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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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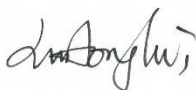
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Revision History

Revision	Revision date	Details	Authorized	Name	Position
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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.

The AM Line-of-Sight	Description of AM Elements	The City's Hierarchy of AM Documents
Strategic Level		

Corporate Objectives & Goals	Strategic business goals set by the organization	• Official Plan (1996 - 2022)
		  • Shape the Sault - Plan Review, Background Report (2021)
		  • Official Plan DRAFT (2022)
		• Corporate Strategic Plan (2021-2024)
		• Strategic Asset Management Policy (2019)
		• Energy Conservation & Demand Management Plan (2019)
		• Community GHG Reduction Plan (2020)
		• Transportation Master Plan (2015)

Strategic Asset Management	Plans and Policies that outline the organization's AM guiding principles, objectives, and goals	
Tactical Level		
Asset Management Planning	Plans for understanding the current state of the assets, defining levels of service, and managing the lifecycle of specific asset	• Core AMPs • Non-Core AMPs • Active Transportation AMP (This document)
Operational Level		
Asset Management **Asset Portfoilio**	Programs and documents that help staff carry out operational activities on specific assets	• Operations and Maintenance Programs, Standards, etc. • Active Transportation Asset Portfolio

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.
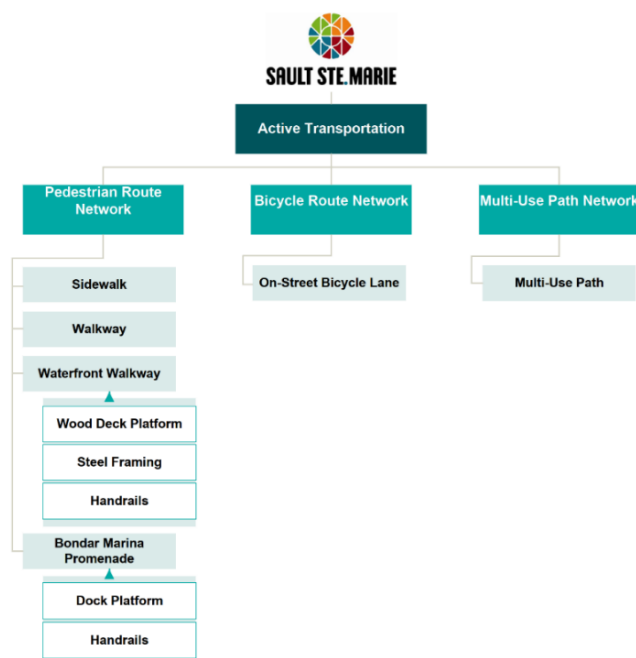
Figure 2-1: Active Transportation Asset Hierarchy

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 m²	$9,622,000
		Bondar Marina Promenade	$353 – $1,228 / m and m²	$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.

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[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
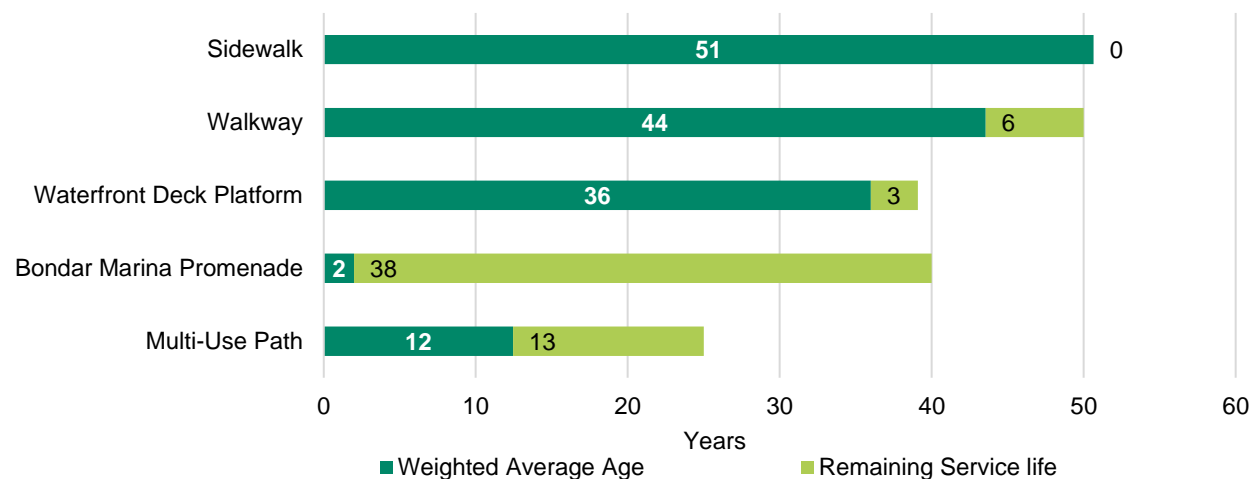
Figure 2-2: Active Transportation Asset Weighted Average Age and Remaining Service Life

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.
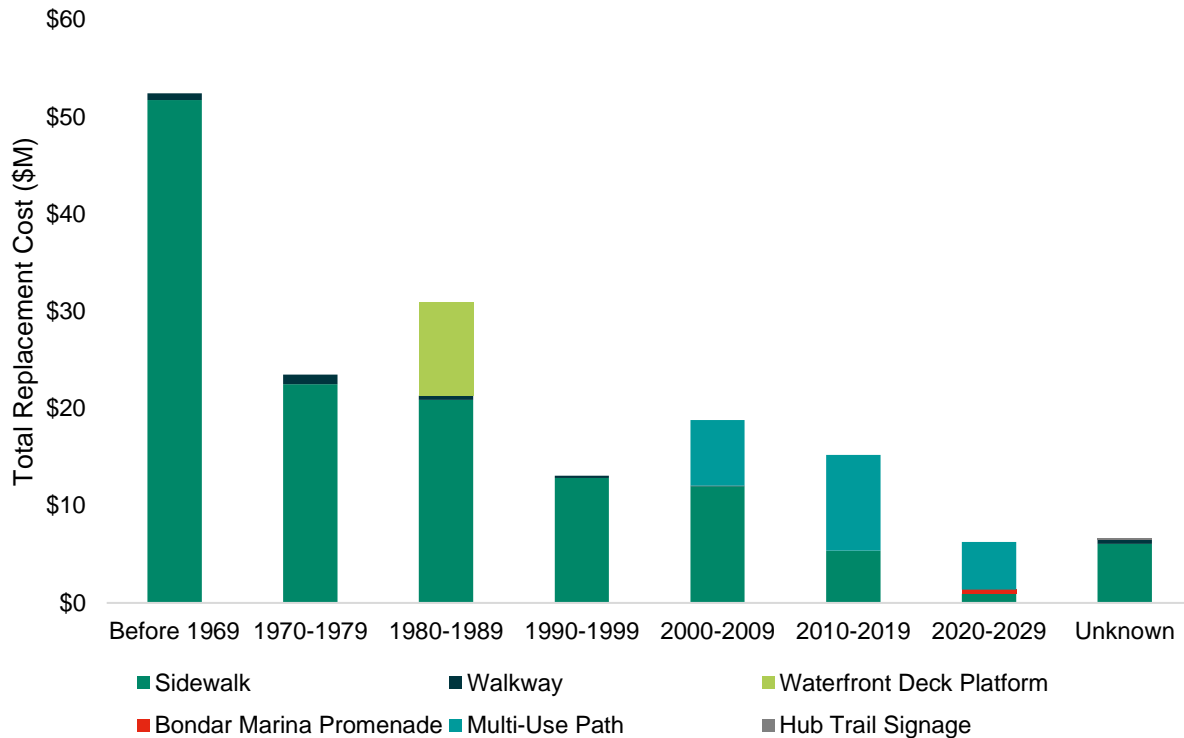
Figure 2-3: Active Transportation Installation Profile

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]:

$$f(x; \alpha, \beta) \ = \ e^{-\left(\frac{x}{\beta}\right)^{\alpha}}$$

[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**.
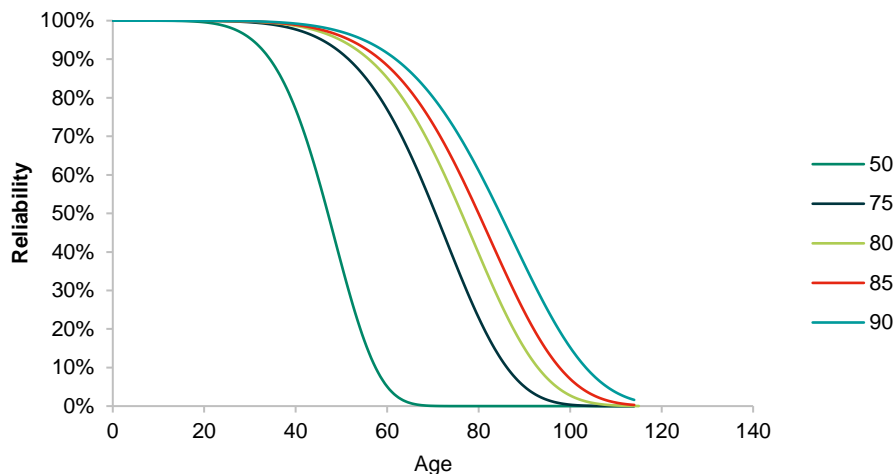
Figure 2-4: Asset Deterioration Curve Samples

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.
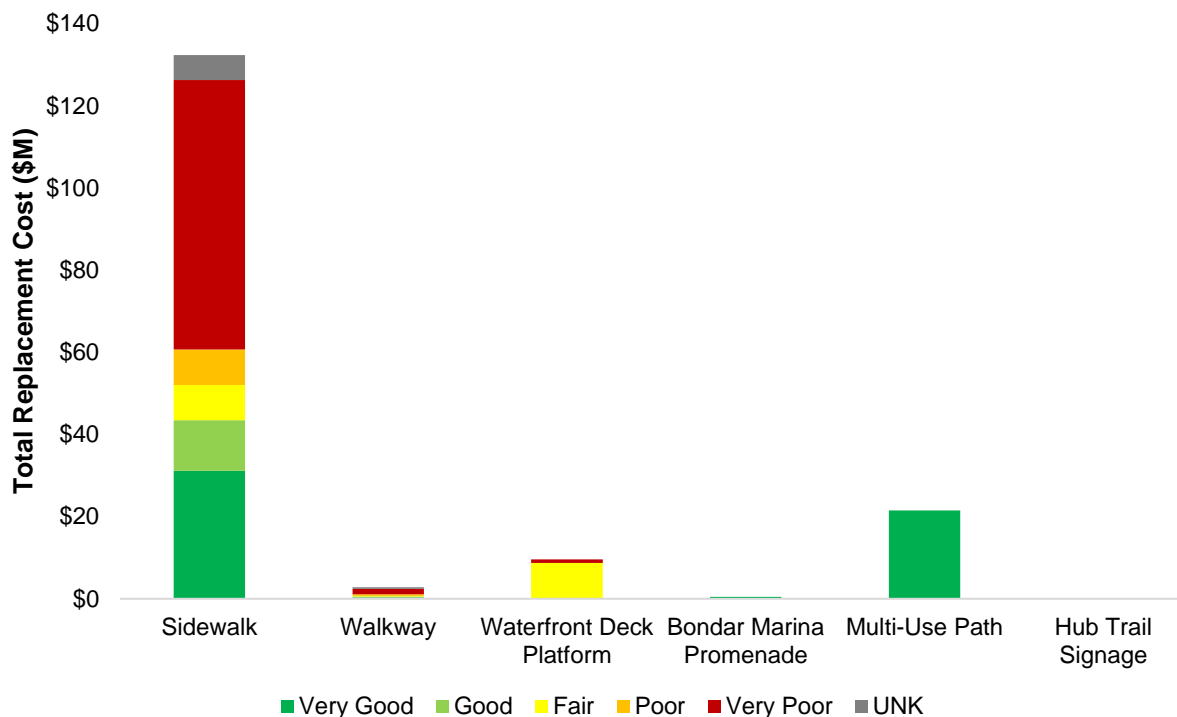
Figure 2-5: Active Transportation Condition Summary

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**

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[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.
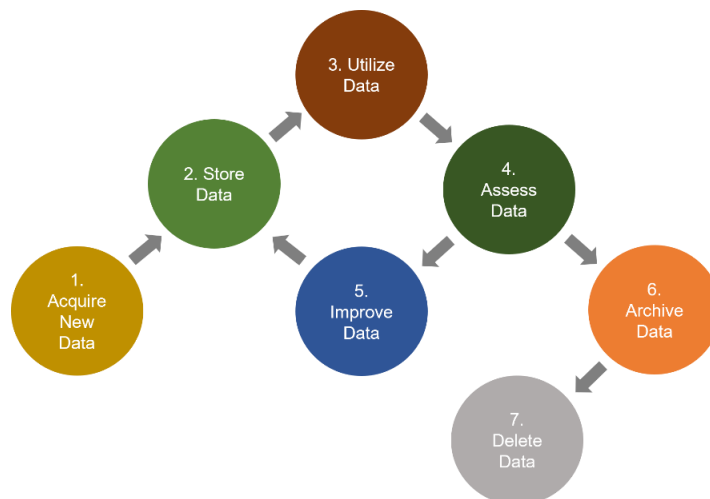

Figure 2-6: Asset Information Lifecycle

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.

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[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	Positively Stable	Positively Stable	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	Negatively Decreasing	Positively Increasing	~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	Positively Increasing	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	Positively Increasing	Positively Increasing	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	Positively Increasing	Positively Increasing	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	Negatively Decreasing	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.

    o Increased Use of Electric Micro-Mobility Devices.

- Funding level.

- Growth.

- Climate Change.

- Cold Climate

    o Creates operational issues in snow removal.

    o Staffing availability is limited for cold weather maintenance.

    o 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**.

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[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.
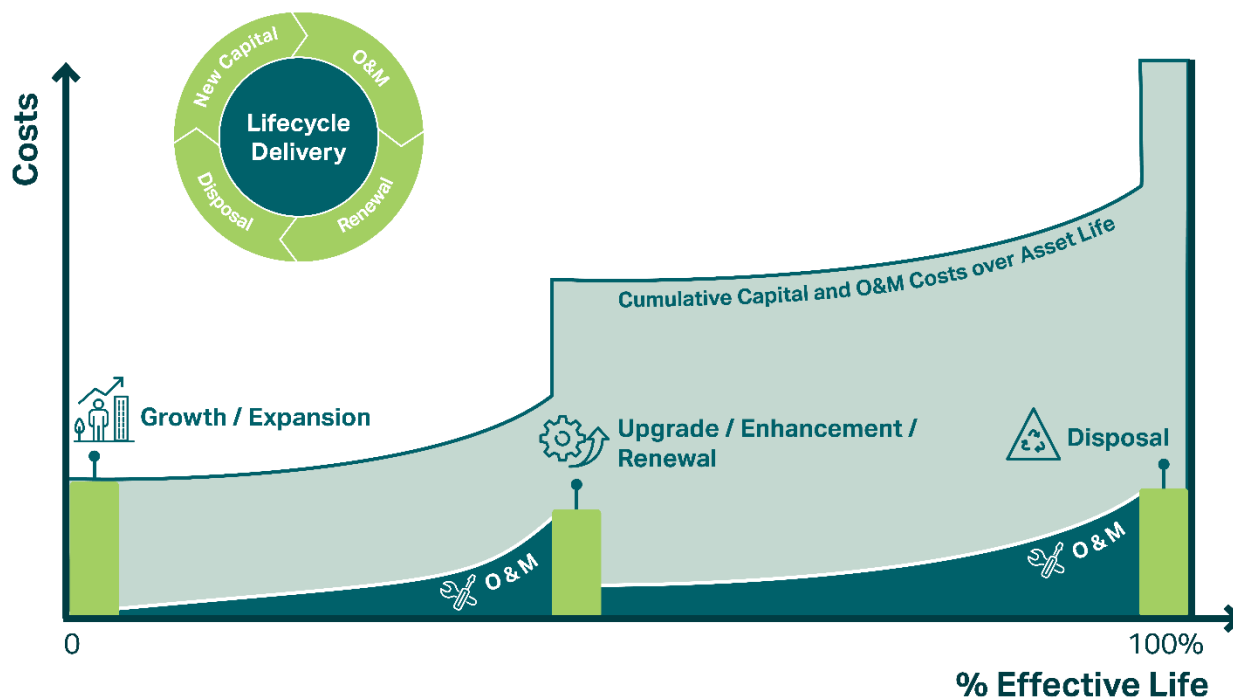
Figure 4-1: Lifecycle Cost Accumulation Over Asset Life

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.
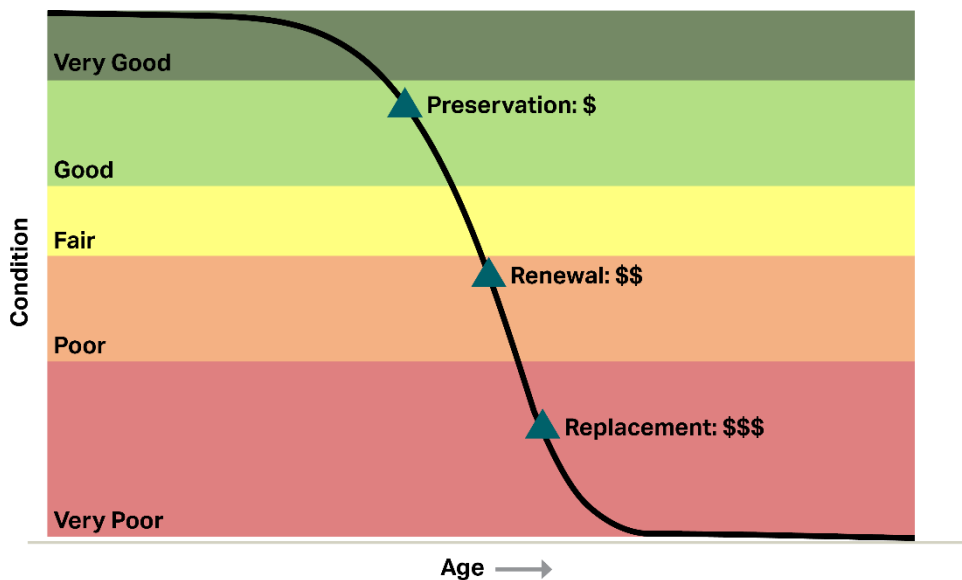
Figure 4-2: Asset Deterioration Curve and Renewal Costs

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	
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	6.6%
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.

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[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.**
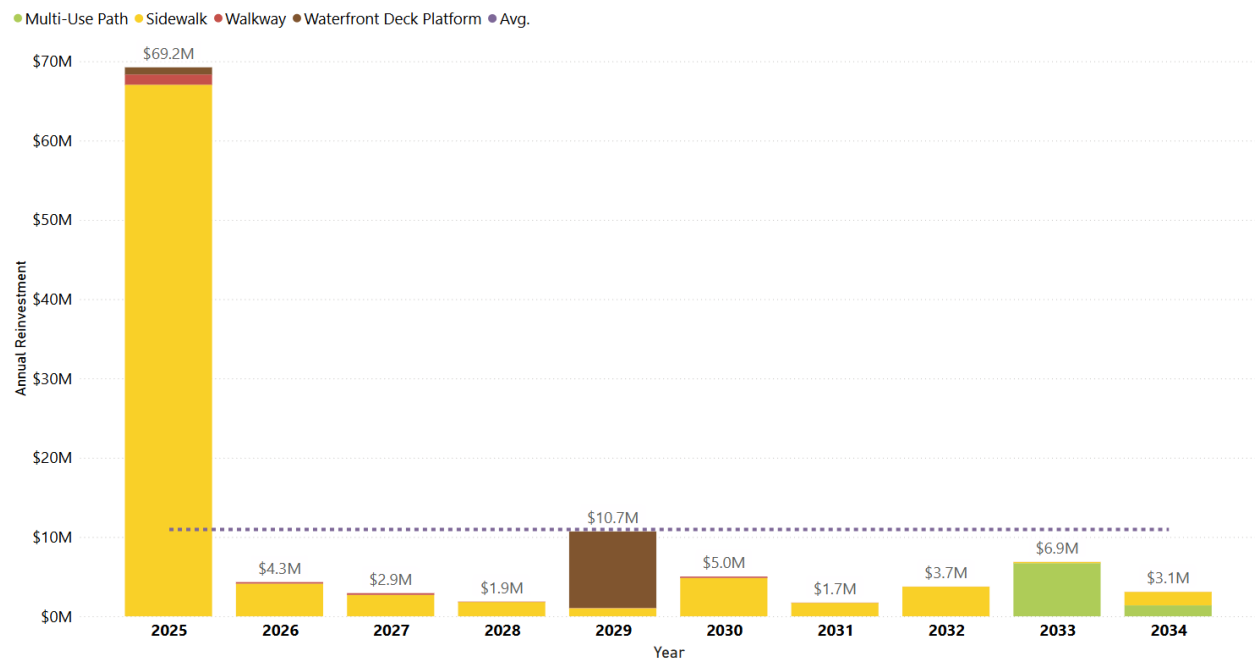
Figure 5-1: 10-Year Funding Need for Active Transportation Assets – Unlimited Budget Scenario

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.
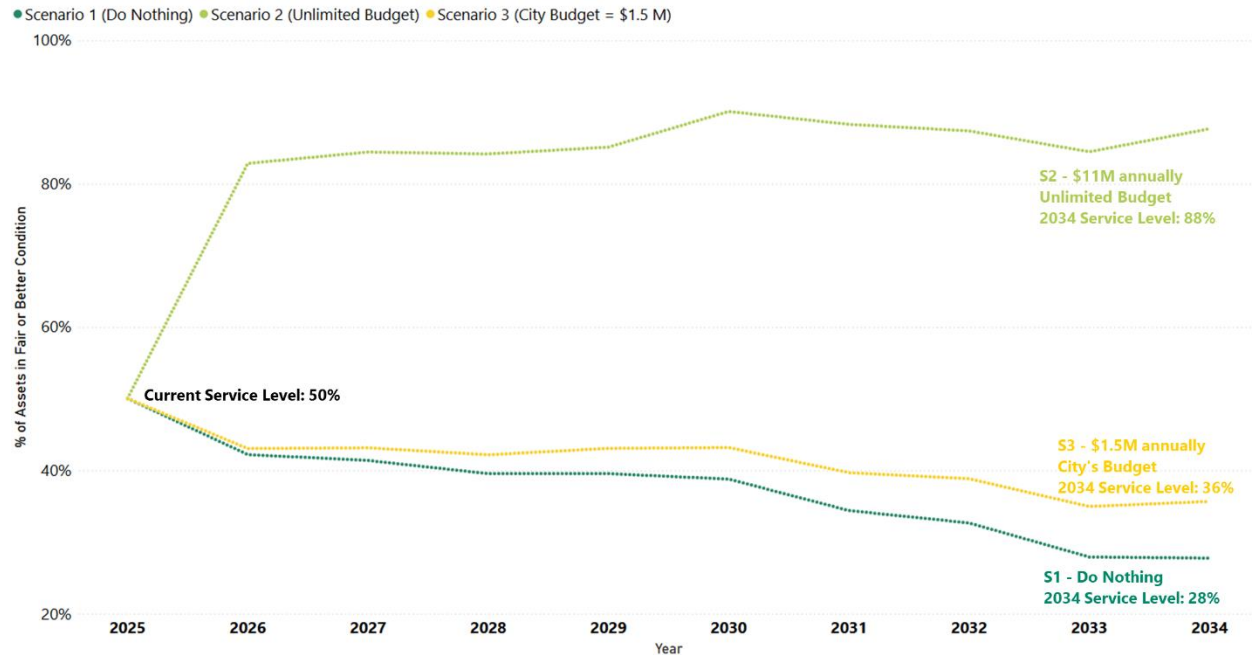

Figure 5-2: Active Transportation Levels of Service Trend in the Next 10-Year for All Budget Scenarios

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.
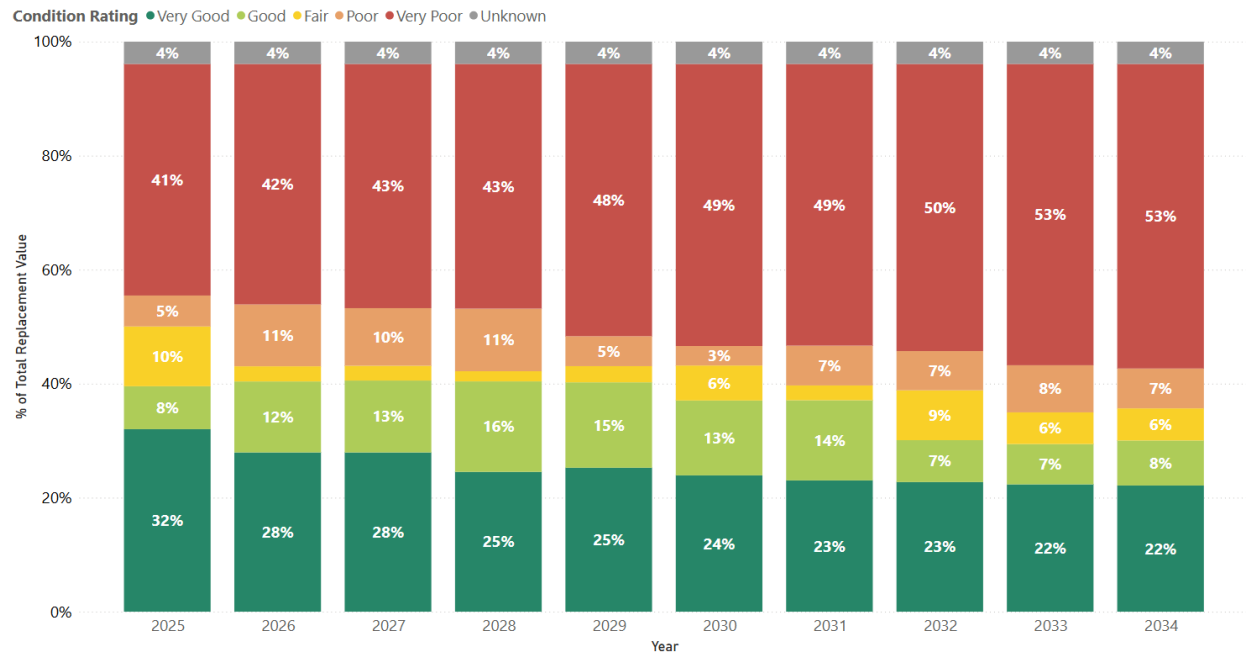
Condition Rating ●Very Good ●Good ●Fair ●Poor ●Very Poor ●Unknown

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.
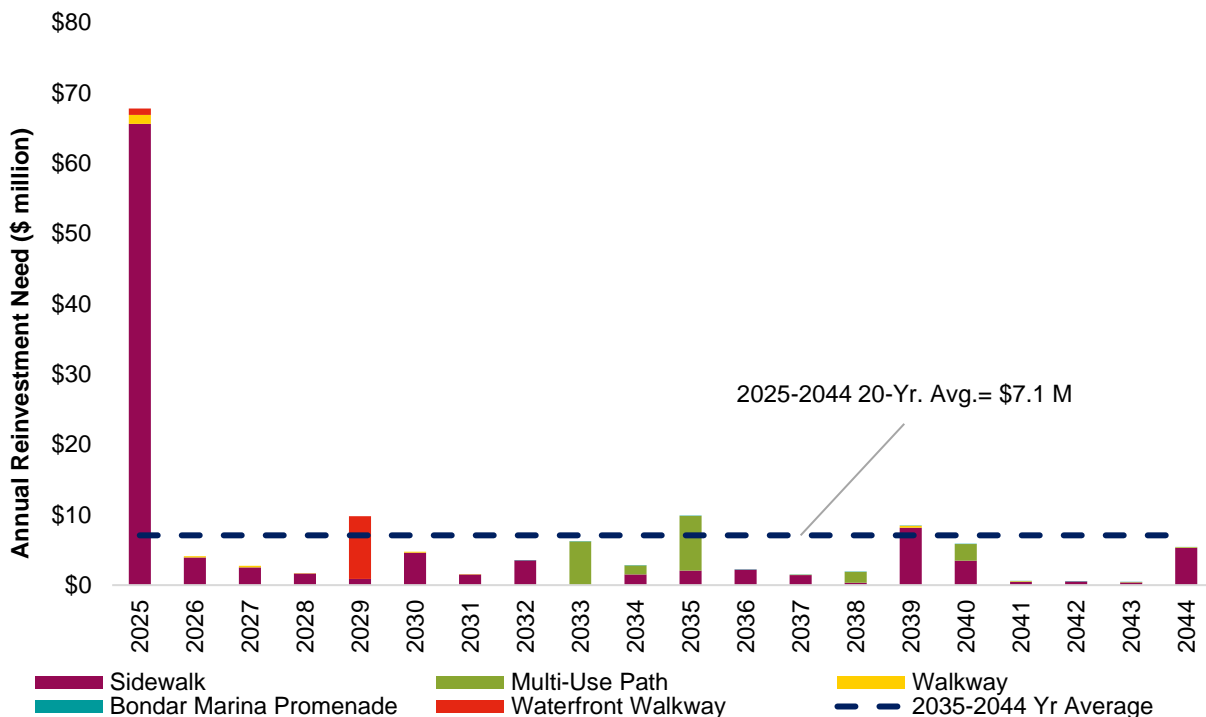
Figure 5-4: Active Transportation 20-Year Reinvestment Need – Unlimited Budget Scenario

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).
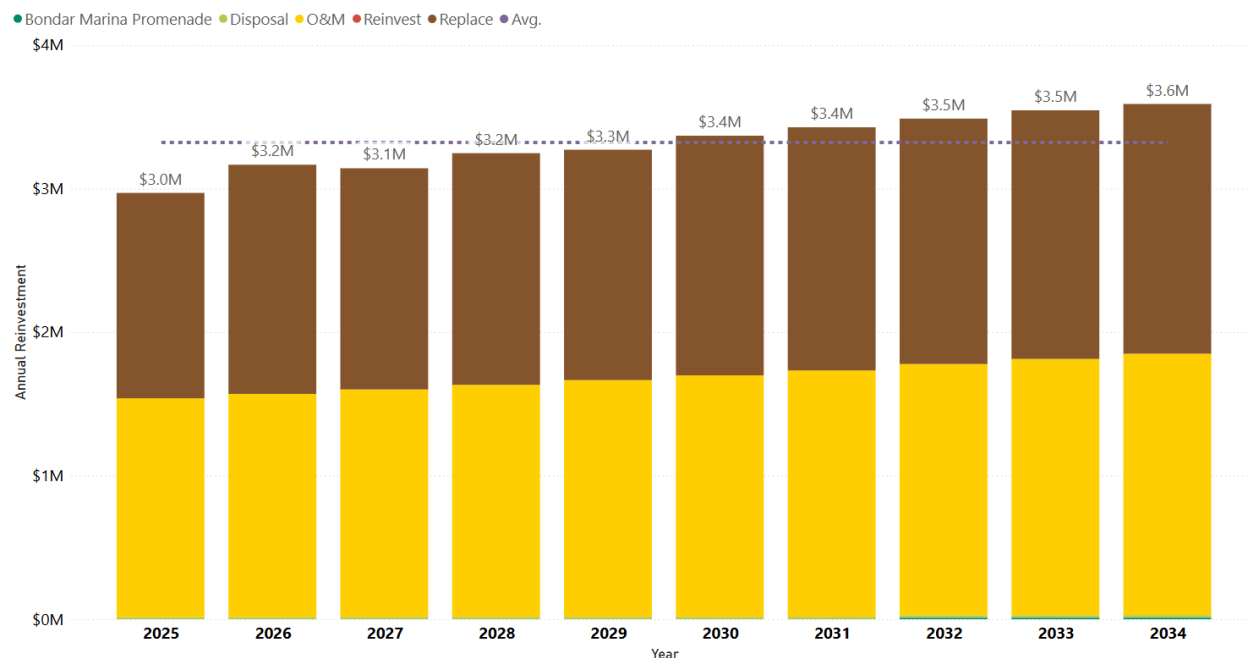
Figure 5-5: Full Funding Profile (City's Planned Capital Reinvestment Budget Scenario Included)

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.

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[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.

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.

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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