promptly with Ontario should significant emerging media, Project or stakeholder issues relating to a Project arise. Ontario will advise Recipients, when appropriate, about media inquiries concerning the Project.

Part F.6 – Communicating Success Stories

F.6.1 Communicating About Project. The Recipient agrees to communicate with Ontario for the purposes of collaborating on communications activities and products including but not limited to success stories and features relating to the Project.

F.6.2 Ontario's Right To Publicize Information About Project. The Recipient acknowledges and agrees that Ontario may publicize information about the Project. Ontario agrees it will use reasonable efforts to consult with the Recipient about Ontario's publication about the Project prior to making it.

Part F.7 - Disclaimer

F.7.1 Disclaimer. If the Recipient publishes any material of any kind relating to the Project or the Connecting Links Program, the Recipient shall indicate in the material that the views expressed in the material are the views of the Recipient and do not necessarily reflect Ontario's views.

[REST OF PAGE INTENTIONALLY LEFT BLANK]

SCHEDULE "G"
Reporting Requirements

Part G.1 – Reports Requirements

The following Reports are to be provided in full in the corresponding format provided hereafter and with such content as is satisfactory to Ontario:

	Name of Report and Details Required	Due Date
1.	**Contract Award Report** - a Report from council including a resolution or bylaw authorizing the award of the first contract to initiate the Project.	Within fifteen (15) Business Days of a council resolution and no later than June 30, 2025.
2.	**Revised Budget Report** must be based on tenders awarded to complete the Project including: (i) first contract for Project as part of the Milestone 1 Report, (ii) after award for detail design (if not first contract), and (iii) after award of construction. The Recipient shall use the form set out in Part G.2 of Schedule "G" of the Agreement.	Within fifteen (15) Business Days of a council resolution authorizing the contract award.
3.	**Progress Report** - The Recipient shall use the form set out in Part G.3 of Schedule "G" of the Agreement.	Twice a calendar year by January 15 and July 15 for the Term of the Agreement.
4.	**Substantial Completion Report** – The recipient shall use the form set out in Part G.4 along with a Revised Budget Report using the form set out in Part G.2 of Schedule "G" of the Agreement.	Within fifteen (15) Business Days of the Project Completion Date set out in Part B.3 of Schedule "B" of the Agreement (no later than December 31st of the Fiscal Year of Project Completion).
5.	**Final Report** - including statement of final incurred eligible expenses validated by invoices and/or payment certificates. The Recipient shall use the form set out Part G.5 of Schedule "G" of the Agreement.	Within sixty (60) Business Days of the Project Completion or no later than March 8 of the Fiscal Year of Project Completion.
6.	**Other Reports or information** as may be directed by Ontario from time to time, if any	On or before a date directed by Ontario.

SCHEDULE "G" Continued

Part G.2 – Revised Budget Report

REVISED BUDGET REPORT

This report will contain a revised budget for the Project based on Total Net Eligible Expenses after award of (i) first contract for project as part of the Milestone 1 Report, (ii) after award for detail design (if not first contract), and (iii) after award of construction. This report should be submitted to Ontario within 15 days of award of tender.

Recipient Municipality Name	
Project Name	

REVISED PROJECT COSTS

	ORIGINAL BUDGET (From Application)	REVISED BUDGET	VARIANCE
Environmental Assessment/Permits			
Engineering/Design			
Project Management/Contract Administration			
Construction			
Miscellaneous			
Total			
Less Any Actual or Potential HST Rebates			
REVISED TOTAL NET ELIGIBLE COSTS			

VARIANCE EXPLANATION

In cases where revised costs have a variance of 15% or more than the original budget (from application), please provide an explanation. If more space required, attach additional page.

PROJECT CERTIFICATION

As the payment certifier or chief financial officer for my municipality [Full below]
_____, I hereby certify that the revised Project Budget figures set out above are true to the best of my knowledge, information and belief.

Signature:	
Name:	
Title:	
Phone Number:	
Date:	

SCHEDULE "G" Continued

Part G.3 – Progress Report

PROGRESS REPORT

For projects which will be completed in one year, a progress report is due on or before July 15 of the fiscal year (April 1st to March 31st) to which this agreement applies. For projects which require two or three years to complete, this report is due twice a year on or before January 15 and July 15 each year for the term of the agreement. *Please contact your local Ministry of Transportation office should you have any questions filling in this report.*

Recipient Municipality Name	
Project Name	

Key Dates:

Date	Forecasted	Actual
Total Eligible Project Costs to Date		
Less Any Actual or Potential HST Rebates		
TOTAL NET ELIGIBLE COSTS to Date		
Start Date of Detail Design (if applicable)		
End Date of Detail Design (if applicable)		
Start Date of Construction (if applicable)		
End Date of Construction (if applicable)		
Substantial Completion Date		

Please provide information in format below and attach to this report.

Description of Activities	Activity Status (On, Ahead, or Behind Schedule)	Issues to Date and Actions Taken to Resolve Issues	Confirm Expected Completion Date of Activity

Other Progress to date
Include any communications events, and communications sent/received (oral or written) from any Aboriginal Groups, please include dates, where applicable or available
Variance from original approved Project (if any)

Attestation by Authorized Official:
I, _____ confirm that my municipality is in compliance with the terms and conditions found in the Agreement for this Project.

Name: _____

Title: _____ **Date:** _____

SCHEDULE "G" Continued

Part G.4 – Substantial Completion

SOLEMN DECLARATION OF SUBSTANTIAL COMPLETION

Recipient Municipality Name: _____
Project Name: _____

In the matter of the Agreement entered into between, His Majesty the King in right of Ontario, as represented by the Minister of Transportation and the above-noted Recipient,
on _____ , 20___(date) I, _____a _____ (Registered Engineer *or* Architect, Municipal Official) in the Province of Ontario, do solemnly declare as follows:

1. That I am the _____(title, department, organization), and as such have knowledge of the matters set out herein;

2. That the Work identified for the Project (above) funded through the above-mentioned Agreement _____ (has / has not) been Substantially Completed as described in Schedule C, dated _____ on the _____ day of _____ 20___.

3. That the value (dollar amount) of substantially completed Work on the Project, by _____, 20__ (date) is _____ (dollars).

4. That the Work
   a. was carried out by _____ (the prime contractor), between _____ (start date) and _____ (completion date);
   b. was supervised and inspected by qualified staff;
   c. conforms with the plans, specifications and other documentation for the Work; and
   d. conforms with applicable environmental legislation, and appropriate mitigation measures have been implemented.

AND I MAKE THIS SOLEMN DECLARATION conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the CANADA EVIDENCE ACT.

Declared before me at the _____
Of _____
in the _____
of _____ this _____
day of_____A.D. 20_____

_____ (Deponent)

_____
A Commissioner etc.

This declaration must be sworn before a commissioner for oaths, notary public or justice of the peace

SCHEDULE "G" continued

Part G.5 – Final Report

FINAL REPORT

*Final Reports are to be completed and submitted to Ontario **within sixty (60) Business Days of the Project Completion and no later than March 8 of fiscal year of Project Completion.** Please contact your local Ministry of Transportation office should you have any questions filling in this report.*

Attach Payment certificate(s) (these may include unpaid holdbacks) and other third party invoices incurred for the Project. Where applicable, indicate any portion of the costs on such invoices which are Ineligible Costs as per section D.2 of Schedule "D".

Municipality Name:
Project Name:

Section 1. Project Details

Dates	Forecasted	Actual
Construction Start Date		
Construction End Date		

Project Variances (if applicable)
Has your Project experienced any variances in scope, budget or schedule? Please describe and provide a rationale.

Section 2. Financial Information

Budget Item	Budgeted Cost	Actual Cost
Eligible Project Costs	$	$
Less HST Rebate	$	$
TOTAL NET ELIGIBLE COST	$	$
Total Interest Earned on Funds		$

*For all invoices attached, please provide information in format below **and attach to this report.***

Work Description	Invoice #	Invoice Date	Invoice Period From	Invoice Period To	Vendor	Total Amount (A)	HST	HST Rebated (B)	Net Eligible Cost (A-B)
TOTAL									$

SCHEDULE "G" continued

Section 3. Project Outcomes and Benefits

1. **What were the objectives of your Project?** *(Select any that apply)*

- ☐ Address safety related issues
- ☐ Extend service life
- ☐ Improve pavement condition
- ☐ Improve drainage (cross-fall, curb and gutter, storm sewer, etc.)
- ☐ Improve underground infrastructure (watermain, sanitary sewer, utilities, etc.)
- ☐ Other (describe below)

2. **Describe how the Work completed achieves these objectives.** Please include quantitative information where possible e.g., extended service life in terms of additional years, improvement in road condition rating, lane-km in good condition, etc. *If required, you may attach information on separate page and attach to this report.*

3. **Describe any economic or other benefits of the project for your community.** *If required, you may attach information on separate page and attach to this report.*

4. **Please confirm that your connecting link and project improvements will be included in your asset management plan and when the updated plan will be available.**

☐ Yes, I confirm that our connecting link and the project improvements will be included in my municipality's updated asset management plan.

I expect our updated plan will be completed and publicly posted by: [Month] [Year]

	20

Section 4. Indigenous Consultation

Please provide particulars as to how the requirements have been met under Section 11 and Schedule "E" of the Agreement.
Please indicate:

Declaration required for the Project:

There have been communications from Indigenous communities and/or Indigenous archaeological resources were located with respect to this Project. ☐ Yes ☐No

If you responded "Yes" to the above, please complete the following:

Declaration required for Project with consultation involving Indigenous communities

Notice about this Project, as well as a full Project description, was provided to the identified Indigenous communities making them aware of the opportunity to provide comments about the Project and its potential impacts on establisher or asserted Aboriginal and/or treaty rights. ☐ Yes ☐No

A copy of any correspondence/information between the Recipient and any Indigenous communities was forwarded to the Province of Ontario. ☐ Yes ☐No

SCHEDULE "G" continued

The Province of Ontario was made aware of any issue(s) or concern(s) identified by any Indigenous communities. ☐ Yes ☐No

Section 5. Confidentiality, Certification and Signature

Confidentiality

Information submitted in this Final Report to Ontario will be subject to the *Freedom of Information and Protection of Privacy Act*. **Any information submitted in confidence should be clearly marked "CONFIDENTIAL" by the Recipient.** Inquiries about confidentiality should be directed to the Rural Programs Branch.

Certification

I certify that:

1. The Project as described in the Agreement has been completed;
2. The Recipient is in compliance with all of the terms and conditions of the Agreement for the Project;
3. Any interest earned (as noted in Section 2) has been used for Eligible Costs associated with the Project or has been or will be remitted to the Ministry; and
4. There have been no overpayments by Ontario or any other organization or government in relation to the Project.

The official noted below warrants that these statements are true as of the date indicated.

Name of Authorized Official:	
TITLE:	
Date:	

SCHEDULE "H"
Ministry of Transportation (MTO) Connecting Links Program 2025-26 Guide

Part H.1 – Connecting Links Program Guide

H.1.1 Reference. Refer to the Connecting Links Program Guide from the Connecting Links Program grant posting that was published on (Get funding from the Ontario government) Ontario.ca from August 16, 2024, until November 13, 2024.

The Connecting Links Program Guide from the Connecting Links Program grant is as following:

Ontario

Ministry of Transportation (MTO) Connecting Links Program 2025 - 2026

Guide

August 2024

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Section 1 – Purpose

The Ministry of Transportation's **Connecting Links Program** provides dedicated provincial funding for road and bridge projects on designated connecting link highways.

The Connecting Links Program has been re-designed to provide a sound basis to make provincial funding decisions and ensure that provincial financial accountability and asset management requirements are met. Through a structured application process all applicants are considered in a consistent and transparent manner.

This Program Guide has been prepared to assist connecting link municipalities in completing and submitting the application. The guide includes legislation that applies to connecting links, a detailed description of the scope of work eligible for funding and the requirements for detailed information on connecting link condition and improvement needs.

Applicants are encouraged to contact their local regional office to ask any questions before submitting an application.

The ministry will review all submissions and will notify successful and unsuccessful applicants after funding decisions are made in early 2025.

Funding decisions will be based on an assessment of connecting link needs, the ministry's prioritization of submitted projects and the available budget in any year.

Section 2 – Objectives

The objectives of the program are to make connecting link investments that:

- Address critical connecting link improvement needs;
- Extend the life of the asset;
- Are cost effective and appropriate to address the connecting link need; and
- Ensure the safe and efficient movement of provincial traffic.

The ministry will prioritize projects that best meet these objectives and focus on addressing critical and urgent connecting link needs first. The Connecting Links Program requires that municipalities submit detailed information on all connecting link road section and structures. This will enable the ministry to assess the current and future state of connecting link infrastructure and determine how to best target connecting link investments on a multi-year basis.

Section 3 – Connecting Links Policy

Connecting links are municipal roads that connect two ends of a provincial highway through a community or to an international or interprovincial border crossing. These are critical roadways that serve provincial and municipal interests, as they carry long- distance provincial highway traffic moving through communities, as well as local traffic within the community.

Connecting links are formally designated under section 21 of the *Public Transportation and Highway Improvement Act*, R.S.O. 1990, c. P. 50 as amended. Under the Act, a connecting link remains a "highway" under the jurisdiction and control of the municipality.

Connecting links are typically under the ownership of a lower tier municipality or a single tier municipality. Where a connecting link intersects with an upper tier highway, the intersection remains under the jurisdiction and control of the upper tier municipality. These intersections are eligible for funding under the Connecting Links Program.

The Connecting Links Program provides funding for eligible capital improvement costs – not maintenance. The responsibility for maintenance of connecting links lies with the municipality. Under section 44 of the *Municipal Act*, R.S.O. 2001, the municipality that has jurisdiction over a highway or bridge must keep it in a reasonable state of repair.

Ontario has set out Minimum Maintenance Standards for municipal highways, including connecting links, under the *Municipal Act*. Ontario Regulation 239/02 provides municipalities with guidelines for maintaining municipal highways including winter maintenance, roadway and sidewalk surface condition, traffic control signal systems, regulatory and warning signs, etc.

Ontario Regulation 104/97 of the *Public Transportation and Highway Improvement Act* requires that municipalities visually inspect bridge structures with a span of greater than or equal to three metres (in the direction of traffic) at least once every two years by, or under the direction, of a professional engineer. To be eligible for the Connecting Links Program, municipalities will be required to submit a Municipal Structure Inspection report to MTO every two years for each connecting link bridge and culvert three metres or greater in length (in direction of traffic) as they are completed.

The ministry has the authority under the *Bridges Act* 1990, c. B.12, to approve connecting link bridge projects. MTO will review structure inspections on an ongoing basis and assess proposed structure projects to ensure that critical structure needs on connecting links are addressed.

Under the *Highway Traffic Act*, R.S.O. 1990, c. H.8, the ministry has the authority to approve all municipal by-laws and traffic control signals that restrict or interrupt the flow of through traffic on the connecting link highway including, but not restricted to:

- Limiting weight on bridges;
- Erection of traffic controls and pedestrian signal systems; and
- Regulating motor vehicle traffic on connecting links.

Appendix 1 includes sections of legislation that applies to connecting links. Municipalities should consult with the ministry to ensure that necessary approvals will be in place prior to connecting link funding being granted.

Section 4 – Program Overview

Which municipalities are eligible?

The Ministry of Transportation's Connecting Links Program provides dedicated provincial funding for road and bridge projects on connecting link highways designated under the Public *Transportation and Highway Improvement Act*.

All 77 Ontario municipalities with designated connecting links are eligible for funding. Eligible municipalities and designated connecting link road sections are listed in **Appendix 2**.

A municipality with one designated link is permitted to submit one project per year. A municipality that has more than one designated connecting link may submit a maximum of two projects per year. If submitting for two projects however, each application must be for a project located on separate connecting link sections as identified in **Appendix 2**. No more than one application per connecting link section is permitted by a municipality.

What amount of funding can be requested?

Connecting links serve both provincial and local traffic needs; therefore, a provincial-municipal cost sharing partnership is considered appropriate.

The ministry will provide funding for up to 90% of total eligible project costs. The maximum amount of funding for eligible costs is $3 million per road project, and up to $5 million per bridge project. Project proposals should include a detailed scope of work and cost estimates.

The applicant is required to contribute the remaining 10% of eligible project costs and pay for all ineligible project costs. The municipality cannot use capital funding from any other capital application program for the same road or bridge project funded under the Connecting Links Program.

Despite the foregoing, general formula based, or other non-application-based funding revenue received from other provincial or federal sources may be used towards a municipality's 10% contribution.

When would funding be provided?

Once funding decisions are made, the ministry will notify successful applicants that their project has been approved for funding. Municipalities may then begin the tendering process and incur project costs starting April 1, 2025. The ministry will provide a Contribution Agreement following the Minister letter.

The execution of the Agreement is required before payments can be made. Payments will be made on a milestone basis (refer to Section 8).

Section 5 – Project Eligibility

What are eligible connecting links projects?

The Connecting Links Program provides funding for the design, construction, renewal, rehabilitation and replacement of connecting link infrastructure. Maintenance costs, including winter maintenance, are not eligible for funding.

Connecting Links projects may be one, two, or three years in duration. Applications for projects with a forecasted completion time greater than 3 years will not be considered. Regardless of the duration, award of the first contract related to the project must occur within the first year of the project. See Sections 8 and 9 for additional information regarding milestones.

A municipality may submit for detailed design and construction as one project; or alternatively, a municipality may submit detailed design for funding as a separate project prior to construction. In the case of the latter, however, the ministry cannot guarantee funding for the construction project in the subsequent year. Funding for the construction would be considered along with other projects submitted in the following year.

Expansion projects (road widening) resulting from general traffic growth (provincial and municipal), will be considered eligible projects. However, the costs for improvements directly related to increased traffic from new development or major expansion of an existing development continue to be the responsibility of the municipality (and/or the developer).

As noted below, land acquisition and the cost of municipal infrastructure within the connecting link right-of-way are not eligible for funding under the Connecting Links Program, such as watermains, sanitary sewers, utilities, etc.

The proposal must not include multiple projects, e.g., projects on separate roads or structures that are not connected. Proposals can include various related works such as road reconstruction and storm sewer repair; road and intersection improvements; multiple spans on one structure; and, structure replacement and approach road improvements like guiderail.

NOTE: The same connecting link **road or bridge** project cannot be submitted under both the Connecting Links Program and another capital application program. A municipality may, however, submit an application for **water or wastewater** work on a connecting link under another funding program. If the same **road or bridge** project is submitted under multiple capital application programs, it will become ineligible for funding under the Connecting Links program.

Projects already underway or awarded at the time of the application period will be deemed ineligible for the program.

What project costs are eligible/ineligible for reimbursement?

Funds can be used for:

- Environmental Assessment costs
- Design/Engineering costs
- Project Management/Contract Administration costs
- Materials
- Construction

Funds cannot be used for:

- Costs incurred before project approval or after committed project completion date
- Land acquisition
- Leasing land, equipment, buildings and other facilities
- Financing charges
- Legal fees

Appendix 3 outlines the scope of eligible work for connecting link projects with more specific requirements detailed in Annexes A-G of **Appendix 4**. MTO encourages municipalities to consider sustainable construction practices for connecting link projects as described in **Appendix 5**.

The connecting link right-of-way typically includes some municipal infrastructure that is not eligible for funding under the Connecting Links Program, such as watermains, sanitary sewers, utilities, etc. The municipality is responsible for costs related to these assets and all other ineligible items.

Municipalities should consult with MTO regional offices (listed in Section 10) to seek clarification on eligible project costs before submitting an application.

What are the eligible project net costs?

The application form requires that the applicant indicate the eligible project net costs, which is the eligible project costs under the Connecting Links Program, *excluding the HST rebate that the municipality expects to receive*. The maximum provincial funding contribution will be 90% of the net eligible costs up to a maximum of $3 million per road project, and up to $5 million per bridge project. It is the applicant's responsibility to determine the HST rebate.

Section 6 – Application Submission

The Connecting Links Program has a one-stage application process, where eligible connecting link municipalities are requested to submit specific project information through a standard application form along with supporting documents.

Where can I obtain an application?

The information on how to submit an application is available online at: https://www.app.grants.gov.on.ca/gr/tpcr/#/externalLogin

For more information, please call the Program Coordinator at 289-241-8354 or reach out to your local regional Ministry of Transportation office contact, listed in Section 10 of the Program Guide. You can also send an email to the program email address: CLProgram@ontario.ca.

When are applications due?

Applications are due by Wednesday, November 13th,2024, at 5:00 p.m. Eastern Standard Time (EST).

How are applications submitted?

For the 2025-2026 Connecting Links Program Year

Connecting link applications must be submitted through the Transfer Payment Ontario portal. Transfer Payment Ontario (TPON) is a web-based funding management system that provides transfer payment applicants and recipients with a self-service portal to apply for funding.

Follow the steps listed at https://www.ontario.ca/page/get-funding-ontario-government to access the TPON portal. This site is best viewed using the Google Chrome Browser.

You can use Transfer Payment Ontario to:

- register, complete, and submit connecting link applications for funding
- find information about other funding opportunities available to your municipality
- check the status of your active submissions.

For assistance, please contact TPON Client Care at 416-325-6691 or 1-855-216-3090 or TPONCC@Ontario.ca .

Monday to Friday from 8:30 a.m. to 5:00 p.m. Eastern Standard Time. TTY/Teletypewriter (for the hearing impaired): 416-325-3408 / Toll-free: 1-800-268-7095.

Section 7 – Project Application

Municipalities are required to complete a project application form to be eligible for connecting link funding. This will provide a consistent basis for the ministry to assess the proposed project and the municipality's multi-year connecting link needs.

In addition to the application form, municipalities must submit a council resolution (template available upon request) that:

a) demonstrates council's support of the project identified in application;

b) confirms that capital funding is available for the municipal contribution component;

c) indicates that if the application is successful, that the municipality will proceed with the project in accordance with the timelines specified in the application.

Application Requirements

Application Section	Requirements
1. Contact Information	Municipality name, mailing address and authorized contact person (Public Works Manager, CAO, Clerk, etc.).
2. Project Information	Project Title (include municipal road name) and Project Type (e.g., road resurfacing, road reconstruction, bridge rehabilitation or replacement). Fiscal Year of project completion.
3. Project Location	Description of the project location (start and end points, length, width, latitude and longitude coordinates). Include a map to scale.
4. Project Description	Description of the project outline of scope of work and provide a schedule. The outline of the scope of work should include whether in water work, excavation, ground disturbance, or site clearance is anticipated. If available, provide a detailed proposal and costs as supporting information. If a bridge project over or under a railway, include specifics such as a railway access plan or any discussions with the railway to facilitate the project.
5. Project Rationale	How project addresses critical connecting link needs or extends the life cycle of the asset.
6. Project Innovation/ Sustainable Construction Practices	**Where applicable** - Identify any innovative or sustainable construction practices that will be applied in the design and construction of the project that will maximize the lifecycle of the asset, demonstrate good environmental stewardship, mitigate future climate change impacts or reduce environmental or traffic impacts. Examples include: culvert re-lining instead of full culvert replacement, reduction in the use of new aggregates in asphalt, or use of higher quality asphalt materials.
7. Project Readiness	List of any regulatory decisions, approvals, licenses, authorizations, agreements, etc., completed or required by the provincial or federal governments. Provide any additional details on work conducted or consultations undertaken to obtain approvals, agreements etc. that would expedite your project. If the project includes a traffic control signal, municipalities are required to seek MTO approval of the technical warrants for traffic signals and/or pedestrian crossings before submitting the project. Specifically address how the project complies with or will comply with the Environmental Assessment Act (e.g. Class Environmental Assessment completed, Class Environmental Assessment to be completed or project exempt from Environmental Assessment Act)
8. Milestone/Timelines	Key dates for the program including milestones for payments.
9. Timeline Risks and Mitigation Strategies	Risks, length of possible delay and mitigation strategies to ensure that project will be completed on schedule.
10. Project Financial Information	Total Project Costs, Eligible Project Costs, Provincial Funding Requested (maximum 90%) and sources for financing the municipal share of project costs (10%).
11. Project Cost Details	Estimated project costs (including HST) by fiscal year and project activity e.g., design, construction, contract administration, etc. MTO will fund up to 90% of the Total Net Eligible Costs.
12. Construction Cost-Shared Items	Estimated costs for any work items to be paid for by the municipality or charged to others e.g., utilities and railway. Provide an explanation for each item.
13. Asset Management Planning	Confirm that a comprehensive Asset Management Plan has been completed. If not previously submitted, or if there is updated information, provide structure inspection reports, and provide detailed information on the condition and ten year needs for all of the municipality's connecting link road sections and structures.
14. Supporting Information	If available, provide a detailed Project Proposal and Costs. Indicate what studies/reports have been completed to support the project.
15. Duty to Consult Indigenous Communities	The Crown has a duty to consult, and where appropriate, accommodate Indigenous communities when contemplating a decision or action that has the potential to adversely impact credibly asserted or established Aboriginal or Treaty rights. The ministry requires the applicants to respond to a set of questions listed in the application form. At the ministry's own discretion, the ministry may delegate to the applicants the procedural aspects of the Crown's duty to consult.

Application Section	Requirements
16. Declaration	Certification by municipal official that: • The submitted Application meets the requirements of MTO's Connecting Links Program as described in the Program Guide; • A comprehensive Asset Management Plan including connecting links has been completed and publicly posted; • The municipality will comply with the conditions that apply to designated connecting links under the Highway Traffic Act to ensure the safe and efficient movement of provincial traffic; • The project put forward in the application will be completed and the milestones met as stated in the Application; and • The Application is complete and factually accurate.
17. Documents to be Submitted	List of documents to be submitted along with application form. Use appropriate document titles, for example: "Municipality Name_Application_1" "Municipality Name_OSIM_Structure_1", "Municipality Name_CL_Road Inventory" "Municipality Name_Project _ 1"

What are the Application Asset Management Plan requirements?

There are four asset management planning requirements for connecting link municipalities.

1. **Asset Management Plan**

   Municipalities applying for connecting link funding must have a recently completed and publicly posted asset management plan indicating the asset condition, capital and maintenance needs, investment priorities and financial strategy for all core infrastructure which includes road, bridge, water and wastewater assets.

   If the applicant has previously provided a municipal asset management and there are no updates, there is no need to resubmit the same asset management plan. If the applicant has updated the plan or if it's the first time applying to the Connecting Links Program, the applicant is required to provide access to the plan.

2. **Connecting Link Structure Inspection**

   Municipalities are required to submit a Municipal Structure Inspection Manual (OSIM) or equivalent inspection report every other year for each connecting link bridge and large culvert three metres or greater in length (in the direction of traffic).

   If the applicant has previously submitted all current Municipal Structure Inspection Forms, there is no need to resubmit the inspection forms. However, if there are updated inspections they should be submitted. If it's the first time applying to the Connecting Links Program, the applicant is required to provide inspection forms for all connecting link structures.

3. **Connecting Link Asset Inventory, Conditions and Needs**

   Municipalities are required to submit detailed asset data on all connecting link road sections and structures (three metres or greater in length in the direction of traffic) under its jurisdiction. A map must be provided showing all connecting link road sections and structures. The map must indicate connecting link street and intersecting street names and other landmark references.

   If the applicant has submitted all structure and road data within the last two-years, this information does not need to be resubmitted. However, where the information has been updated, it should be submitted. If it's the first time applying to the Connecting Links Program, the applicant is required to provide this information for all connecting link road sections and structures.

   Appendix 6 includes the specific connecting link road section and structure data that must be submitted. The applicant shall submit this information in Excel or equivalent data file(s) that the ministry can import into Excel.

4. **Connecting Link Maintenance Plan/Strategy**

   Applicants are required to indicate that there is an ongoing maintenance plan or strategy for connecting links. Effective maintenance of connecting link roadway and structures is critical to prevent premature deterioration of the asset and defer the need for costly rehabilitation or reconstruction. Examples include routing and sealing of cracks to prevent water entering the pavement structure and washing bridge expansion joints on a routine basis.

   Applicants are also required to indicate that there is an ongoing inspection program to assess road sections and structures using sound condition ratings such as a Pavement Condition Index or Bridge Condition Index. Applicants should describe their methodology. All applicants are required to submit this information.

What are the requirements for Indigenous Community Consultation?

The Crown has a duty to consult, and where appropriate, accommodate Indigenous communities when contemplating a decision or action that has the potential to adversely impact credibly asserted or established Aboriginal or Treaty rights (the "duty to consult").

If triggered, the duty to consult has both informational and response components, and the Crown's duty to consult can vary widely and depends on the specific circumstances of the contemplated decision or action. The scope of the Crown's consultation obligations are determined by the strength of the claim to an asserted Aboriginal or Treaty right, and the potential impact of the proposed Crown conduct or decision on the established or asserted right.

Consultation generally involves providing timely and accessible information to the Indigenous community on the proposed Project, obtaining information from the Indigenous community on how their rights could be potentially affected if the Project were to go ahead, and determining how to address these concerns, including attempting to avoid, minimize, and/or mitigate adverse impacts on Aboriginal or Treaty rights.

Ontario has an obligation to assess whether or not the duty to consult is triggered by the funding of the Project. To assist, the application requires municipalities to indicate whether they have already consulted with Indigenous communities about the proposed Project. Applicants should identify any potential impacts to rights which may trigger the duty to consult. This includes any information about assertions or claims made to the municipality by Indigenous communities, and any concerns raised during previous consultation activities and how those were addressed. Additionally, the application requires the municipality to provide information on the characteristics of the land where the project is to take place and specific project activities and the potential for the project to adversely impact wildlife species.

The ministry will work with applicants as needed if the ministry determines that the duty to consult is triggered and may delegate the procedural aspects of the duty to consult to applicants. The ministry may assist with the consultation process where appropriate. It is expected that applicants should advise the MTO if there is a potential for the duty to consult to be triggered, and whether the applicant has already carried out consultation activities with potentially impacted Indigenous communities. Where this consultation is required, the applicant should appropriately plan and budget for this work as part of the project costs.

For more information on Ontario's duty to consult Indigenous communities, refer to the Duty to consult with Aboriginal peoples in Ontario web page at: https://www.ontario.ca/page/duty-consult-aboriginal-peoples-ontario.

How will applications be assessed?

Projects will be assessed on the basis of:

- Project criticality based on connecting link deficiencies and/or renewal needs;
- Project urgency based on stated 10-year deficiencies and risk assessment;
- Cost-effective and appropriate project to address stated connecting link need;
- Appropriate project activities and costs under the Connecting Links Program;
- Supporting documentation: asset management plan, bridge inspection reports, detailed project proposal, engineering studies/plans, etc.; and,
- Potential coordination with adjacent, concurrent provincial highway project.

MTO will prioritize projects that best meet the objectives of the Connecting Links Program, addressing critical and urgent connecting link needs first.

Funding decisions will take into consideration the ministry's prioritization of the projects, regional connecting link needs and the available budget in any year.

Will a municipality be notified if its application is unsuccessful?

Yes, both successful and unsuccessful applicants will be notified by the Ministry of Transportation after funding decisions are made. Unsuccessful municipalities are encouraged to contact their regional MTO representatives for feedback regarding their unsuccessful projects.

Section 8 – Contribution Agreement

The Contribution Agreement is a legal agreement that outlines the rights, responsibilities and obligations of the province and the municipality and includes various Schedules, e.g., project costs, milestones/timelines, reporting requirements, etc.

MTO will notify successful applicants by Minister letter that their project has been approved for funding. Municipalities may then begin the tendering process and incur project costs starting April 1, 2025. The ministry will provide the Contribution Agreement following the

Minister letter. The execution of the Agreement is required before payments can be made.

The signatures of the Head of Council and the Minister of Transportation are necessary to execute the agreement. Municipalities are encouraged to obtain Head of Council signature and a council resolution as soon as possible. Once co-signed by the Minister, the fully executed (signed by both parties) Contribution Agreement will be available in the TPON system for municipalities to download and save for their records.

How will the provincial funding flow?

Funding will be provided for eligible project costs on a milestone payment approach:

- Contract Award – 50%
- Substantial Completion – 35%
- Final Report – 15%

In order to be paid at these milestones it is critical that the project be completed on the submitted schedule. In the Application Form, the applicant is required to indicate the fiscal year of completion and any timeline risks, how the long the delay could be and provide mitigation strategies. Schedule risks include the time required for tendering, delays due to regulatory approvals or third party agreements, utility relocates, inclement weather, etc. If the schedule risks are significant, consideration should be given to extending the project completion over two or three years. The ministry will approve the multi-year funding on this basis.

Funded municipalities will be required to state their anticipated dates for Contract, Substantial Completion and Final Report. These milestones must be achieved by specific timelines as follows:

Milestone 1: Award of First Contract	By June 30, 2025
Milestone 2: Substantial Completion	By December 31 of Fiscal Year of Completion
Milestone 3: Final Report	By March 8 of Fiscal Year of Completion

Milestone payments will be disbursed once the ministry has accepted the Milestone Report. The first payment will be made once the contribution agreement has been signed by both parties (spring/summer of 2025) and Milestone 1 has been submitted to MTO for review. The Substantial Completion and Final Report payments will be made on the basis of the actual incurred costs up to the approved funding amount. Cost overruns are not eligible for funding. Any unused funding must be returned to the Government of Ontario.

Required Contribution Agreement Schedules

Agreement Schedule	Description
A. Project Description	Description of the type of project and scope of work.
B. Operational Requirements	Agreement Effective Date, Project Completion Date, Agreement Expiration Date, Insurance Requirements, etc.
C. Financial Information	Maximum Provincial Funding Amount and Provincial Contribution (90%), Milestone Payment terms, etc.
D. Eligible and Ineligible Costs	Eligible and Ineligible General Costs and Eligible Specific Project Costs under the Connecting Links Program.
E. Indigenous Consultation Requirements	Ontario and municipal responsibilities where Indigenous community consultation is required.
F. Communications Protocol	Project Signage, Media Events, Materials/Website, Issues, etc.
G. Reporting Requirements	Reports and Due Dates – Budget Reports, Progress Reports, Declaration of Substantial Completion, Final Report, Project Outcomes and Benefits, etc.

Section 9 – Reporting

Municipalities will be required to provide reports over the course of the project.

Report Requirements for Municipalities

	Name of Report and Details Required	Due Date
1	**Contract Award Report** – a Report from council including a resolution or bylaw authorizing the award of the first contract to initiate the project. The contract award process must be in compliance with the municipality's approved procurement policy.	Within fifteen (15) Business Days of a council resolution and no later than June 30, 2025.
2	**Revised Budget Report** must be based on tenders awarded to complete the Project including: (i) first contract for project as part of the Milestone 1 Report, (ii) after award for detail design (if not first contract), and (iii) after award of construction. The Recipient shall use the form set out in the Agreement.	Within fifteen (15) Business Days of a council resolution authorizing the contract award.
3	**Progress Report** – The Recipient shall use the form set out in the Agreement.	Twice a year by January 15 and July 15 for the Term of the Agreement.
4	**Substantial Completion Report** – The recipient shall use the form set out in the Agreement.	Within fifteen (15) Business Days of the Project Completion Date (no later than December 31 of the Fiscal Year of Completion).
5	**Final Report** – including statement of final incurred eligible expenses validated by invoices and/or payment certificates. The Recipient shall use the form set out in the Agreement.	Within sixty (60) Business Days of the Project Completion or no later than March 8 of the fiscal year of Project Completion.
6	**Other Reports or information** as may be directed by Ontario from time to time if any	On or before a date directed by Ontario.

The Milestone 1 Report must include statement of the detailed project costs based on the contract award and report on revised budget if different from the application budget. The ministry will disburse payments based on the eligible contract award costs – not the submitted estimated projects costs.

The Progress Reports must include information on eligible costs incurred to date, remaining eligible costs to be incurred, construction milestones completed, any anticipated variances (e.g., project scope, budget or schedule) and verification of the expected completion date.

The Milestone 2 Report must include a Declaration of Substantial Completion attested to by a municipal official, e.g., Clerk or Chief Finance Officer.

The Final Report requires confirmation of project completion, statement of incurred costs supported by the submission of invoices and any variances such as project scope, budget, or schedule, etc., from the Contribution Agreement must be noted and certified by a municipal official. In addition, in the Final Report, the municipality must indicate the benefits of the connecting link improvement such as safety, extended service life, pavement condition, structures in good condition, etc. as well as any economic or other benefits of the project for the community.

Templates for a Revised Budget Report, Progress Report, Declaration of Substantial Completion, Final Report and a chart for monthly invoice tracking will be provided as Schedules in the Contribution Agreement.

Applicants must advise the ministry, in writing or email and certified by a municipal official, of any proposed variation from the approved project scope of work, costs, completion date, etc., before implementation.

Section 10 – Information Contacts

The deadline for the application submission is Wednesday, November 13th,2024, at 5:00 p.m. EST.

Questions? Call 289-241-8354 or send an email to CLProgram@ontario.ca.

To discuss your proposed project, please contact your local regional Ministry of Transportation office using the information below.

Ministry of Transportation Regional Office Contacts

MTO Region	Contact	Phone	Email
West	Isaac Ferreira	519-859-7480	isaac.ferreira@ontario.ca
Central	Phil Iannacito	437-833-9431	phil.iannacito@ontario.ca
Eastern	Matthew Hunter	613-483-0430	matthew.hunter@ontario.ca
Eastern	Ian Hinschberger	613-583-6841	Ian.Hinschberger@ontario.ca
Northeastern	Melissa Rodgers	705-491-5427	melissa.rodgers@ontario.ca
Northeastern	Hope Renaud	705-492-0972	Hope.Renaud2@ontario.ca
Northwestern	John McClelland	807-627-1264	john.mcclelland@ontario.ca

Appendix 1 – Legislation Applicable to Connecting Links

Public Transportation and Highway Improvement Act R.S.O. 1990, CHAPTER P.50

Connecting links, extensions

21. (1) The Minister may designate a highway or part of a highway as a **connecting link** between parts of the King's Highway or as an extension of the King's Highway, to be constructed and maintained by the road authority having jurisdiction over the highway or part of the highway. 1996, c. 1, Sched. M, s. 49.

Jurisdiction and control unchanged

(2) A highway or part of a highway does not, by reason of its having been designated under subsection (1), become the property of the Crown, but every such highway or part of a highway remains under the jurisdiction and control of the road authority. 1996, c. 1, Sched. M, s. 49.

Highway Traffic Act R.S.O. 1990, CHAPTER H.8

Regulations limiting weight on bridges

123. (1) The Minister may make regulations limiting the gross vehicle weight of any vehicle or any class thereof passing over a bridge forming part of the King's Highway or a highway in territory without municipal organization and notice of the limit of the weights fixed by the regulation, legibly printed, shall be posted up in a conspicuous place at each end of the bridge. R.S.O. 1990, c. H.8, s. 123 (1).

By-laws limiting weight on bridges

(2) The municipality or other authority having jurisdiction over a bridge may by by-law limit the gross vehicle weight of any vehicle or any class thereof passing over the bridge, and the requirements of subsection (1) with respect to the posting up of notice apply thereto. R.S.O. 1990, c. H.8, s. 123 (2); 1996, c. 33, s. 13 (1); 2002, c. 17, Sched. F, Table.

Same, on connecting links

(3) Despite subsection (2), where the bridge forms part of a highway designated as a **connecting link** under subsection 21 (1) of the *Public Transportation and Highway Improvement Act*, the by-law shall not become operative until it is approved by the Ministry. 1996, c. 33, s. 13 (2).

Regulations

(4) The Minister may make regulations establishing standards to determine allowable gross vehicle weight for any vehicle or class of vehicle for the purpose of subsection (2). 1996, c. 33, s. 13 (2).

Traffic control signals and pedestrian control signals

144. (1) In this section:

Erection of traffic control signals and signal systems

(31) Subject to subsection (31.1), no traffic control signal system or traffic control signal used in conjunction with a traffic control signal system shall be erected or installed except in accordance with an approval obtained from a person designated to give such approvals by the municipality or other authority that has jurisdiction over the highway or the intersection. 1996, c. 33, s. 14.

Same, on connecting links

(31.1) No traffic control signal system or traffic control signal used in conjunction with a traffic control signal system shall be erected or installed on a highway designated as a **connecting link** under subsection 21 (1) of the *Public Transportation and Highway Improvement Act* except in accordance with an approval obtained from the Minister or an official of the Ministry authorized by the Minister to grant such approval. 1996, c. 33, s. 14.

Effect of by-laws

Inconsistent by-laws deemed repealed

195. (1) If a provision of a municipal by-law passed by the council of a municipality or a police services board for,

(a) regulating traffic on the highways;

(b) regulating noise, fumes or smoke created by the operation of motor vehicles on the highways; or

(c) prohibiting or regulating the operation of motor vehicles or any type or class thereof on the highways,

is inconsistent with this Act or the regulations, the provision of the by-law shall be deemed to be repealed upon the inconsistency arising. R.S.O. 1990, c. H.8, s. 195 (1); 1996, c. 33, s. 15 (1); 2002, c. 17, Sched. F, Table.

(2) Repealed: 1996, c. 33, s. 15 (2).

Approval of traffic by-laws for connecting links

(3) If the council of a municipality passes a by-law for a purpose mentioned in clause (1) (a) or (c) that affects traffic on a highway designated as a **connecting link** under subsection 21 (1) of the *Public Transportation and Highway Improvement Act*, the clerk of the municipality shall file a copy of the by-law with the Ministry within 30 days of its passing, and the by-law shall not become operative until it is approved by the Ministry. 1996, c. 33, s. 15 (2).

Approval of traffic by-law in whole or in part

(4) Any by-law for regulating traffic on highways that is submitted to the Ministry for approval may be approved in whole or in part and, where part of a by-law is approved only, that part shall become operative. R.S.O. 1990, c. H.8, s. 195 (4).

Withdrawal of approval by Ministry

(5) The Ministry may withdraw its approval to any by-law or any part thereof by notice sent by registered mail to the clerk of the municipality and the by-law or part thereof shall be deemed to be repealed twenty-one days after the sending of the notice. R.S.O. 1990, c. H.8, s. 195 (5).

Bridges Act R.S.O. 1990, CHAPTER B.12

Approval of Minister

2. (1) No person, except a municipal corporation or other authority having jurisdiction over highways, shall build, place, construct, rebuild, replace or alter a bridge or other structure over or across any river or stream or part thereof, except with the approval of the Minister of Transportation. 1996, c. 33, s. 18.

Same

(1.1) A person who builds, places, constructs, rebuilds, replaces or alters a bridge, culvert or causeway in accordance with a work permit or an instrument granted under the *Public Lands Act* or an approval under the *Lakes and Rivers Improvement Act* is not required to obtain an approval under subsection (1). 2006, c. 19, Sched. T, s. 1.

Same

(2) A municipality or other authority having jurisdiction over highways shall not build, place, construct, rebuild, replace or alter any bridge or other structure that forms, or will upon completion form, part of a highway that has been designated as a **connecting link** under subsection 21 (1) of the *Public Transportation and Highway Improvement Act*, except with the approval of the Minister of Transportation. 1996, c. 33, s. 18.

Conditions of approval

(3) The Minister of Transportation may give his or her approval under subsection (1) upon receiving,

(a) proof that the plan of the proposed bridge or structure or alterations and a surveyor's description of the site or proposed site have been deposited in the proper land registry office;

(b) proof that notice of the application has been published for three successive weeks in *The Ontario Gazette* and in two newspapers having a general circulation in the locality where the site or proposed site of the bridge or structure is located; and

(c) such other information or documentation as the Minister may require. 1996, c. 33, s. 18.

Same

(4) The Minister of Transportation may give his or her approval under subsection (2) upon receiving such information or documentation as he or she may require. 1996, c. 33, s. 18.

Appendix 2 – Municipalities with Connecting Links

MTO Region	Municipality Name	Community Location (if Applicable)	Provincial Highway	Connecting Link Roads	Length in Kilometres
Central	Town of Halton Hills	Acton	7	Queen Street, Young Street, Mill Street, Main Street	2.80
Central	Town of Halton Hills	Georgetown	7	Guelph Street, Main Street	5.10
Central	Region of Niagara	Niagara Falls	420	From Stanley Avenue to Rainbow Bridge	1.50
Central	City of Barrie		26	Bayfield Street	2.40
Central	Township of Clearview	Stayner	26	King Street, Main Street	2.00
Central	Town of Collingwood		26	Lakeshore Street, Front Street, First Street, Huron Street, Hume Street, Pretty River Parkway	11.10
Central	Town of Innisfil	Cookstown	89	Queen Street, Church Street	1.30
Central	Town of New Tecumseth	Alliston	89	Young Street, King Street, Victoria Street	5.30
West	City of Brantford		24	King George Road	2.30
West	Town of Saugeen Shores	Port Elgin	21	Goderich Street	4.25
West	Town of Saugeen Shores	Southhampton	21	Albert Street, Railway Street	5.55
West	Municipality of South Bruce	Mildmay	9	Elora Street	1.85
West	Town of South Bruce Peninsula	Wiarton	6	Berford Street	2.00
West	Municipality of Chatham-Kent	Chatham	40	Grand Avenue East, Street Clair Street	7.60
West	Municipality of Chatham-Kent	Wallaceburg	40	Dufferin Avenue, McNaughton Avenue, Murray Street	4.20
West	Town of Shelburne		10	Owen Sound Street	1.20
West	Town of Shelburne		89	Main Street	0.65
West	Town of Shelburne		10/89	Main Street	0.95
West	Town of Aylmer		3	Talbot Street	2.25
West	City of Windsor		3	Huron Church Road	3.75
West	Municipality of Grey Highlands	Markdale	10	Toronto Street	1.45
West	Municipality of Grey Highlands	Flesherton	10	Sydenham Street, Toronto Street	0.55
West	Town of The Blue Mountains	Thornbury	26	Arthur Street, King Street	2.40
West	Township of Chatsworth		6	Garafraxa Street	0.55
West	Municipality of Meaford		26	Sykes Street	3.45
West	City of Owen Sound		26	Highway 26, 16th Street East	2.90
West	City of Owen Sound		6/10	Highways 6/10, 9th Avenue East	1.20

MTO Region	Municipality Name	Community Location (if Applicable)	Provincial Highway	Connecting Link Roads	Length in Kilometres
West	City of Owen Sound		6/21	Highways 6/21, 10th Avenue West	2.65
West	Municipality of West Grey	Durham	6	Garafraxa Street	2.25
West	County of Haldimand	Cayuga	3	Talbot Road	1.25
West	County of Haldimand	Dunnville	3	Broad Street, George Street, Main Street	4.65
West	County of Haldimand	Hagersville	6	Main Street	1.60
West	County of Haldimand	Jarvis	3	Talbot Street	1.65
West	County of Haldimand	Jarvis	6	Main Street	2.30
West	Municipality of Central Huron	Clinton	4	Victoria Street	1.30
West	Municipality of Central Huron	Clinton	8	Huron Street, Ontario Street	2.10
West	Town of Goderich		8	Toronto Street, Huron Road, Elgin Avenue	2.10
West	Town of Goderich		21	Victoria Street, Bayfield Road, Britannia Road	2.55
West	Municipality of Huron East	Seaforth	8	Goderich Street	1.45
West	Municipality of South Huron	Exeter	4	Main Street	3.15
West	Municipality of Lambton Shores	Forest	21	Main Street, King Street	3.55
West	Municipality of Lambton Shores	Grand Bend	21	Ontario Street	3.00
West	Township of Lucan Biddulph	Lucan	4	Main Street	2.00
West	County of Norfolk	Delhi	3	King Street, James Street	2.10
West	County of Norfolk	Simcoe	3	Queensway West and East	4.00
West	County of Norfolk	Simcoe	24	Norfolk Street	2.55
West	Town of Tillsonburg		19	Broadway Street, Oxford Street, Simcoe Street, Vienna Street	5.45
West	Municipality of North Perth	Listowel	23	Main Street, Wallace Avenue	2.45
West	City of Stratford		7	Erie Street	4.00
West	City of Stratford		8	Huron Street	2.55
West	City of Stratford		7/8	Ontario Street	3.25
West	Municipality of West Perth	Mitchell	8	Ontario Road, Huron Road	2.90
West	Municipality of West Perth	Mitchell	23	Blanshard Road, Street George Street	2.10
West	Township of Centre Wellington	Fergus	6	St. David Street, Tower Street, Bridge Street	3.00
West	City of Guelph		6	Woolwich Street, Woodlawn Road.	2.55

MTO Region	Municipality Name	Community Location (if Applicable)	Provincial Highway	Connecting Link Roads	Length in Kilometres
West	City of Guelph		7	Woodlawn Road, Wellington Street, Windham Street, York Road	10.00
West	Town of Minto	Clifford	9	Elora Street	1.75
West	Town of Minto	Harriston	9	Elora Street	0.80
West	Town of Minto	Harriston	89	Arthur Street	0.50
West	Town of Minto	Harriston	23	Arthur Street	0.65
West	Township of Wellington North	Arthur	6	Smith Street, George Street	1.90
West	Township of Wellington North	Mount Forest	6	Main Street, Market Street	2.65
West	Township of Wellington North	Mount Forest	89	Queen Street	3.15
Eastern	Town of Bancroft		28	Monck Road, Bridge Street	3.85
Eastern	Town of Bancroft		62	Mill Street, Hastings Street	7.25
Eastern	City of Belleville		62	North Front Street	2.80
Eastern	Municipality of Centre Hastings	Madoc	62	Russell Street, St. Lawrence Street Durham Street	2.00
Eastern	Municipality of Marmora and Lake		7	Matthew Street	1.30
Eastern	Municipality of Tweed	Tweed	37	Bridgewater Road, Victoria Street Georgetown Street	2.10
Eastern	Separated Town on Smiths Falls		15	Lombard Street, Beckwith Street Elmsley Street, Cornelia Street, Union Street	4.65
Eastern	Loyalist Township	Bath	33	Main Street	2.75
Eastern	Township of Havelock-Belmont-Methuen	Havelock	7	Ottawa Street	1.90
Eastern	Township of Champlain	Vankleek Hill	34	High Street, Queen Street	1.30
Eastern	Town of Hawkesbury		34	McGill Street, Main Street East, John Street	2.25
Eastern	County of Prince Edward	Bloomfield	62	Stanley Street Main Street	2.80
Eastern	County of Prince Edward	Picton	33	Main Street, Bridge Street	2.70
Eastern	Township of Bonnechere Valley	Eganville	60	Bonnechere Street, Cobden Road	1.30
Eastern	Township of Bonnechere Valley	Eganville	41	Bridge Street, Queen Street, Patrick Street Alice Street	1.20
Eastern	Township of Bonnechere Valley	Eganville	41/60	Bonnechere Street	0.80
Eastern	Township of Madawaska Valley	Barry's Bay	60	Opeongo Road	1.40
Eastern	City of Pembroke		41/148	Pembroke Street East, McKay Street River Road, Muskrat Drive, Olympic Drive	6.15

MTO Region	Municipality Name	Community Location (if Applicable)	Provincial Highway	Connecting Link Roads	Length in Kilometres
Eastern	Town of Renfrew		60/132	O'Brien Street Coumbes Street, Raglan Street; Highway 60 - Stewart Street; Highway 132 - Lisgar Avenue, Munro Avenue	6.80
Eastern	City of Cornwall		138	Brookdale Avenue	0.95
Eastern	City of Cornwall		138	Route to Seaway International Bridge	3.80
Eastern	City of Kawartha Lakes	Omemee	7	King Street	2.35
Northeastern	Town of Blind River		17	Causley Street from Lot 11/12 Concession 1 Township of Stricker westerly	4.35
Northeastern	City of Elliot Lake		108	From south junction of Esten Drive South to north of the junction of Timber Road North	5.80
Northeastern	Township of Hornepayne		631	From junction of Second Street and Leslie Avenue easterly	0.80
Northeastern	Municipality of Wawa	Michipicoten	101	From Southwest Townsite Limits easterly to East Townsite Limits	1.30
Northeastern	City of Sault Ste. Marie		550	Second Line West from Great Northern Road westerly	2.21
Northeastern	City of Sault Ste. Marie		550B	Carmen's Way from Second Line West to Queen Street and part of Queen Street	2.88
Northeastern	City of Sault Ste. Marie		17	Part of Trunk Road, Black Road, Second Line East and Great Northern Road	19.40
Northeastern	Town of Thessalon		129	Wharncliffe Road, from junction of Highway 17 northerly	0.87
Northeastern	Township of Black River - Matheson		10	From junction of Highway easterly	0.65
Northeastern	Town of Hearst		11	Front Street from the Township Line of Way and Kendall, easterly to the East Limits of Sixth Street	1.75
Northeastern	Town of Kapuskasing		11	Government Road from the West Limits of Clear Lake Road, westerly to the East Limits of Bonnieview Road	6.80
Northeastern	Town of Smooth Rock Falls		634	Highway 634 by-pass, from junction of Highway 11 northerly to Cloutierville Road East	3.40
Northeastern	City of Timmins	Porcupine	101	From former railway crossing in Porcupine Westerly to East Limits of Kamiskotia Road	21.35
Northeastern	Township of Dysart et al		118	Part of Sunnyside, Maple, Mountain and Pine Streets to South Town Limits	1.15

MTO Region	Municipality Name	Community Location (if Applicable)	Provincial Highway	Connecting Link Roads	Length in Kilometres
Northeastern	Township of Northeastern Manitoulin & The Islands	Little Current	6	From junction of Highway 540, southerly 0.7 kilometres and from junction of Highway 540 northerly	1.60
Northeastern	Township of Northeastern Manitoulin & The Islands	Little Current	540	From junction of Highway 6, westerly on Meredith Street then southerly on Worthington Street	0.95
Northeastern	Town of Mattawa		533	First Street and Main Street from junction of Highway 17 easterly	0.95
Northeastern	City of North Bay		63	Trout Lake Road, from junction of Highways 11/17, easterly to Lee's Road	3.35
Northeastern	Municipality of West Nipissing	Sturgeon Falls	64	From junction of Highway 17, northerly	1.70
Northeastern	Municipality of West Nipissing	Sturgeon Falls	17	Front Street from junction of Coursol Road westerly	2.40
Northeastern	Village of Burk's Falls		520	From South Limit of Burk's Falls to Ryerson Crescent	1.05
Northeastern	Municipality of Powassan	Trout Creek	522	From junction of Highway 522B, southerly to Barrett St	0.55
Northeastern	Town of Espanola		6	Centre Avenue from the East Town Limits northerly	4.10
Northeastern	Town of Kirkland Lake		66	Government Road From Goldthorpe Drive, easterly to East Town Limits	3.70
Northwestern	City of Dryden		17	Government Road, Grand Trunk Avenue	4.70
Northwestern	City of Dryden		594	Duke Street, West River Road, Aubrey Road	3.90
Northwestern	Town of Fort Frances		11	Scott Street, Rainy River Colonization Road, Mill Road	4.75
Northwestern	Town of Fort Frances		71/11	Kings Highway, Rainy River Colonization Road, Third Avenue, Central Avenue, Church Street	4.30
Northwestern	Town of Rainy River		11	Atwood Avenue	2.70

Appendix 3 – Scope Of Eligible Work – Detailed

The following table describes in detail what items may be eligible for funding under the Connecting Links Program. References are made to Annexes which provide specific requirements to be met as a condition of funding for costs.

Types of Work	Scope of Work
Road Works	– Sub-Grade Preparation; – Base and Sub-Base Construction; – Surfacing and resurfacing; – Curb and gutter, sewer covers and catch basins; – Replacement of items such as sidewalks, sidewalk ramps, fences, entrances, retaining walls, wheelchair curb cuts, due to grade or alignment change; – Alteration of entrances limited to the return of the entrance to the property line; – Guide rail and end treatments including steel beam guide rail and traffic barrier over 150 metres in length. Shorter sections are considered "Maintenance" and not eligible for funding; – Median and channelization works; – Boulevard paving in lieu of shouldering or sod maintenance for erosion protection; – Retaining walls supporting or protecting roadways; – Noise barriers; – Relocation and/or alteration of other municipal services, such as parking meters; – Construction of detours and temporary accesses, including costs of temporary easements, if required; – Traffic control measures related to construction projects; and – Cost of construction identification signs.
Appliances and Works	– Relocation and/or alteration of appliances and works as defined in the *Public Service Works on Highways Act*. R.S.O. 1990, c. P.49. – Refer to details in **Annex A.**
Traffic Control Devices	– Installation of new or upgrades to existing traffic control signals that are warranted, in accordance with the *Highway Traffic Act*, R.S.O. 1990, c. H.8, Regulation 626 of the *Highway Traffic Act*, and the Ministry of Transportation's Ontario Traffic Manual, Book 12 or accessibility standards as defined in Ontario Regulation 191/11 of the *Accessibility for Ontarians with Disabilities Act*. Refer to details in **Annex B.**
Pedestrian Signals	– Installation of warranted Mid-Block Pedestrian Signals and pedestrian crossovers (PXO) in accordance with current *Highway Traffic Act* regulations.
Illumination	– Illumination at intersections with warranted traffic signals or unsignalized, full channelized, rural intersections, or at unprotected level railway crossings subject to Canadian Transportation Agency Board Order at crossing. Refer to details in **Annex C.**
Drainage	– Sub drain installation, open ditching, including off-take ditches and related easement costs to the nearest sufficient outlet, if included as a secondary item in a construction contract (i.e. less than 25% of total cost). All other drainage works that are considered to be "Maintenance" are not eligible for funding; – Concrete, asphalt and granite curbs up to the value of equivalent concrete or asphalt curbs; – Storm sewer installation, including pumping stations where required as detailed in **Annex D**; – Initial drainage construction assessments on roads. Subsequent upkeep is "Maintenance" and is not eligible for funding; – Stream improvements, if required, not to exceed 150 metres beyond a structure; and

Types of Work	Scope of Work
	– Culverts under 400 millimetres in diameter, if part of a construction contract, otherwise such culverts are considered to be "Maintenance" and not eligible for funding. Also, outlet sewers for underpasses, including pumping stations when required, subject to limitations as detailed in **Annex D.**
Stormwater Management	– A portion of the cost of storm water detention/retention, ponds/tanks and oversized sewer pipes as detailed in **Annex E.**
Bridges, Culverts and Grade Separations	– Structure costs for new structures, deck replacements, bridge widening, including those with warranted sidewalks, major painting, major repair of existing structures, replacement of primary bridge components such as beams or piles, installation and removal of bailey bridges and retaining walls. Where culvert installations are done individually and not as part of a construction contract, they are considered to be "Maintenance" and are not eligible for funding, except for culvert installations over 400 millimetres in equivalent circular diameter. Culvert installations over 400 millimetres are always considered to be "Construction" and may be eligible for funding, whether done individually or as part of a construction contract; – Outlet sewers for underpasses, including pumping stations when required, subject to limitations as detailed in **Annex D;** – Illumination: replacement to the equivalent of existing facilities only where necessary due to construction (see **Annex C** for details); – Stream improvements, if required, not to exceed 150 metres beyond a structure; – Stream diversion in lieu of structures, if covered by specific approval; – Construction and maintenance of detours in the immediate vicinity of temporary crossings; and – All items as applicable on the approaches for 30 metres from the outer extremities of any new bridge or culvert having an area of 4.5 square metres or more, except for railway grade separations.
Railway Crossings	– Crossing improvements as ordered by the Canadian Transportation Agency.
Preservation Management	– The following short-term or long-term remedial capital actions, which extend the life of an existing asset by rehabilitation procedures, may be eligible for funding: • Road surface: Continuous and Selective Paving, Routing and Sealing, Frost Heave Treatment; • Highway Services: Rehabilitation of intersections, interchanges; • Drainage: Rehabilitation of significant structures, timber culverts, concrete culverts, pipe culverts, roadway drainage; • Structures: Rehabilitation of bridge decks, structure piers, barrier walls and replacement of deck joints, bearings; and • Safety Devices: e.g., illumination, guiderail.
Detailed Design/Engineering	– Consultant's fees for the project design, preparation of tender package and administration of tendering process; – Resurfacing projects will not qualify unless it can be shown that the project required a significant amount of engineering in the opinion of the ministry; – Traffic counting; – Soils and foundation investigations; – Surveys and mapping, including aerial surveys; and – Refer to **Annex F** for a detailed scope of work.
Contract Administration	– Consultant's fees for contract administration during construction; – Supervision and inspections; – Material testing; – Field office rental; and – Refer to **Annex G** for detailed tasks and services.

Appendix 4 – Scope of Eligible Work – Annexes

Annex A: Appliances and Works

Where construction or improvement of a connecting link makes it necessary to alter or relocate appliances and works of an operating corporation, the cost that may be eligible for cost sharing under the terms of an applicable agreement is to be established based on the group to which the appliances and works belong.

Group 1

Group 1 relates to appliances and works as defined under *The Public Service Works on Highways Act*, R.S.O. 1990, c.49 s.1, i.e., poles, wires, conduits, transformers, pipes, pipe lines or any other works, structures or appliances except water mains and sewers under **Group 3** placed on or under a highway by an operating corporation. An operating corporation being defined, under the above noted statute, as a municipal corporation or commission or a company or an individual operating or using a telephone or telegraph service, or transmitting, distributing or supplying electricity or artificial or natural gas for light, heat or power.

Group 2

Group 2 relates to appliances and works as defined under *The Public Service Works on Highways Act*, R.S.O. 1990, c.49 s.1, i.e., poles, wires, conduits, transformers, pipes, pipe lines or any other works, structures or appliances except water mains and sewers under **Group 3** placed on or under a highway by Ontario Hydro, Bell Telephone Company, gas pipeline companies operating under Federal Charter.

Group 3

Group 3 relates to watermains and sanitary sewers placed on or under a highway other than storm sewers (see **Annex D**) and operated by the municipality, municipal corporation, or commission or company or individual.

Annex B: Traffic Control Devices

The installation and improvement costs, on connecting links, of warranted traffic control signals and other approved traffic control devices, as detailed in the Ontario Traffic Manual (OTM), may be eligible for funding.

Traffic Control Signals

1. To qualify for funding all traffic control signal installations must comply with the OTM Book 12 and meet the warrants contained in section 4 of the manual;
2. The traffic control signals must also conform to the requirements of the *Highway Traffic Act*, R.S.O. 1990, Chapter H.8, and more specifically Regulation 626;
3. The installation should meet the technical requirements of the ministry as detailed in the Ontario Provincial Standards and Specifications;
4. Ministry approval of the traffic signal design required for all traffic control signals located on a highway designated as a connecting link as required under section 144(31.1) of the *Highway Traffic Act*;
5. The modernization of traffic control signals that were not eligible upon installation may be approved for funding by the ministry if the conditions set out under the requirements in 1. to 3. above, are met;
6. The installation of traffic control signals, as part of the construction or reconstruction of an entrance or within five years thereafter, is not eligible for funding even when the warrants are met. It is assumed the municipality will recover the cost of the installation of such traffic control signals from the owner or developer served by the entrance;
7. The installation of warranted traffic control signals at an existing entrance, more than five years after the construction or reconstruction of the entrance, is eligible for funding provided all other criteria are met;
8. The municipality agrees to maintain such other traffic controls (e.g., parking restrictions) as may, in the opinion of the ministry, be necessary to ensure the efficient operation of traffic signals and will confirm this in writing;
9. A portion of the capital costs associated with a computerized traffic management system may be eligible for funding. The needs of a traffic management system as it relates to the connecting link will dictate the amount of funding. The municipality needs to justify its request to the ministry. The ministry will review each case and approve the funding, as applicable, based on merit; and
10. New or replacements for traffic control signals and the associated appurtenances must meet accessibility standards as defined in Ontario Regulation 191/11 of the *Accessibility for Ontarians with Disabilities Act*.

Other Traffic Control Devices that may be eligible for funding include:

1. All traffic signs defined in Books 5 and 6 of the OTM, including the French translation;
2. Illuminated signs provided that they are eligible under Books 5 and 6 of the OTM and conform to the standard sign, shape and colour;
3. All miscellaneous traffic devices defined in Book 12 of the OTM;
4. All pavement hazard and delineation markings defined in Book 11;
5. Overhead signs approved by the ministry; and
6. All signs and markings defined in Regulation 615 of the *Highway Traffic Act*.

Note:

- All signs and markings regarding pedestrian crossovers are expected to be moved from Regulation 615 to a new Minister's Regulation which will also include signs and markings for new pedestrian crossing devices for lower speed/ lower volume roads.
- This process is expected to be completed by the middle of 2016 provided that Bill 85, *The Strengthening and Improving Government Act*, 2015 passes in 2015.
- Guidelines for new pedestrian crossing treatment devices will be available in OTM Book 15 when the new regulation comes into force.

Annex C: Illumination

The capital cost for the installation of illumination on connecting links at intersections may be eligible for funding under the following conditions:

1. The intersections have warranted traffic signals,
2. The intersections are unsignalized, fully channelized, and classified as rural intersections, or
3. The highway intersects an unprotected level railway crossing subject to National Transportation Agency Board Order.

A warrant for partial illumination is considered to exist for new municipal installations as follows:

1. Intersections in built-up areas (see *Highway Traffic Act*, R.S.O. 1990 c. H.8, for definition of "built-up" area) with raised medians on all approaches, separate right and left turn lanes, and 4 lanes or more on each approach;
2. Intersections in rural areas ("rural area" is an area not classified as "built-up area") where warranted traffic signals exist, or two 4 lane undivided highways meet and warrants for traffic signals are at least 80% fulfilled, or traffic is channelized by one or more islands;
3. Unprotected municipal highway/rail crossing where the National Railway Transportation Agency has authorized the installation of luminaries. The federal government share will be deducted from the total cost before calculating the funding;
4. Highway tunnels in built-up areas where the tunnel is more than 25 metres long;
5. Design levels for illumination, including materials types and luminaries selected, shall not exceed Ministry of Transportation illumination policy; and
6. Illumination necessitated by adjacent development and illumination at private or commercial entrances is the responsibility of the property owner. Funding is not applicable for the design, construction, or power for illuminating these areas.

Annex D: Drainage

The capital cost for the installation of storm sewers on connecting links may be eligible for funding as set out below.

1. Storm sewer must be an economical alternative to the maintenance of an open ditch with numerous entrance culverts;
2. Storm sewer must be necessary in order to increase the use of an existing right-of-way for roadway purposes;
3. Storm sewer must be necessary in order to increase the traffic carrying capacity of an existing roadway by allowing for parking off the travelled way;
4. The replacement of an existing storm sewer must be for reasons of deterioration or to increase the capacity if the existing storm sewer is less than 700 millimetres diameter;
5. Only the facilities required for the drainage associated with the highway are eligible for funding;

6. Where the diameter of a storm sewer to be installed is greater than 700 millimetres, only that portion of the cost that 700 millimetres bears to the diameter of a circle of equivalent area measured in millimetres of the storm sewer installed, may be eligible for funding;
7. Where an off-take storm sewer or open ditch to an appropriate outlet is required, it may be eligible for funding under the following conditions:
   7.1. Where the storm sewer pipe is greater than 700 millimetres, the criterion in 6. above applies; or
   7.2. Where an open ditch is used, the cost eligible for funding shall be based on the same percentage that was applied to the last section of storm sewer pipe leading to the open ditch.
8. Where an adequate existing storm sewer is altered to accommodate drainage that is not eligible, such alteration is not eligible for funding;
9. Where a storm sewer on a highway under the jurisdiction of the province is designed to accommodate both the provincial highway drainage needs and those of a connecting link eligible under the Connecting Links Program, only the lesser of the municipality's share of the cost of construction or that amount calculated as in 6. above may be eligible for funding;
10. Where the municipality constructs a storm sewer that is eligible for funding and provides additional capacity for the needs of another municipality that are also eligible for funding, only the amount calculated as in 6. above may be eligible for funding;
11. Sewer covers associated with storm sewer systems may be eligible for funding. Where the outlets from the sewer cover are greater than 700 millimetres in diameter, only that portion of the cost that 700 millimetres bears to the diameter of the outlet pipe in millimetres may be eligible for funding; and
12. Where a storm sewer is installed under the provisions of the *Drainage Act*, R.S.O. 1990, Chapter D.17, the assessment made against the municipality will be eligible for funding subject to the limitations in 11 above.

Annex E: Stormwater Management

The capital cost for the installation of stormwater detention facilities on connecting links may be eligible for funding as detailed below.

1. It will be the responsibility of the municipality to analyse and cost various drainage system alternatives and justify the final selection based on the most economical and environmentally responsible solution. At the request of the municipality, the ministry will provide guidance on the degree of detail required in submissions.
2. The maximum cost of a storm water management system, complete with detention components and/or combined sewer components, to be considered cannot exceed the total cost of a conventional system with continuous, separated, normal size pipes and/or ditches by more than 10% as detention facilities have greater environmental benefits than separated systems. The following provisions apply:
   2.1. The maximum cost of a stormwater management system is the unadjusted total cost to the municipality, not just the portion of total cost eligible for road funding;
   2.2. A subsystem of a larger system is acceptable for consideration; and
   2.3. In a combined sewer system, the cost of providing extra sewage treatment capacity to accommodate the extra flows will be included in the total cost for comparison purposes. However, this cost is not eligible for funding.
3. The eligible costs for funding of the stormwater detention system must be adjusted to pay for only that water associated with the connecting link highway.
4. For a stormwater detention facility to be considered for funding, the detention facility must be justified on the basis that a controlled release of water is necessary to prevent water damage downstream.
5. For ponds and retention tanks with pipe inlets, funding will be based on the "700 millimetres diameter rule" (refer to **Annex D**, section 6) applied to the inlet or the sum of the diameters of the inlets. If an oversized inlet is used the diameter of the first normal size upstream pipe is to be used.
6. The "700 millimetres diameter rule" will be applied to oversized pipes whose purpose is not detention.
7. Where funding is applicable for combined sewers, the capital cost is subject to the "700 millimetres diameter rule".
8. Inlet control of stormwater is accomplished by allowing stormwater to temporary pond upstream of catch basins or other outlets. The water slowly subsides as the storm passes. Inlet control, within the highway, is eligible for funding provided the maximum depth of water accumulation at the travelled edge of the roadway does not exceed 75 millimetres (designers use two-year flood), and the ponded water does not present a safety or health hazard.

Annex F: Detailed Design/Engineering Studies

A municipality may submit for funding for detailed design/engineering as part of a proposed construction project. Alternatively, a municipality may submit for funding of detailed design/engineering as a separate project prior to construction. In the case of the latter, the ministry will not guarantee funding for the construction project in the subsequent year. Funding for the construction would be considered along with other projects submitted in the following year.

The Ministry reserves the right to assess the components of the proposed detailed design and engineering to determine what scope of work is eligible for funding under the Connecting Links Program.

Applicants choosing to submit for funding of a separate detailed design/engineering study should:

1. Where applicable, include a copy of the preliminary design/engineering report for the proposed project completed by a professional engineer;
2. Include a copy of a proposal for detailed design and engineering, with quoted costs from a professional engineer;
3. Ensure road and bridge designs are undertaken according to the applicable municipal, provincial, federal, or other standards;
4. Include the appropriate scope of work for a detailed design/engineering study. Consideration for design elements may include, but are not limited to the following:
    - Site plans
    - Horizontal and vertical control data
    - Geometric design
    - Horizontal and vertical alignments
    - Pavement design, including life-cycle costing
    - Typical cross-sections
    - Design-cross-sections
    - Earth balance design
    - Grading
    - Drainage – quality and quantity, and storm sewer design
    - Utilities locations and relocations, where applicable
    - Illumination
    - Traffic control devices
    - Electrical design
    - Hydrotechnical design
    - General arrangement drawings (structures)
    - Foundation design
    - Substructure design
    - Superstructure design
    - Barriers, railings, expansion joints, bearings, protection systems
    - Traffic control plan, staging and detours
    - Traffic signing and pavement markings
    - PHM-125 approval
    - Property requirements
5. Ensure that the detail design/engineering study will establish a comprehensive cost estimate to construct the project;
6. Develop a schedule detailing the timing for:
    - Issuing RFP for detail design/engineering study
    - Commencement of detail design/engineering study
    - Completion of detail design/engineering study
    - Proposed timing for construction

7. Provide any info on whether the DTC has been considered and/or if any consultation with appropriate Indigenous Community has taken place.

Annex G: Contract Administration

It is expected that contract administration tasks will be carried out during project construction to verify:

a) The work that was done during construction of the project;

b) The quality of work and materials used during construction of the project, and;

c) How much it will cost to complete construction of the project.

The contract administrator may be the municipality or a consultant retained by the municipality. Consultant's fees for contract administration services are eligible for funding. If the municipality is acting as contract administrator, the maximum amount allowable for contract administration cannot exceed 10% of total net eligible project costs.

The contract administrator will be responsible to monitor and approve any changes to the scope and costs for construction of the project. The municipality is responsible for any increase in project costs resulting from changes in the work. When changes in the work would be eligible for funding, additional funding may be considered on a case by case basis at the discretion of the ministry. The municipality shall pay all costs not approved by the ministry and all unforeseen costs of the construction work.

Change in the work: means the deletion, extension, increase, decrease or alteration of lines, grades, dimensions, quantities, methods, drawings, changes in the character of the work to be done or the materials of the work or part thereof, within the intended scope of the contract.

Consideration for tasks and services required for contract administration should include, but are not limited to

- Convene and attend a pre-construction meeting(s)
- Convene and attend construction progress meetings as scheduled
- Prepare and distribute agendas and minutes for all meetings
- Respond to contractor's questions, proposals, and requests for information;
- Prepare and issue all work orders, field orders and change orders
- Prepare and certify monthly progress payment certificates
- Co-ordinate and schedule inspection and testing activities related to quality control/quality assurance for construction materials and work
- Communication of all field and laboratory test results (i.e., compaction) in a timely manner

Contract administration services tasks shall accommodate all aspects of the contract process through the Warranty Period and the Final Completion Certificate.

Appendix 5 – Sustainable Construction Practices

MTO encourages municipalities to consider innovation and the use of sustainable construction practices for Connecting Link projects.

MTO procurement practices allow the use of recycled and reclaimed materials up to the maximum limits imposed by engineering standards to ensure that such materials are not used inappropriately and do not compromise the longevity of pavements and structures.

If recycled and reclaimed materials are used appropriately, then cost savings can be achieved through conservation of resources, elimination of disposal costs and reduction in energy requirements and greenhouse gas emissions.

Ministry specifications permit recycled/reclaimed materials to be used in lieu of natural aggregates. Examples include reclaimed asphalt pavement (RAP), reclaimed concrete material (RCM), air-cooled blast furnace slag (BFS), granulated blast furnace slag, crushed glass and ceramics and roofing shingle tabs (RST).

For example, Ontario Provincial Standard Specification (OPSS) 1151 (hot mix asphalt) allows up to 40% RAP in hot mix binder courses and up to 20% RAP in premium surface courses. Aggregates for road base and sub-base (OPSS.PROV 1010) may include up to 100% RCM, up to 100% BFS, up to 40% RAP, and up to 15% crushed glass and/or ceramics.

MTO and connecting link municipalities share an interest in ensuring the durability of asphalt applied on connecting links. This can best be accomplished by applying ministry quality of material specifications used on provincial highways.

Standard Specification requirements for the properties for the various grades of Performance Graded Asphalt Cements (PGAC) are given in MTO OPSS 1101, November 2014. Connecting link municipalities should have regard to Special Provision No. 111F09M, February 23, 2015 which requires additional testing requirements (including Extended Bending Beam Rheometer) and acceptance criteria for all PGAC grades. Suppliers of PGAC must be listed as an asphalt cement supplier in MTO's Designated Sources for Materials Manual (DSM).

The additional up-front costs for more sustainable construction practices will be offset by the extended life of connecting link pavement and structures. The use of higher grade construction materials, more rigorous materials testing, contact administration, etc., are eligible for subsidy.

For more information contact your local Ministry of Transportation regional office listed in Section 10.

Appendix 6 – Connecting Link Inventory Requirements

Applicants are required to submit an Excel file or equivalent data file for ministry import into Excel that includes the following information for road sections and structures (three metres in length or greater in direction of traffic) for all connecting links in the municipality.

This information will be used to determine the current state of connecting link infrastructure and the ten-year capital improvement needs across the province.

Two data tables are required: Table 1 below lists the road data items and Table 2 lists the structure data items to be included. Please submit only connecting link road/bridge data – no other municipal roads or structures.

Table 1

Road Data Items

Highway Number

Street Name

Municipal Owner

Municipal Location (Community Name)

Section ID Number (Municipal Code)

Section From (Intersecting Street/Landmark)

Section To (Intersecting Street/Landmark)

Length (Metres)

Posted Speed

Class (Urban, Rural, or Urban/Rural)

Number of Lanes (e.g. 2 lanes, 4 lanes, 4 lanes plus median, or 4 lanes plus centre lane)

Number of Parking Spaces (if any)

Number of Traffic Signals or Pedestrian Crossings

Average Annual Daily Traffic

Average Daily Truck Traffic

Geometric Deficiencies (e.g. horizontal, vertical, intersection alignment, small culverts)

Operational Deficiencies (e.g. road width, intersection turning lane, traffic signal)

Pavement Deficiencies (e.g. pavement condition rating – documentation of method required)

Remaining Useful Life (Based on current condition – not year of construction)

Road Survey Date

Deficiency Timeline (Now, 1-5 years, or 6-10 years)

Proposed Project Improvement to address Deficiencies

Project Cost Estimate

Table 2

Structure Data Items

Highway Number

Street Name

Municipal Owner

Municipal Location (Community Name)

Structure ID Number (Municipal Code)

MTO Site Number (if known)

Structure Data Items

Longitude Coordinates

Latitude Coordinates

Structure Category (Bridge or Culvert)

Structure Type (e.g. Deck Truss, Through Truss, etc.)

Overall Length (length in direction of traffic)

Overall Width (width perpendicular to traffic)

Number of Lanes

Posted Weight

Year of Construction

Year of Last Rehabilitation

Structural (e.g. Structure deck, joints, beams, barriers, etc.)

Functional (e.g. Number of lanes, lane width, etc.)

Bridge Connection Index (If available)

Overall Structure Condition (Good, Fair, Poor)

Remaining Useful Life (Based on current condition – not structure age)

Year of Last Inspection (Ontario Structure Inspection Manual or equivalent inspection)

Structural Deficiency Timeline (Now, 1-5 years, or 6-10 years)

Potential Reduced Weight (If the deficiency is not addressed)

Proposed Project Improvement to address Deficiencies

Project Cost Estimate

Print Guide

CORPORATION OF THE CITY OF SAULT STE. MARIE

BY-LAW 2025-115

AGREEMENT: A by-law to authorize the execution of the Agreement between the City and EDF Power Solutions Development Inc. (Cory Basil) for a proposed wind farm in the form of an executed Municipal Support Resolution.

THE COUNCIL of The Corporation of the City of Sault Ste. Marie, pursuant to section 9 of the *Municipal Act, 2001*, S.O. 2001, c. 25, **ENACTS** as follows:

1. **EXECUTION OF DOCUMENT**

The Mayor and City Clerk are hereby authorized for and in the name of the Corporation to execute and affix the seal of the Corporation to the Agreement dated July 14, 2025 between the City and EDF Power Solutions Development Inc (Cory Basil), a copy of which is attached as Schedule “A” hereto. This Agreement is for a proposed wind farm in the form of an executed Municipal Support Resolution.

2. **SCHEDULE "A"**

Schedule "A" forms part of this by-law.

3. **EFFECTIVE DATE**

This by-law takes effect on the day of its final passing.

PASSED in open Council this 14th day of July, 2025.

MAYOR – MATTHEW SHOEMAKER

CITY CLERK – RACHEL TYCZINSKI

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EXECUTION VERSION

BY-LAW 2025-115

THIS PROJECT SUPPORT AGREEMENT (the "**Agreement**") made as of the 14 day of July, 2025 (the "**Effective Date**")

BETWEEN:

THE CORPORATION OF THE CITY

OF SAULT STE. MARIE

hereinafter referred to as "**SAULT STE. MARIE**"

AND

EDF POWER SOLUTIONS DEVELOPMENT INC.

hereinafter referred to as "**EDF**"

WHEREAS Sault Ste. Marie is a municipal corporation governed by Municipal Council and managed by municipal administration;

AND WHEREAS EDF is a renewable energy developer that proposes to develop a new potential wind project, being the Canuck Wind Project (the "**Project**"), to be located in part on Sault Ste. Marie's lands and to be submitted, at EDF's sole discretion, as a proposal in response to the IESO's Long-Term 2 Energy Supply Request for Proposals (as it may be further amended, restated, modified or supplemented, the "**LT2(e) RFP**");

AND WHEREAS EDF, in accordance with the requirements of the LT2(e) RFP, has requested that Municipal Council evidences its support of the Project and of the Project's submission into the LT2(e) RFP through the passage of a Support Resolution (defined below) and the entering into of this Agreement, and, upon entering into, at EDF's sole discretion, of an LT2(e-1) Contract for this Project, wishes to provide Sault Ste. Marie community benefits for the purpose of ensuring that the development of the Project will positively impact the citizens of Sault Ste. Marie;

AND WHEREAS Sault Ste. Marie is prepared to provide the requested Support Resolution (defined below) and enter into this Agreement;

AND WHEREAS EDF and Sault Ste. Marie wish to enter into this Agreement to reflect the terms of their respective rights and obligations in relation to the community benefits and the Support Resolution (defined below) as further outlined in this Agreement;

NOW WITNESSETH that in consideration of the covenants and agreements herein contained, the parties hereto agree as follows:

1. All capitalized terms not defined herein shall have the meaning ascribed to them in the LT2(e) RFP.

2. EDF agrees to provide the following community benefits to Sault Ste. Marie:
   a. **Host Municipal Fund**: Starting on the first anniversary of the Commercial Operation Date of the Project under the LT2(e-1) Contract, and every calendar year anniversary thereafter during the term of LT2(e-1) Contract, which term shall not exceed twenty (20) years, EDF will make a host municipal contribution to Sault Ste. Marie in cash in an aggregate amount equal to Three Thousand Dollars ($3,000) per MW, up to 200 MW, of Contract Capacity installed within the geographic boundaries of Sault Ste. Marie. The host municipal contribution is solely for the benefit of the Sault Ste. Marie community, to be allocated and distributed at the sole discretion of Municipal Council, to recognize both formal and informal support provided by Sault Ste. Marie for the Project.
   b. **Road Use Agreement**: EDF will, or will cause the owner(s) of the Project, use commercially reasonable efforts to negotiate a Road Use Agreement (a "RUA") with Sault Ste. Marie with respect to the Project which ensures that it is accountable to Sault Ste. Marie in its use of public road allowances.
   c. **Community and First Nations Engagement Plan**: EDF will provide to Sault Ste. Marie a community and First Nations engagement plan in a timely manner following the execution, which execution shall be at EDF's sole discretion, of the LT2(e-1) Contract, but in no event later than 30 days after the execution of the LT2(e-1) Contract.

3. Sault Ste. Marie, through the elected Municipal Council, agrees to formalize prior to July 31, 2025, provided it is not earlier than the LT2(e-1) RFP effective date, which shall be confirmed by EDF to Sault Ste. Marie in writing as soon as reasonably possible once this LT2(e-1) RFP effective date is known, its consent to adopt a council resolution(s) in support of the Project in the form of a Municipal Resolution in Support of Proposal Submission dated no earlier than the LT2(e) RFP as required by the LT2(e) RFP (the "**Support Resolution**"). EDF shall provide Sault Ste. Marie with (i) the final form of Support Resolution by e-mail as soon as reasonably possible once the final form of Support Resolution is available, and (ii) the name of the Proponent and any Project information necessary to include in the Support Resolution by e-mail as soon as reasonably possible. The final form of Support Resolution shall supersede and

replace any prior draft forms of Support Resolution. In addition, Sault Ste. Marie shall take reasonable further acts and assurances to ensure the validity of the Support Resolution, as well as any other reasonable actions to demonstrate support for the Project as required by the LT2(e) RFP rules.

4. The waiver of any provision hereof or the failure of any party hereto to enforce any right hereunder shall apply to that provision or right only and shall not be deemed to effect the validity of the remainder hereof. No departure from or waiver of the terms of this Agreement shall be deemed to authorize any prior or subsequent departure or waiver and the parties shall not be obligated to continue any departure or waiver or to permit any subsequent departure or waiver.

5. This Agreement shall be constructed with all changes in number and gender as may be required by the context.

6. All obligations herein contained, although not expressed to be covenants, shall be deemed to be covenants. The parties agree that all covenants and conditions contained in this Agreement shall be severable, and that should any covenant or condition in the Agreement be declared invalid or unenforceable by a court of competent jurisdiction, the remaining covenants and conditions and the remainder of the Agreement shall remain valid and not terminate thereby.

7. This Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario and the federal laws of Canada applicable therein.

8. This Agreement may be executed and delivered by the parties in one or more counterparts, each of which will be an original, and each of which may be delivered by e-mail or other functionally equivalent electronic means of transmission, and those counterparts will together constitute one and the same instrument.

9. No party may assign its interest in this Agreement without the prior written consent of the other party. Notwithstanding the foregoing, EDF may assign its rights and obligations under this Agreement, without the prior written consent of Sault Ste. Marie, to an affiliate or the Proponent, provided that such assignee assumes all the obligations of EDF under this Agreement.

10. This Agreement shall enure to the benefit of, and be binding upon, the heirs, executors, administrators, successors and permitted assigns of the parties hereto.

IN WITNESS WHEREOF the parties hereto have executed this Agreement by their duly appointed signing officers.

) The Corporation of the City
) of Sault Ste. Marie
)
) _____
) Name:
) Title:
)
)
) _____
) Name:
) Title: Clerk
) I/We have authority to bind the corporation.
)

) EDF power solutions Development Inc.

)
)
) _____
) Name: Cory Basil
) Title: President
) I/We have authority to bind the corporation.

THE CORPORATION OF THE CITY OF SAULT STE. MARIE

BY-LAW 2025-116

AGREEMENT: A by-law to authorize the execution of the Extension Agreement between the City and Sault Ste. Marie Housing Corporation for a lease of space for Senior's Drop In Centre located at 619 and 615 Bay Street.

THE COUNCIL of The Corporation of the City of Sault Ste. Marie, pursuant to section 9 of the *Municipal Act, 2001*, S.O. 2001, c. 25, **ENACTS** as follows:

1. **EXECUTION OF DOCUMENT**

The Mayor and City Clerk are hereby authorized for and in the name of the Corporation to execute and affix the seal of the Corporation to the Extension Agreement dated July 14, 2025 between the City and Sault Ste. Marie Housing Corporation, a copy of which is attached as Schedule "A" hereto. This Extension Agreement is for a lease of space for the Senior's Drop In Centre located at 619 and 615 Bay Street.

2. **SCHEDULE "A"**

Schedule "A" forms part of this by-law.

3. **EFFECTIVE DATE**

This by-law takes effect on the day of its final passing.

PASSED in open Council this 14th day of July, 2025.

MAYOR – MATTHEW SHOEMAKER

CITY CLERK – RACHEL TYCZINSKI

lv\\citydata\LegalDept\Legal\Staff\COUNCIL\BY-LAWS\2025\2025-116 Seniors Drop In Centre Lease Extension Agreement.docx

Schedule “A”

THIS EXTENSION AGREEMENT made in duplicate this 14th day of July, 2025.

B E T W E E N:

SAULT STE. MARIE HOUSING CORPORATION

(hereinafter called the “Landlord”)

OF THE FIRST PART

- AND -

THE CORPORATION OF THE CITY OF SAULT STE. MARIE

(hereinafter called the “Tenant”)

OF THE SECOND PART

WHEREAS the City and the Ontario Housing Corporation originally entered into a Lease dated the 1st day of August, 1975 (the “Original Lease”), a copy of which is appended as Appendix A to this Extension Agreement;

AND WHEREAS the Original Lease was then amended by Lease Amendment dated the 30th day of August 1983 (the “Amending Lease Agreement”), a copy of which is appended as Appendix B to this Extension Agreement;

AND WHEREAS the Original Lease was then further amended by Lease Amendment dated the 2nd day of June 1988 (the “Second Amending Lease Agreement”), a copy of which is appended as Appendix C to this Extension Agreement;

AND WHEREAS the Province subsequently passed Order in Council 2396/2000 which transferred all rights, interest, liability or obligations that Ontario Housing Corporation had in the said lands and premises covered by the Original Lease, Amending Lease Agreement and Second Amending Lease Agreement to Sault Ste. Marie Housing Corporation, copies of which are appended as Appendix D to this Extension Agreement;

AND WHEREAS the Original Lease expires on the 1st day of August, 2025 and while the parties are in the process of negotiating the terms and conditions of a new lease agreement, the parties desire to extend the Original Lease for a period of two months on the same terms and conditions;

NOW THEREFORE in consideration of the mutual terms and covenants herein contained, the Parties covenant and agree as follows:

1. EXTENDED TERM

The Landlord and the Tenant hereto acknowledge and agree that the term in the Original Lease shall hereby extend for a period of two (2) months, commencing August 1, 2025 and ending September 30, 2025 (the “Extended Term”) or until the parties finalize a new agreement, whichever occurs first.

2. TERMS AND CONDITIONS

The Landlord and the Tenant acknowledge and agree that all other terms and conditions as set out in the Original Lease, shall remain unchanged.

IN WITNESS WHEREOF the parties have executed this Extension Agreement to be effective as of the date first above written.

SIGNED, SEALED AND DELIVERED

In the presence of:

SAULT STE. MARIE HOUSING CORPORATION

Per: _____

I have authority to bind the Corporation.

THE CORPORATION OF THE CITY OF SAULT STE. MARIE

_____

MAYOR MATTHEW SHOEMAKER

_____

CITY CLERK RACHEL TYCZINSKI

We have authority to bind the Corporation.

THIS LEASE made the 1st day of August , 1975.

B E T W E E N :

ONTARIO HOUSING CORPORATION
(hereinafter called the "Landlord")

OF THE FIRST PART

- A N D -

THE CORPORATION OF THE CITY OF SAULT STE. MARIE
(hereinafter called the "Tenant"

OF THE SECOND PART

WHEREAS:

1. the Landlord is the owner of certain lands situated on Bay Street in the City of Sault Ste. Marie, Province of Ontario, which lands are more fully set out in Schedule "A" hereto, and

2. the Landlord has constructed on the said lands a Senior Citizens apartment building (municipally known as 615 Bay Street) and an adjoining Senior Citizens Drop-In Centre (municipally known as 619 Bay Street) which was established under The Elderly Persons Centres Act, R.S.O. 1970, chapter 140 and amendments thereto.

NOW THEREFORE THIS AGREEMENT WITNESSETH that in consideration of the rents reserved and the covenants and agreements herein contained on the part of the Tenant, the Landlord hereby leases to the Tenant, the Senior Citizens' Drop-In Centre premises, which premises are shown outlined in red on the plan of the Senior Citizens Complex in Schedule "B" hereto, (herein called the "leased premises") for the term of fifty (50) years commencing on the 1st day of August , 1975.

PAYING THEREFORE during the term to the Landlord the yearly sum of $3,244.08 of lawful money of Canada payable in advance commencing on the first day of the term hereby granted.

1. COMMON AREAS

(a) Definition. The term "common areas" shall mean those areas not used exclusively for the benefit of one of the parties hereto, but for the joint use and benefit of both the Senior Citizens' apartment buildings and the Senior Citizens' Drop-In Centre, and shall include, but not be limited to the following:

(i) all exterior landscaped areas outside the building perimeter;

(ii) the paved parking lot;

(iii) all fences, sidewalks and driveways other than those belonging to the Tenant;

(iv) the mud room; and

(v) all entrances and exits to and from the leased premises.

(b) Right to Use. The Landlord grants to the Tenant for the benefit of the Tenant, its invitees, licencees, employees and all other persons having business with it, the right in common with other Tenants of the Senior Citizens' Complex to use the common areas of the Complex.

(c) Maintenance. The Landlord shall be responsible for the operation, maintenance, and replacement of all common areas.

2. COMMON FACILITIES

(a) Definitions. The term "common facilities" shall mean those facilities not used exclusively for the benefit of one of the parties hereto, but for the joint use and benefit of both the Senior Citizens' apartment building and the Drop-In Centre and shall include but not be limited to all underground gas, water, and electrical pipes, conduits and lines and appurtenant equipment servicing the Complex.

(b) Maintenance. The Landlord shall be responsible for the operation, maintenance and replacement of the common facilities and the Tenant shall pay as a maintenance and operating charge in each year of the term hereby granted, semi-annually not in advance, a sum not to exceed 15 per cent of the yearly operating and maintenance costs as computed hereunder of the common facilities.

(c) Payment. The Operations Branch of the Landlord together with a representative selected by the Tenant shall determine which costs are applicable to the common facilities and the amount thereof, and upon determination will furnish the Tenant with an invoice in writing for the Tenant's proportionate share thereof, which shall not, in any event, exceed 15 percent of the total of such costs. The Tenant shall pay its share within 30 days of receipt of an invoice therefore.

3. TAXES

The Tenant shall, in each and every year during the said term, pay and discharge all realty and other taxes (including grants in lieu of taxes), rates, duties and assessments, including local improvement rates and business taxes relating to the leased premises or any part thereof or the use or occupation thereof that may be levied, rates, charged or assessed by any municipal or other governmental authority. Separate assessments shall be made for the leased premises and the Senior Citizens apartment building.

If separate assessments shall not be made for the leased premises and every part thereof for any year, and cannot be obtained from the Municipality, the Tenant shall pay, as additional rent to the Landlord, in respect of any part which shall not be covered by such separate assessments a proportionate part of the taxes and other rates levied with respect to the entire building complex excluding lands appurtenant thereto. Such proportionate part shall be calculated by applying the City of Sault Ste. Marie tax mill rate to the portion of the total assessed value of the entire building Complex excluding lands appurtenant thereto, that the total floor area of the leased premises bears to the total floor area of the entire building Complex. The Tenant shall, however, be entitled to the benefit of any credits, exemptions, allowances or reductions obtained by the Landlord in respect to the leased premises and the Landlord covenants to provide reasonable assistance to the Tenant in obtaining any such credits, exemptions, allowances or reductions.

4. TENANTS' RESPONSIBILITIES

(a) Responsibilities. Except as hereinafter set out, the Tenant shall be solely responsible for all operating, maintenance and replacement costs with respect to facilities used exclusively for the leased premises, which costs shall include, but not be limited to the following:

(i) All interior and exterior walls, brickwork, doors, windows and woodwork;

(ii) Floors, roofs, and ceilings;

(iii) Partitions;

(iv) Exterior and interior painting;

(v) All electrical gas, water, T.V., lighting, and heating fixtures;

(vi) Stoves, refridgerators and all kitchen equipment;

(vii) Plumbing and air conditioning;

(viii) Interior pipes, ductwork, conduits and wiring;

(ix) The garbage room and removal of garbage.

(b) Replacement Costs. Notwithstanding Subclause (a) hereof, the Tenant shall not be responsible for the replacement costs of the structural components, other than the gravel roof of the Senior Citizens' Drop-In Centre; provided that the Tenant shall be responsible for any portion of such replacement costs occasioned by its negligence or failure to provide proper maintenance

(c) Dispute. If the Landlord and the Tenant are unable to agree on whether there is need of repair or replacement, the matters in dispute shall be referred to an arbitrator appointed under the provisions of The Arbitrations Act, whose decision shall be binding.

(d) Utilities. The Tenant shall provide and pay for its own heating,electricity, gas, water and other utilities and supplies to the leased premises. Separate meters shall be installed for electrical service.

If separate meters are not installed for gas and water utilities

(1) Gas utilities shall be paid 79% by the Landlord and 21% by the Tenant.

(2) Water utilities shall be paid 94.3% by the Landlord and 5.7% by the Tenant.

(e) Maintenance and Repairs. The Tenant shall at his own expense maintain and keep the leased premises and every part thereof, including without limiting the foregoing, all plumbing, air conditioning, heating and electrical fixtures, equipment and wiring situate within or on the leased premises, in good

order a[illegible] condition as would a car[illegible]ul owner, and will promptly make all needed repairs, structural or otherwise including those necessitated by reasonable wear and tear.

(f) Clean and Painted. The Tenant shall keep the leased premises clean and well painted and shall replace any glass windows and doors which shall be broken or damaged.

(g) Garbage Disposal. The Tenant shall provide for proper garbage and waste collection and disposal.

5. SNOW AND ICE

The Landlord shall be responsible for the removal of snow and ice from the parking lot, driveways and sidewalks.

6. PLACE OF PAYMENT

All payments required to be made by the Tenant under this lease shall be made to the Landlord at its office at 101 Bloor Street West, Toronto, Ontario, M5S 1P8 or at such other place as the Landlord may from time to time designate by notice in writing to the Tenant.

7. REPAIRS

It shall be lawful for the Landlord and its agents, employees and other persons having its written authorization, at all reasonable times during the said term, to enter the leased premises to examine the conditions thereof. All want of reparation, including those items necessitated by reasonable wear and tear, that upon such view shall be found, and for the amendment of which notice in writing shall be left at the leased premises, the Tenant shall, within three months next after such notice, make the said repairs. In the event the said repairs cannot be made with reasonable diligence within the said time limit, the Tenant shall not be in default hereunder provided it carries out such repairs in a diligent manner.

8. COMPLY WITH LAWS

The Tenant shall comply with all laws, by-laws, rules and regulations, municipal, provincial, federal or otherwise, including all lawful requirements of the local Board of Health, Police and Fire Departments and Municipal Authorities respecting the manner in which the leased premises shall be used and maintained.

9. ASSIGNMENT AND SUBLET

The Tenant shall not, by any act or deed, assign, transfer, set over or sublet the leased premises to any person or persons without the joint consent in writing of the Landlord and the Ministry of Community and Social Services. The Tenant shall furnish to the Landlord copies of any assignment or sublease made in respect of the leased premises. The Tenant agrees that consent by the Landlord to any assignment or subleasing shall not release the Tenant from or reduce its obligation to pay rent and fully observe and perform the covenants, terms and conditions herein contained.

10. NUISANCE

The Tenant shall not carry on, suffer, or permit to be carried on, upon any part of the leased premises, any noisy, offensive, dangerous or objectionable activity nor permit the leased premises, or any part thereof, to be used for any illegal or immoral purpose, and will not do or omit to do or permit to be done or omitted, anything upon or in respect of the leased premises, the doing or omission of which, as the case may be, shall be or result in a nuisance to the Landlord and its Tenants in the neighbouring building.

11. INSURANCE

(a) Coverage. The Tenant shall insure and keep insured the leased premises against fire and other perils normally covered in a standard extended coverage endorsement in an amount equal to the full replacement cost from time to time of the leased premises and improvements and equipment in and upon the said premises. This policy shall include the Landlord as a joint named insured with the Tenant and shall contain a waiver of subrogation in the name of one insured against the other.

(b) Amount. The Tenant shall provide the Landlord with a certificate of the liability insurance policy showing that the Tenant is covered with respect to the leased premises and its operations therein to a limit of not less than $200,000 inclusive with respect to each occurrence of injuries to or death of any person or persons or damage to property. This insurance shall apply to liability assumed by the Tenant under Clauses 14(a) and (b) hereof.

(c) Review of Insurance. The limit of such insurance may be reviewed by the Landlord at the tenth anniversary of this lease and every ten years thereafter during the term, and a higher limit may be required should general inflationary conditions render same advisable in order to maintain the same level of protection as presently required by this lease.

12. LIABILITY FOR INJURIES

(a) Liability of Landlord. Except where due to the negligence of the Landlord, the Landlord shall not be liable or responsible in any way for any personal injury, death, loss, or damage to property that may be suffered or sustained by the Tenant or any employee of the Tenant or any other person who may be upon the leased premises or areas of common use.

(b) Liability of Tenant. Except where due to the negligence of the Tenant, the Tenant shall not be liable or responsible in any way for any personal injury, death, loss, or damage to property that may be suffered or sustained by the Landlord or any employee of the Landlord or any other person who may be upon the leased premises or areas of common use.

13. DAMAGE BY FIRE

If and whenever during the term, the leased premises are damaged or destroyed by fire, lightning, tempest or other casualty, the Landlord shall repair the damage with all reasonable speed using the proceeds of the insurance policy required to be placed by the Tenant under paragraph 11 herein. The Tenant shall, notwithstanding such damage, continue to be responsible for payments of its proportion of the taxes, rates and assessments and such payments as it would have been obligated to make under this lease if the damage had not occurred.

14. ALTERATIONS

The Tenant shall not make any alterations or additions to the leased premises without previously obtaining the written consent of the Landlord to the plans and specifications thereof, and also any pre-requisite permits or permissions required from local or other authorities.

The Tenant, however, may from time to time, at its own expense, without permission, erect interior partitions, and change the location of plumbing, air conditioning, ventilating and electric wiring to suit itself, subject only to the Elderly Persons Centre Act, (and any other relevant provision herein.)

15. DISTRESS

None of the goods and chattels of the Tenant on the leased premises at any time during the said term shall be exempt from levy by distress for rent in arrears.

16. HEAVY MACHINERY

The Tenant shall not bring upon the leased premises or any part thereof any machinery, equipment, article or thing that by reason of its weight, size or use might damage the leased premises or the said building or interfere in any way with the operation of any of the services within the building. If any damage is caused to the leased premises or the said complex by any machinery, equipment, article or thing by unloading or by any act, neglect or misuse on the part of the Tenant or any of its servants, agents or employees or any other person, the Tenant shall forthwith repair the same at its own cost.

17. INDEMNIFICATION

(a) By Tenant. Except for acts of negligence or default by the Landlord its servants, workmen or agents, the Tenant shall indemnify and save harmless the Landlord from all liabilities, fines, suits, claims, demands and actions of any kind or nature to which the Landlord shall or may become liable for or suffer by reason of any breach, violation or non-performance by the Tenant of any covenant, term or provision hereof or by reason of any injury, damage or death resulting from, occasioned to, or suffered by any person or persons, or any property by reason or any act, neglect, or default on the part of the Tenant or any of its agents or employees. Such indemnification in respect of

any such breach, violation or non-performance, damage to property, injury or death occurring during the term of the lease, shall survive any termination of this lease, notwithstanding anything in this lease to the contrary.

(b) By Landlord. Except for acts of negligence or default by the Tenant its servants, workmen or agents, the Landlord shall indemnify and save harmless the Tenant of and from all liabilities, fines, suits, claims, demands and actions of any kind or nature to which the Tenant shall or may become liable for or suffer by reason of any breach, violation or non-performance by the Landlord of any covenant, term or provisions hereof or by reason of any injury, damage or death resulting from, occasioned to or suffered by any person or persons or any property by reason of any act, neglect, or default on the part of the Landlord or any of its agents or employees. Such indemnification in respect of any such breach, violation, or non-performance, damage to property, injury or death occurring during the term of the lease shall survive any termination of this lease, notwithstanding anything in this lease to the contrary.

18. FAILURE TO PAY

(a) Reimbursement. In the event that the Tenant fails to pay any taxes, rates, insurance premiums or other costs and charges or fails to perform any of the covenants or agreements contained in this lease the Landlord may pay or perform the same or cause the same to be paid or performed, and the Landlord may require the Tenant to reimburse it in the amount so paid or incurred forthwith on demand. The Landlord, in addition to any other rights, shall have the same remedies and may take the same steps for the recovery of all such sums as it might have and take for the recovery of rent in arrears under the terms of this lease.

(b) Evidence of Payment. The Tenant shall from time to time at the request of the Landlord produce to the Landlord satisfactory evidence of the due payment by the Tenant of all payments required to be made by the Tenant under this lease.

19. INTEREST ON ARREARS

All arrears of rent and any money paid by the Landlord hereunder shall bear interest at the rate of 8 per cent per annum from the time such arrears or monies become due until paid to the Landlord.

20. REMOVAL OF FIXTURES

(a) Removal. The Tenant may at or prior to the expiration of the term hereby granted, if no default exists hereunder take, remove or carry away from the leased premises all fixtures, fittings, utensils, shelving, counters, safes or other articles belonging to or brought upon the said leased premises by the Tenant. The Tenant shall be responsible for and shall repair any damage caused to leased premises during any such removal.

(b) Exception. The Tenant shall not remove or carry away from the leased premises any building or any plumbing, heating or ventillating plant or other equipment or other building services.

(c) Right of Landlord. In case of removal by the Tenant of the goods and chattels of the Tenant from the premises the Landlord may follow the same for 30 days in the same manner as is provided for in the Landlord and Tenant Act.

21. RE-ENTRY

If the rent hereby reserved is in arrears for 60 days, although no formal demand has been made therefore, or in the case of the breach or non-performance of any of the covenants or agreements contained herein on the part of the Tenant, except for breaches which cannot be remedied within the time limited herein, but the Tenant is proceeding diligently to remedy such breach, then it shall be lawful for the Landlord at any time thereafter with the written consent of the Minister of Community and Social Services to enter into and upon the leased premises or any part thereof, and the same to have and again reposess and enjoy as of its former estate notwithstanding anything to the contrary contained herein.

22. OPTION RENEW

(a) Renewal Lease. The Landlord hereby covenants with the Tenant that if the Tenant shall pay the rent when due under the lease and perform and observe the covenants,provisos and agreements on his part herein contained, the Landlord shall, subject to the conditions set out below, grant to the Tenant a renewal lease of the premises on terms and conditions to be negotiated by the parties upon the expiration of the present term of the lease.

(b) Exercise of Option. The Tenant may exercise the option to renew the lease by notice in writing delivered or mailed by registered mail to the Landlord not later than 6 months before the expiration of the present term.

23. QUIET ENJOYMENT

The Landlord covenants with the Tenant that upon the Tenant paying the rent and performing the covenants contained herein, the Tenant shall and may peaceably posess and enjoy the leased premises for the term hereby granted, without any interruption or disturbance from the Landlord, or any other person or persons lawfully claiming by, from or under the Landlord.

24. SIGNS AND ADVERTISING

The Tenant shall not erect or install any exterior signs without prior written consent of the Landlord (which consent shall not be unreasonable withheld) other than suitable signs at the entrances to the parking lot, the walkway and the main door of the building, publicizing the Elderly Persons Centre. In erecting any signs, the Tenant shall comply with the lawful requirements of municipal and governmental authorities. All signs shall remain the property of the Tenant and shall be removed by it upon termination or expiry of the term hereby granted. The Tenant shall repair any damage caused by such removal. The Tenant shall indemnify the Landlord against any loss or damage caused to any person or thing as a result of the placing or the use of any signs on the leased premises.

25. RIGHT TO INSTALL SERVICES

(a) The Landlord and any persons authorized by the Landlord shall have the right to use, install, maintain and repair pipes, wires, ducts, or other installations in, under or through the leased premises or in connection with the supply of any services to any part of the adjoining building and premises, or the lands appurtenant hereto, provided that such work shall be at the Landlord's expense and the Landlord shall restore the leased premises to their original condition so far as is reasonably possible.

(b) If, by reason of accident or other cause, it is necessary to make any repairs, alterations, improvements or additions in or relating to the leased premises the Landlord may cause such reasonable and temporary obstruction in respect thereof as may be necessary for the purposes aforesaid and may interrupt or suspend the supply to the leased premises of electricity, water and other services where necessary and until said repairs, alterations, improvements or additions shall have been completed. There shall be no abatement in rent because of any such obstruction, interruption or suspension provided that such repairs, alterations, improvements or additions are made as expeditiously as is reasonably possible.

26. USE OF PLUMBING

The plumbing facilities shall not be used for any other purpose than that for which they are constructed and no foreign substance of any kind shall be thrown therein, and the expense of any breakage, stoppage, or damage to the plumbing facilities caused by the Tenant or its employees, agents, licencees or invitees shall be borne by the Tenant.

27. NON-WAIVER PROVISION

The failure of the Landlord to insist upon a strict performance of any of the agreements, terms, covenants and conditions hereof shall not be deemed a waiver of any rights or remedies that the Landlord may have and shall not be

deemed a waiver of any subsequent breach or default in any of such agreements, terms, covenants and conditions.

28. ONTARIO MUNICIPAL BOARD APPROVAL

The parties hereto agree that this lease is conditional upon the Tenant obtaining approval from The Ontario Municipal Board.

29. NOTICE

Any notice, request or demand herein provided for or given hereunder if given by the Landlord to the Tenant shall be sufficiently given if mailed by registered mail, postage prepaid, addressed to the Tenant at: Box 580, Sault Ste. Marie, Ontario.

Any notice herein provided for or given hereunder if given by the Tenant to the Landlord shall be sufficiently given if mailed as aforesaid, addressed to the Landlord at: 101 Bloor Street West, Toronto, Ontario, M5S 1P8.

Any Notice mailed as aforesaid shall be conclusively deemed to have been given on the next business day following the day on which such notice is mailed as aforesaid. Either the Landlord or the Tenant may at any time give notice in writing to the other of any change of address of the party giving such notice and from and after the giving of such notice the address therein specified shall be deemed to be the address of such party for the giving of such notices thereafter.

30. INTERPRETATION

Words importing the singular number only shall include the plural and vice versa, and words importing the masculine gender shall include firms and corporations and vice versa when the meaning or the context herein so require.

31. SUCCESSORS AND ASSIGNS

This indenture and everything herein contained shall extend to and bind and enure to the benefit of the respective

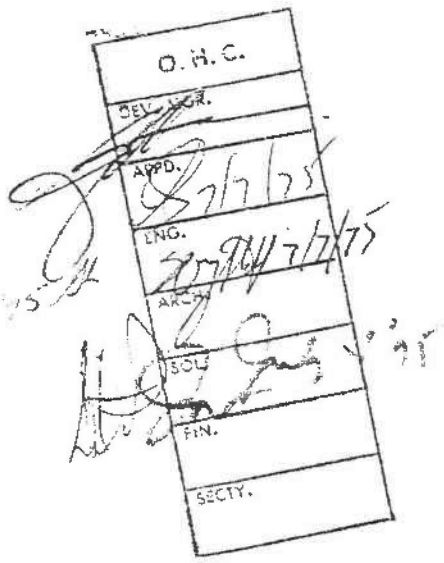
successors and assigns of the parties thereto, subject to the joint consent being obtained, as hereinbefore provided to any assignment or sublease by the Tenant. All rights and powers reserved to the Landlord may be exercised by either the Landlord or its appointed agents and representatives.

IN WITNESS WHEREOF the parties hereto have hereunto affixed their respective corporate seals under the hands of their proper officers duly authorized in that behalf.

ONTARIO HOUSING CORPORATION

Vice-Chairman

CORPORATE SECRETARY



THE CORPORATION OF THE CITY OF SAULT STE. MARIE

MAYOR

CLERK

'T S IS SCHEDULE "A" TO THE REEMENT

B E T W E E N :

ONTARIO HOUSING CORPORATION

- AND -

THE CORPORATION OF THE CITY
OF SAULT STE. MARIE

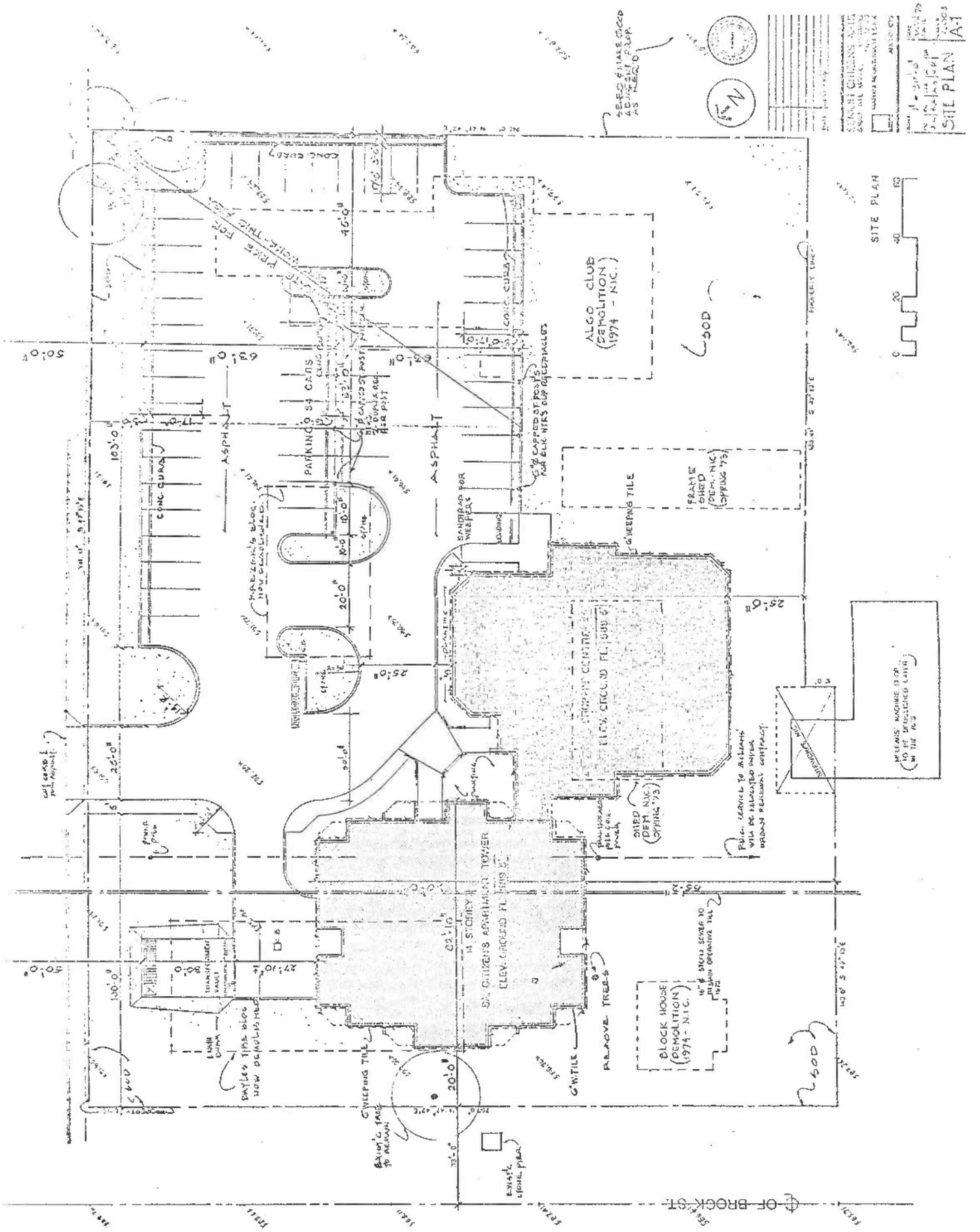
All in singular that certain parcel or tract of land and premises situate, lying and being in the City of Sault Ste. Marie, in the District of Algoma and more particularly described as parts 1, 2, 3, 4, 5, and 6 according to the IR-Plan, registered in the Registry Office for the District of Algoma as Plan Number IR-1677.

THIS IS SCHEDULE "B" TO THE AGREEMENT BETWEEN:

ONTARIO HOUSING CORPORATION

-and-

THE CORPORATION OF THE CITY OF SAULT STE. MARIE



SCHEDULE "A" TO BY-LAW 84-89

BUILDING EXTENSION AGREEMENT

THIS AGREEMENT is made this 30th day of August 1983.

B E T W E E N:

ONTARIO HOUSING CORPORATION

(hereinafter called OHC)

- and -

THE CORPORATION OF THE CITY OF SAULT STE. MARIE

(hereinafter called the City)

WHEREBY OHC and the City agree with one another as follows:

1. Purpose of this Agreement

1.1 OHC, as Landlord and the City, as Tenant, have entered into a lease for 50 years commencing on the 1st day of August, 1975 to lease the lands described in Schedule A attached to this agreement.

1.2 The City desires to lease from OHC the land described in Schedule B attached to this agreement and to construct a building thereon at the City's expense and in accordance with the terms of this agreement and to maintain such building in conjunction with the existing building on the land in Schedule A upon the terms and conditions set out in the Lease of 1975 as amended.

2. Definitions and Interpretations

2.1 Whenever any of the following words or phrases appears in this Agreement, it shall have attributed to it the extending meaning set out below:

(1) Lease means the lease made by Ontario Housing Corporation, as Landlord in 1975 of Parcel 1, to the City of Sault Ste. Marie, as Tenant.

(2) Parcel 1 means the Land leased to the City as described in Schedule A of this agreement.

(3) Parcel 2 means the land to be leased to the City for the building extension as described in Schedule B of this agreement.

(4) Parcel 3 means the land owned by the City and to be allocated as additional parking space as described in Schedule C of this agreement.

(5) Parcel 4 means the land owned by the City to be designated as reserve parking for overflow purposes, as described in Schedule D of this agreement.

(6) Specifications means the plans and specifications for the building or buildings and other improvements to be constructed on Parcel 2 as approved by OHC and the Municipal Council of the City.

(7) Building Extension means the building and improvements to be constructed on Parcel 2.

(8) Contractor means any contractor, builder, or person who constructs any part of the Building Extension.

2.2 OHC and the City agree that each expression in this agreement of an obligation of one of them is considered to be a covenant of the one obligated made with the other to perform the obligation.

3. Lease of Parcel 2

3.1 The City shall cause a reference plan to be made of Parcel 2 and of Parcel 3 and shall cause such reference plan to be registered in the local Land Registry Office, after it has been approved by OHC.

3.2 OHC shall lease to the City Parcel 2 for the purposes set out in this agreement and OHC and the City shall execute an amendment of the Lease to carry out the Lease of Parcel 2, which shall be in the form attached as Schedule E to this agreement.

4. Building Extension

4.1 The City shall build on Parcel 2, at its own cost without any contribution or sharing by OHC, the Building Extension which will be an expansion of the Drop-in Centre and which will be used for the same or similar purposes as the Drop-in Centre on Parcel 1.

4.2 The City shall build the Building Extension in accordance with the terms of this agreement, namely:

(1) The City shall build or cause to be built the Building Extension in a good and workmanlike manner according to the Specifications or any changes thereto approved by OHC, and the City shall provide all materials and shall perform all work according to the plans and specifications, and shall complete the Building Extension on or before the 30th day of June, 1984.

(2) The City shall retain an architect or engineer qualified to practice in Ontario to supervise the construction of the Building Extension.

(3) The City shall from time to time during construction of the Building Extension provide OHC with such reports and information as OHC may require concerning the materials and work and the City shall permit OHC's servants, employees and agents to enter upon Parcel 2 from time to time for the purpose of determining whether the Building Extension is being constructed in accordance with the Specifications.

(4) The City shall cause Parcel 2 to be rezoned, if necessary, to permit construction of the Building Extension and shall comply with all requirements, rules, regulations and orders of the proper governmental authorities whether federal, provincial, or municipal respecting the construction of the Building Extension.

(5) The City shall have all the work duly tested and shall cause a certificate of completion to be issued by its architect, and shall maintain all such construction lien holdback claims, as are required under the Construction Lien Act.

(6) The City shall be responsible for any faulty workmanship or material, the improper or inefficient operation of any equipment or appurtenance which appears from time to time during the term of the Lease and shall remedy any of the foregoing forthwith upon written notice from OHC and shall pay forthwith for any damage caused to OHC thereby.

4.3(1) The City shall assume full responsibility for construction, repair, and replacement of every part of the Building Extension, and the City shall indemnify and save harmless OHC from and against every loss, cost, claim, damage, expense, demand, liability, and action of whatsoever nature or kind in any way arising out of or connected in any way with the construction, repair, or replacement of any part of the Building Extension or any material, services, or work supplied in respect of the Building Extension.

(2) The City acknowledges that OHC is not a joint-adventurer or partner in construction or maintenance of the Building Extension.

5. Insurance

The City shall maintain or ensure that any Contractor maintains during construction of the Building Extension insurance coverage as follows:

(1) The insurance shall be with an insurer authorized to carry on the business of an insurer in Ontario, and the insurance shall be for the total Contract Price.

(2) The insurance shall cover all liability or damage in respect of injuries to persons including injury resulting in death or damage to property

arising out of the performance of the construction of the Building Extension including, without limiting the generality of the foregoing, comprehensive general liability insurance covering premises and operations, contractors liability, contractors contingent liability, and liability under The Workers Compensation Act.

(3) The insurance shall not contain any limitation or exclusions of blasting or any other peril or damage.

(4) The City shall further ensure that the City and the Contractor or either of them maintains fire insurance on the Building Extension during the full term of the Lease with the City in an amount equal to the market value or the replacment value of the Building Extension, whichever is greater.

(5) OHC shall be included as an insured party in any liability or fire insurance under this section, but in the event that the funds from the insurance are required to repair any damage to the Building Extension, OHC's right under the insurance shall be subject to the prior rights of the City for the purpose of rebuilding or repairing the Building Extension.

(6) After completion of construction the Insurance provisions, as set out in the Lease, shall apply to the Building Extension instead of the provisions of this part 5.

6. Parking

6.1 OHC and the City shall establish and maintain during the term of this Lease parking spaces -

(a) for residents of the Senior Citizens apartment buildings and visitors;

(b) for visitors and others using the Drop-in Centre and the Building Extension;

as more particularly set out in the amendment to the Lease (section 26A).

7. Default

7.1 The City shall be deemed to be in default in each and every one of the following events:

(a) upon the failure to perform or upon improper performance any part of this agreement; and

(b) upon failure to carry out construction of the Building Extension within the time specified in this agreement.

7.2 If default occurs as set out in section 7.1 and if default continues for ninety (90) days after notice in writing thereof has been given to the City specifying such default and requiring the default to be remedied, OHC shall have the option of notifying the City in writing that all rights of the City under this agreement have terminated, and the City shall be in default under the Lease and OHC may use the remedies available under the Lease to re-enter the land.

8. Assignment

8.1 The City and OHC hereby mutually agree not to assign this agreement in whole or in part and any document purporting to assign this agreement will have no force or effect unless the City and OHC consent to such assignment.

8.2 A change in the status of the City or of OHC by amalgamation or succession shall not be deemed to be an assignment of this Agreement.

9. Force Majeure

9.1 If the City is delayed in commencing, performing or completing any of its obligations under this Agreement by reason of strikes, lock-outs, labour troubles, inability to procure materials, failure of power, riots, insurection, war, or by any situation or matter not within its control and not avoidable by exercise of reasonable effort or foresight then performance of the act or obligation shall be excused for the period of the delay, and the period for the performance of the act or obligation shall be extended for a period equivalent to the period of the delay.

10. Administrative Provisions

10.1 The Headings used in the section of this agreement are for the purpose of description only and do not form part of this Agreement.

10.2 Any notice or other communication required to be given in writing by this Agreement shall be deemed to have been given at the time of delivery or two days after mailing thereof addressed:

(a) to Ontario Housing Corporation, 777 Bay Street Toronto, Ontario M5G 2E5, to the attention of the Corporate Secretary; and

(b) to the City addressed to the Director of Development, The Corporation of the City of Sault Ste. Marie, 99 Foster Drive, Sault Ste. Marie, Ontario.

10.3 This Agreement shall be conditional upon approval being obtained pursuant to section 64 of the Ontario Municipal Act.

IN WITNESS THEREOF the parties have signed this Agreement under seal.

ONTARIO HOUSING CORPORATION

for

THE CORPORATION OF THE CITY OF SAULT STE. MARIE

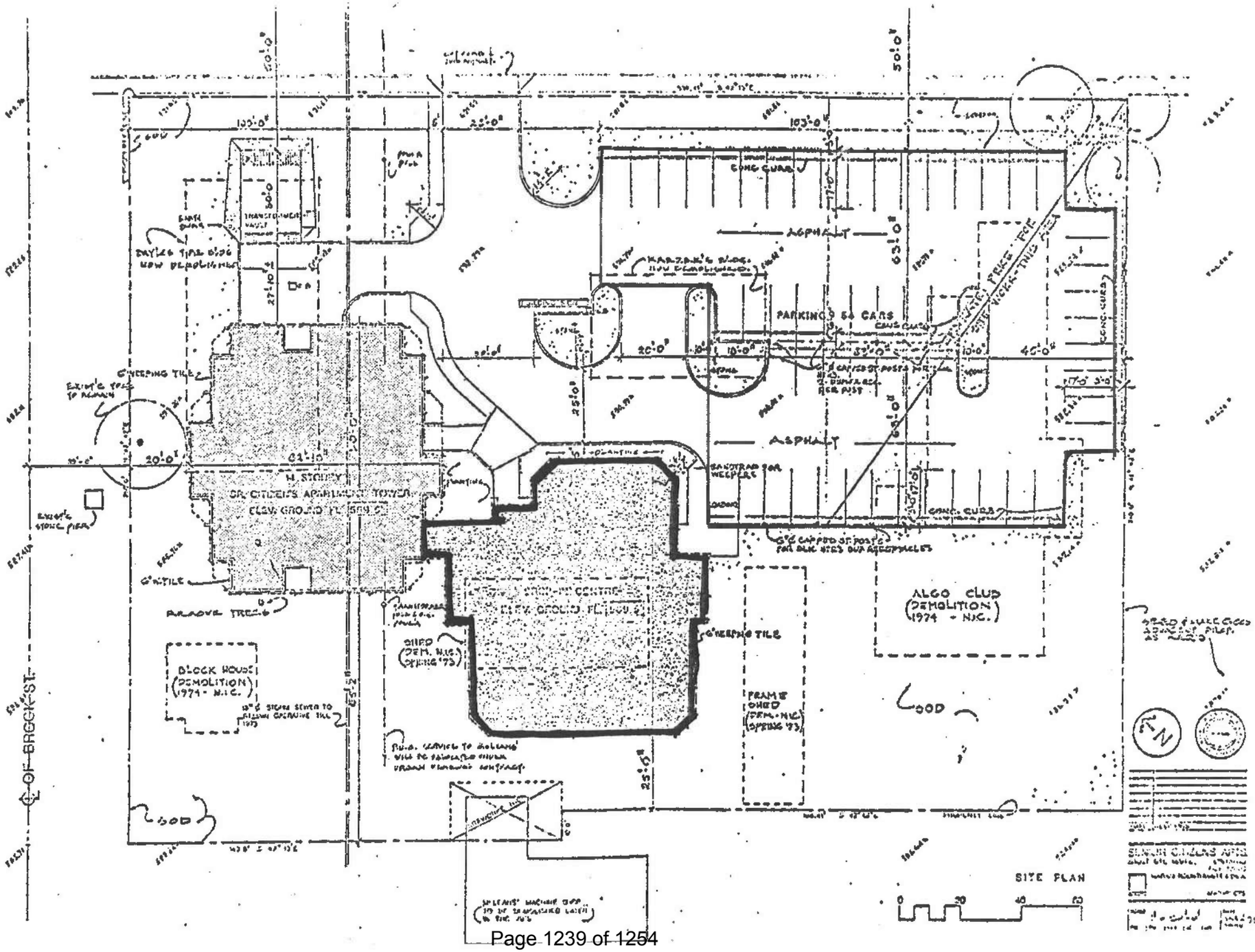
ACTING MAYOR - T. A. ANGUS

CLERK - WILLIAM G. LINDSAY

Authorized by
By-Law No. 84-89
Dated: April 9, 1984

SCHEDULE 'A'

The land and premises in the City of Sault Ste. Marie in the District of Algoma and being that part of the land described as parts 1, 2, 3, 4, 5, and 6 according to a plan registered in the Land Registry Office for the District of Algoma as reference plan number 1R-1677, and being the part outlined in red on the sketch attached.


ASPHALT
PARKING 54 CARS
CONC. CURB
ASPHALT
ALGO CLUB (DEMOLITION 1974 - N.I.C.)
BLOCK HOUSE (DEMOLITION 1974 - N.I.C.)
SHED (DEM. N.I.C. SPRING '73)
FRAME SHED (DEM. N.I.C. SPRING '73)
SOD
SOD
SITE PLAN
0
20
40
60

SCHEDULE 'B'

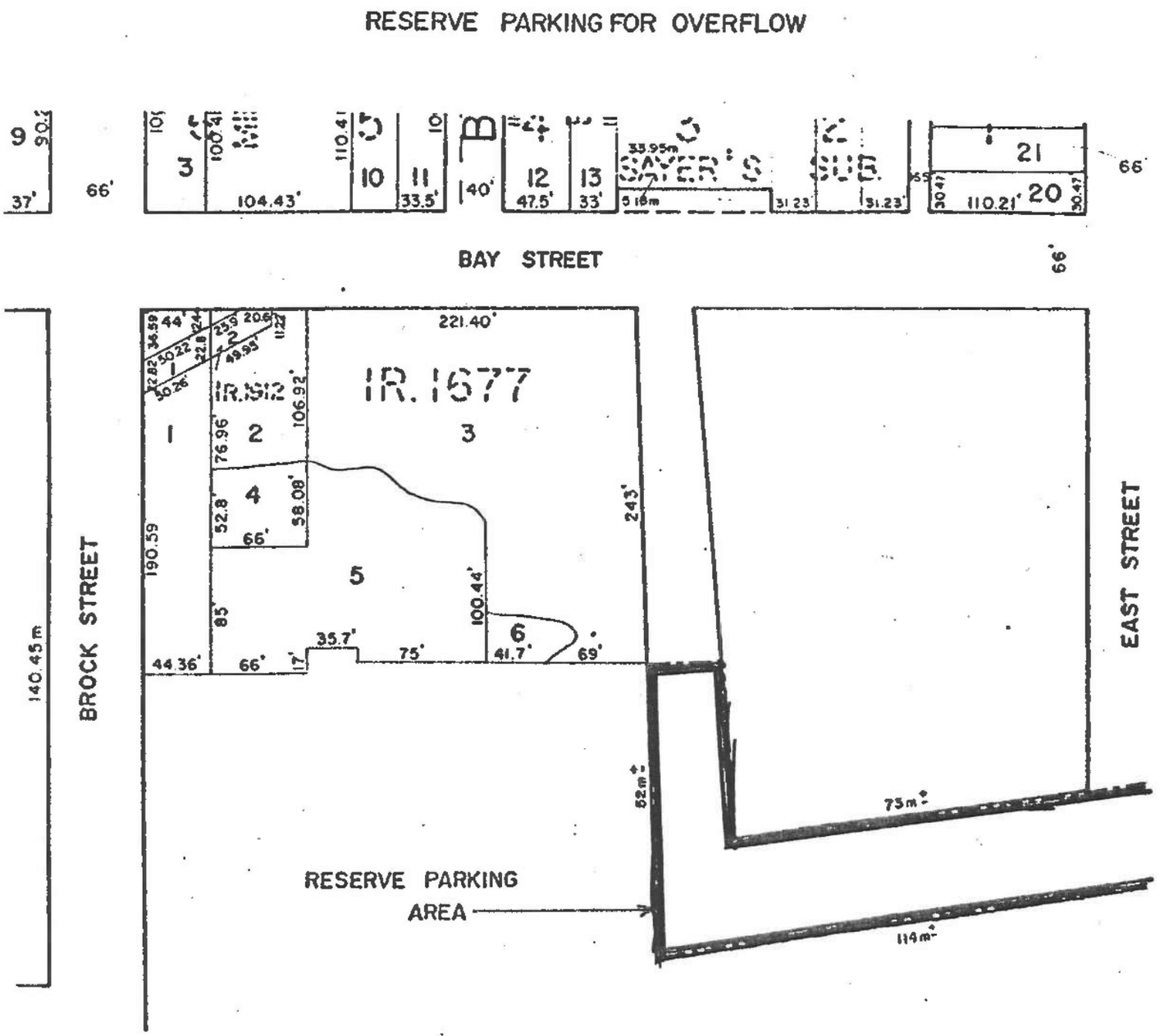
The land and premises in the City of Sault Ste. Marie in the District of Algoma described as Part 1, Part 2, Part 6, and Part 8 according to a plan registered in the Land Registry Office for the District of Algoma as reference plan number 1R-5766.

SCHEDULE 'C'

The land and premises in the City of Sault Ste. Marie in the District of Algoma described as Part 4 according to a plan registered in the Land Registry Office for the District of Algoma as reference plan number 1R-5766.

SCHEDULE 'D'

Sketch showing area around the park used for parking designated in red.



SCHEDULE 'E'

Copy of Lease Amendment.

LEASE AMENDMENT

THIS AGREEMENT is made this 2nd day of June, 1988.

B E T W E E N:

ONTARIO HOUSING CORPORATION

(hereinafter called the "Landlord")

- and -

THE CORPORATION OF THE CITY OF SAULT STE. MARIE

(hereinafter called the "Tenant")

WITNESS:

WHEREAS:

(1) The Landlord is the owner of the lands and premises situate, lying and being in the City of Sault Ste. Marie in the District of Algoma described in parts 1, 2, 3, 4, 5 and 6 according to reference plan registered in the Land Registry Office for the Registry Division of Algoma as number 1R-1677.

(2) The Tenant is the owner of the lands and premises situate, lying and being in the City of Sault Ste. Marie in the District of Algoma described as part 4 on registered reference plan 1R-5766.

(3) The Landlord leased to the Tenant the lands shown outlined in red on Schedule A attached to this Lease Amendment for a term of 50 years from the 1st of August, 1975.

(4) The parties entered into a Lease Amendment Agreement dated the 30th of August, 1983.

(5) The parties intend to alter the Terms of the Lease as amended in the manner set out below.

NOW THEREFORE:

Section 26A(3) of the Lease is hereby amended as follows:

"26A(3) The Tenant shall establish no later than July 1, 1989 and maintain and make available during the term of this Lease on the area identified south of Part 6 and west of Part 2 of registered reference plan 1R-7126, twenty-three parking spaces for visitors and others entitled to use the Senior Citizens' apartment building, the Drop-in Centre, and the Building Extension."

(2) The Lease, as amended, shall continue in full force for the remainder of the term thereof.

(3) The Lease, as amended, shall be conditional upon approval being obtained pursuant to Section 64 of the Ontario Municipal Board Act.

IN WITNESS WHEREOF the parties have signed this agreement under seal.

ONTARIO HOUSING CORPORATION

D. A. Murray Wilson
Executive Director
Housing Field Operations

Pamela S. Wing
Corporate Secretary

THE CORPORATION OF THE CITY OF
SAULT STE. MARIE

MAYOR - JOSEPH M. FRATESI

CLERK - WILLIAM G. LINDSAY

SCHEDULE 'A'

The land and premises in the City of Sault Ste. Marie in the District of Algoma and being that part of the land described as parts 1, 2, 3, 4, 5, and 6 according to a plan registered in the Land Registry Office for the District of Algoma as reference plan number 1R-1677, and being the part outlined in red on the sketch attached.

Ontario

Ontario Municipal Board
Commission des affaires municipales de l'Ontario

E 751569

IN THE MATTER OF Section 64 of the Ontario Municipal Board Act, (R.S.O. 1970, c. 323) now R.S.O. 1980, c. 347)

- and -

IN THE MATTER OF an application by The Corporation of the City of Sault Ste. Marie for approval of the entering of the said corporation into a proposed agreement with Ontario Housing Corporation to lease the Senior Citizens Drop-In Centre in the premises known as 619 Bay Street for the period extending to July 31, 2025, and the disbursement of sums of money payable thereunder

such application having been approved by order of the Board dated the 16th day of October, 1975

- and -

RECEIVED
CITY CLERK
NOV 7 1988
No. 158/4
CSD
DISTRIBUTION Legal
Post

IN THE MATTER OF an application for an order approving an amendment of the aforementioned agreement with Ontario Housing Corporation filed with the Board on the 14th day of May, 1983

such application having been approved by order of the Board dated the 25th day of May, 1984

- and -

IN THE MATTER OF a present application for an order approving a further amendment of the aforementioned agreement with Ontario Housing Corporation filed with the Board on the 29th day of June, 1988

B E F O R E :

D.S. COLBOURNE
Vice-Chairman

- and -

D.H. McROBB
Vice-Chairman

Monday, the 17th day

of October, 1988

THE BOARD ORDERS that this application be granted and that the agreement referred to in the previous order of the Board dated the 16th day of October, 1975, and entered in order book No. E 75-4 at folio 309 on the 22nd day of October, 1975, as amended by order dated the 25th day of May, 1984, and entered in order book No. E 75-8 at folio 150 on the 7th day of June, 1984, may be further amended by the proposed agreement in the form filed with the Board on the 29th day of June, 1988.

SECRETARY

ENTERED
O.B. No. E75-8
Folio No. 169
NOV 04 1988
SECRETARY, ONT. MUNICIPAL BOARD

APPENDIX "D"

Province of Ontario

Transfer/Deed of Land

Form 1 — Land Registration Reform Act

Do Process Software Ltd. * (416) 322-6111

SLTSMAR-OH 15-1

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2364773

2364773

CERTIFICATE OF RECEIPT
REGEPISSE
ALGOMA (01) SAULT STE. MARIE

'01 11 19 13 -- 08

New Property Identifiers

Additional: See Schedule ☐

Executions

None.

Additional: See Schedule ☐

(1) Registry ☐ Land Titles ☒ (2) Page 1 of 3 pages

(3) Property Identifier(s) Block Property Additional: See Schedule ☐

(4) Consideration

Dollars $ NIL

(5) Description This is a: Property Division ☐ Property Consolidation ☐

Firstly:
Parcel 5774, Algoma West Section
Part of Water Lot situate in front of Brock Street
Designated as Part 4 on Reference Plan 1R-1677

City of Sault Ste. Marie
District of Algoma
Land Titles Division of Algoma (No. 1)

Description continued on schedule attached

(6) This Document Contains (a) Redescription New Easement Plan/Sketch ☐ (b) Schedule for: Description ☒ Additional Parties ☐ Other ☒

(7) Interest/Estate Transferred
Fee Simple

(8) Transferor(s) The transferor hereby transfers the land to the transferee

Name(s) Signature(s) Date of Signature Y M D

ONTARIO HOUSING CORPORATION

(9) Spouse(s) of Transferor(s) I hereby consent to this transaction
Name(s) Signature(s) Date of Signature Y M D

(10) Transferor(s) Address for Service **777 BAY STREET, 16th FLOOR, TORONTO, ONTARIO M5G 2E5**

(11) Transferee(s) Date of Birth Y M D

SAULT STE. MARIE HOUSING CORPORATION

(12) Transferee(s) Address for Service **464 ALBERT STREET EAST, P.O. BOX 445, SAULT STE. MARIE ON P6A 5M1**

Planning Act - OPTIONAL

(13) Transferor(s) The transferor verifies that to the best of the transferor's knowledge and belief, this transfer does not contravene section 50 of the Planning Act.
Date of Signature Y M D Date of Signature Y M D

Signature Signature

Solicitor for Transferor(s) I have explained the effect of section 50 of the Planning Act to the transferor and I have made inquiries of the transferor to determine that this transfer does not contravene that section and based on the information supplied by the transferor, to the best of my knowledge and belief, this transfer does not contravene that section. I am an Ontario solicitor in good standing.
Date of Signature Y M D

Name and Address of Solicitor

Signature

Acts Signed by Solicitor for Transferee(s) Not Necessary

(14) Solicitor for Transferee(s) I have investigated the title to this land and to abutting land where relevant and I am satisfied that the title records reveal no contravention as set out in subclause 50 (22) (c) (ii) of the Planning Act and that to the best of my knowledge and belief this transfer does not contravene section 50 of the Planning Act. I act independently of the solicitor for the transferor(s) and I am an Ontario solicitor in good standing.

Name and Address of Solicitor

Date of Signature Y M D

Signature

(15) Assessment Roll Number of Property: Ctv 57 Mun 61 Map 020 Sub 044 Par 00900

(16) Municipal Address of Property

615 Bay Street
Sault Ste. Marie, Ontario

File Name: SLTS-002

(17) Document Prepared by:
Ministry of Municipal Affairs and Housing
777 Bay St., 16th Floor
Toronto, Ontario
M5G 2E5

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Fees and Tax	
Registration Fee	Interest
Land Transfer Tax	0
Acct	8934
Total	

Document prepared using Form'L Ware LandForms

Additional Property Identifier(s) and/or Other Information

Description continued from Box (5)

SECONDLY:

Parcel 5757, Algoma West Section
Lot 5, Part of Lots 4 and 6 and Part of Brock Street on the South side of Bay Street and Part of Water Lot in front of Brock Street and Units 1, 2 & 3, Plan "D"-25
Units 1, 2, 3, 4 & 5, Plan "D"-34
Surface Rights Only
Designated as Part 5 on 1R-1677

THIRDLY:

Parcel 5775, Algoma West Section
Part Unit 1 as shown on Expropriation Plan "D"-26
Designated as Part 6 on 1R-1677

SAVE and EXCEPT Part 4 on Plan 1R-7126

As previously described in Deed No. 77703

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SUBSECTION 43(1)2 STATEMENTS

We, Meredith Beresford and Sophie Da Costa, authorized signing officers of **Ontario Housing Corporation**, make the following statements for the purposes of Paragraph 2 of Subsection 43(1) of the *Social Housing Reform Act, 2000*, c.27, S.O. (the "Act"), on behalf of the Transferee:

i) All the rights, title, interest, liability or obligation that Ontario Housing Corporation had in the property described in Box 5 were transferred to the Transferee described in Box 11 by way of Transfer Order 38/2000 authorized by Order in Council 2396/2000.

ii) The property transferred by the Transfer Order is described in Box 5.

iii) The interest or rights transferred by the Transfer Order is fee simple.

iv) The Transfer Order took effect on January 1, 2001, as set out in the Transfer Order.

v) The applicable Transfer Order described Ontario Housing Corporation as the Transferor, the Sault Ste. Marie Housing Corporation as the Transferee and was made on the 4th day of December, 2000.

vi) The property described in Box 5 cannot be transferred or mortgaged or otherwise encumbered, developed or redeveloped and an interest in the property described in Box 5 cannot be granted or disposed of by any person without the prior consent of the Minister of Municipal Affairs and Housing, unless the transaction is exempt under subsection 50(2) of the Act.

vii) In accordance with subsection 43(4) of the Act, this document may be accepted for registration even if it has not been executed by or on behalf of the Transferee.

viii) In accordance with subsection 43(6) of the Act, this document shall be deemed to be a Transfer/Deed of Land containing the statements described in clauses 50(22) (a), (b) and (c) of the *Planning Act*.

ix) This document meets the requirements of the Act.

Dated at Toronto, this 1st day of November, 2001.

ONTARIO HOUSING CORPORATION

Per: Meredith Beresford
Authorized Signing Officer

We have the authority to bind the Corporation.

Per: Sophie Da Costa
Authorized Signing Officer

Province of Ontario

Transfer/Deed of Land

Form 1 — Land Registration Reform Act

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SLTSMAR-OH 15-1

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T042545 3

'01 NOV 19 PM 1 07

CERTIFICATE OF REGISTRATION
CERTIFICAT D'ENREGISTREMENT

LAND REGISTRAR/REGISTRATEUR

New Property Identifiers

Additional: See Schedule ☒

Executions

56 A/42-44 1-2 A/80,71
31 B 18,9,10 AL.

Additional: See Schedule ☐

(1) Registry ☒ Land Titles ☐ (2) Page 1 of 3 pages

(3) Property Identifier(s) Block Property Additional: See Schedule ☐

(4) Consideration

Dollars $ NIL

(5) Description This is a: Property Division ☐ Property Consolidation ☐

Firstly:
Lots "A", "B" and "C" in the Ferry Subdivision "A", Plan 42430
Part of Lot 6, South Bay Street, Original Town Plot
Designated as Part 1 on Plan 1R-1677

City of Sault Ste. Marie
District of Algoma
Land Registry Division of Algoma (No. 1)

Description continued on schedule attached

(6) This Document Contains (a) Redescription ☐ New Easement ☐ Plan/Sketch ☐ (b) Schedule for: Description ☒ Additional Parties ☐ Other ☒

(7) Interest/Estate Transferred: Fee Simple

(8) Transferor(s) The transferor hereby transfers the land to the transferee ~~and certifies that he/she/they is/are not a non-resident of Canada for the purposes of the Income Tax Act~~

Name(s) Signature(s) Date of Signature Y M D

ONTARIO HOUSING CORPORATION

(9) Spouse(s) of Transferor(s) I hereby consent to this transaction

Name(s) Signature(s) Date of Signature Y M D

(10) Transferor(s) Address for Service **777 BAY STREET, 16th FLOOR, TORONTO, ONTARIO M5G 2E5**

(11) Transferee(s) Date of Birth Y M D

SAULT STE. MARIE HOUSING CORPORATION

(12) Transferee(s) Address for Service **464 ALBERT STREET EAST, P.O. BOX 445, SAULT STE. MARIE ON P6A 5M1**

Planning Act - OPTIONAL

(13) Transferor(s) The transferor verifies that to the best of the transferor's knowledge and belief, this transfer does not contravene section 50 of the Planning Act.

Date of Signature Y M D Signature

Date of Signature Y M D Signature

Solicitor for Transferor(s) I have explained the effect of section 50 of the Planning Act to the transferor and I have made inquiries of the transferor to determine that this transfer does not contravene that section and based on the information supplied by the transferor, to the best of my knowledge and belief, this transfer does not contravene that section. I am an Ontario solicitor in good standing.

Name and Address of Solicitor

Date of Signature Y M D Signature

Any Statement by Solicitor for Transferee(s) here if necessary

(14) Solicitor for Transferee(s) I have investigated the title to this land and to abutting land where relevant and I am satisfied that the title records reveal no contravention as set out in subclause 50 (22) (c) (ii) of the Planning Act and that to the best of my knowledge and belief this transfer does not contravene section 50 of the Planning Act. I act independently of the solicitor for the transferor(s) and I am an Ontario solicitor in good standing.

Name and Address of Solicitor

Date of Signature Y M D Signature

(15) Assessment Roll Number of Property

City	Mun.	Map	Sub.	Par.
57	61	020	044	00900

(16) Municipal Address of Property

615 Bay Street
Sault Ste. Marie, Ontario

File Name: SLTS-02B

(17) Document Prepared by:

Ministry of Municipal Affairs and Housing
777 Bay St., 16th Floor
Toronto, Ontario
M5G 2E5

FOR OFFICE USE ONLY

Fees and Tax	
Registration Fee	Interdept
Land Transfer Tax	N/A
Total	

Document prepared using Form'L Ware LandForms

Additional Property Identifier(s) and/or Other Information

Description continued from Box (5)

SECONDLY:
Part of Brock Street on the south side of Bay Street, Original Town Plot, being designated as Part 2 on Plan 1R-1677. Closed by By-law 71-405 registered as Instrument No. T-121828

THIRDLY:
All of Lots 1 and 2 in the Kehoe "B" Subdivision, Registered Plan Number 3591 and the 10 foot lane lying to the south of Lot 1 in the said Kehoe "B" Subdivision and part of Lots 4 and 5, South Bay Street, Original Town Plot, designated as Part 3 on Plan 1R-1677. Said Lane closed by By-law 84-209, registered Instrument No. T-249135

SAVE and EXCEPT Part 3 on 1R-7126

As previously described in Deed No. T-253782

FOR OFFICE USE ONLY

SUBSECTION 43(1)2 STATEMENTS

We, Meredith Beresford and Sophie Da Costa, authorized signing officers of **Ontario Housing Corporation**, make the following statements for the purposes of Paragraph 2 of Subsection 43(1) of the *Social Housing Reform Act, 2000*, c.27, S.O. (the "Act"), on behalf of the Transferee:

i) All the rights, title, interest, liability or obligation that Ontario Housing Corporation had in the property described in Box 5 were transferred to the Transferee described in Box 11 by way of Transfer Order 38/2000 authorized by Order in Council 2396/2000.

ii) The property transferred by the Transfer Order is described in Box 5.

iii) The interest or rights transferred by the Transfer Order is fee simple.

iv) The Transfer Order took effect on January 1, 2001, as set out in the Transfer Order.

v) The applicable Transfer Order described Ontario Housing Corporation as the Transferor, the Sault Ste. Marie Housing Corporation as the Transferee and was made on the 4th day of December, 2000.

vi) The property described in Box 5 cannot be transferred or mortgaged or otherwise encumbered, developed or redeveloped and an interest in the property described in Box 5 cannot be granted or disposed of by any person without the prior consent of the Minister of Municipal Affairs and Housing, unless the transaction is exempt under subsection 50(2) of the Act.

vii) In accordance with subsection 43(4) of the Act, this document may be accepted for registration even if it has not been executed by or on behalf of the Transferee.

viii) In accordance with subsection 43(6) of the Act, this document shall be deemed to be a Transfer/Deed of Land containing the statements described in clauses 50(22) (a), (b) and (c) of the *Planning Act*.

ix) This document meets the requirements of the Act.

Dated at Toronto, this 1st day of November, 2001.

ONTARIO HOUSING CORPORATION

Per: Meredith Beresford
Authorized Signing Officer

We have the authority to bind the Corporation.

Per: Sophie Da Costa
Authorized Signing Officer